



SIERRA
SAN JOAQUIN
JOBS

Sierra San Joaquin Jobs Initiative

AUGUST 30, 2024

In Partnership with



**CALIFORNIA
JOBS FIRST**



Sierra San Joaquin Jobs Initiative Regional Investment Plan

DRAFT

August 30, 2024

**Submitted by the S2J2 Coalition to
The Honorable Governor Gavin Newsom
Jobs First Council
State of California**



**SIERRA
SAN JOAQUIN
JOBS**

**In Partnership with
CALIFORNIA
JOBS FIRST**



Subject: Regional Table Transmittal Letter - Investing in the Sierra San Joaquin Region

Dear Governor Newsom, California Jobs First Council, and Potential Investors in the Future of the Sierra San Joaquin Region:

We respectfully submit the following plan on behalf of the Sierra San Joaquin Jobs (S2J2) Initiative, a diverse coalition of hundreds of partners from Madera, Fresno, Kings, and Tulare counties. As S2J2 Regional Table members, we have been selected by our communities to represent local interests and serve as the decision-making body for the Initiative.

A thriving Sierra San Joaquin region is critical to California's future. Our region has long played an outsized role in providing high-quality, low-cost food, contributing 25% of the nation's food, 60% of its fruits and nuts, 30% of its vegetables, and an annual agricultural economy output of \$70B.¹ The region is now positioned to be equally essential in achieving California's clean energy and emission reduction targets. Representing just 8% of the state's population and 15% of its land mass, our region is expected to generate over 25% of California's renewable energy by 2040.

Despite its unique position to help the state meet essential needs and climate goals, our region faces pressing challenges. Nearly two-thirds (62 percent) of the S2J2 region is designated as disinvested, compared to 29 percent of tracts in California.² Nearly 1 in 5 (19 percent) people live below the poverty line in the region, compared to about 1 in 8 (12 percent) statewide. Unemployment rates are consistently higher than in California overall, averaging 10.5% over the past ten years. Of the jobs that are available, less than half pay wages needed to afford a two-bedroom rental, and most living wage jobs require a four-year degree.³

We recognize that past practices and prior economies have had negative effects on the environment, including water and air pollution, soil degradation, and chemical runoff – with disinvested communities experiencing the state's highest pollution burden. These environmental, climate, and economic inequities have negatively impacted residents' health, resulting in disproportionately high rates of cancer, birth complications, and asthma. The region also faces significant challenges in healthcare access, characterized by higher population-to-physician ratios, limited availability of hospital beds, and variations in the accessibility of community health centers. These data are not surprising given that the capital investments in the region, from public and private sources, have lagged compared to other regions across the State and country.⁴

We are ready for our narrative to change. As our communities prepare to resource the state's clean energy goals, we also prepare to resource our communities – with the aim of improving residents' quality of life and access to opportunities. With a relatively young population, an entrepreneurial spirit, and strong civic engagement, our communities are hungry for the chance to upskill, contribute to economic growth, and create the local supply chains needed to transform our economy.

S2J2 Initiative Planning Process

Over the past year and a half, we have engaged in a robust and inclusive planning process, bringing together diverse voices to create our shared vision, identify priorities, and think boldly about the future of our region. We asked ourselves: ***"What will it take to fundamentally transform our region and foster an inclusive, resilient, and sustainable economy?"*** Community engagement has been central to this initiative, with local partners actively involved at every stage. We proactively sought the perspectives from disinvested communities and individuals traditionally excluded from planning processes – garnering input from over 4,300 community members – and ensuring that their lived experiences shaped our decisions and direction.

In the last eight weeks alone, our region engaged over 300 cross-sector partners to draft comprehensive regional investment plans that lay out our vision, strategies, and the critical steps required to realize our collective aspirations. This collaboration has underscored our commitment to community driven change.

1 Central Valley Community Foundation. (2022, November). Fresno-Merced Future of Food (F3) Innovation.

2 Shipp, A., McTarnaghan, S., Scott, M., Fu, S., Dulce Gonzalez, D., Payne, J., Marx, R., Morriss, S., Velasco, G., & Clemans-Cope, L. (2023). Understanding Needs and Opportunities in California's Central San Joaquin Valley: Baseline Assessment for the Community Economic Resilience Fund. Urban Institute.

3 Ibid.

4 Ibid.



Investment Ready

We now submit our Regional Investment Plan Draft to the State of California and urgently seek your support to unlock our region's full potential.

To realize our goals, we require:

- **\$58 billion in public and private investment across priority industries, essential infrastructure and community investment areas by 2045.**
- **Creative and bold policies** that enhance our infrastructure, support emerging industries, and ensure real benefits accrue to local communities and residents.
- **Commitment from state partners** to provide the expertise and resources to bring our vision to life.

Investing in the Sierra San Joaquin means investing, not only in our communities, but also in the future prosperity of the entire state of California. Together, we can cultivate a thriving economy that addresses our pressing challenges, advances California's climate goals, and enhances the quality of life for all Californians.

Sincerely,

The S2J2 Regional Table

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Kings/Tulare Counties



Note from Local & Regional Conveners

Reflections on the S2J2 Planning Process

We are pleased to present the Sierra San Joaquin Jobs (S2J2) Regional Investment Plan Draft.

This key outcome of the S2J2 initiative was developed through the collaborative efforts of Local and Regional Tables that the undersigned conveners have helped shepherd. This document reflects our shared experiences, including successes, challenges, and opportunities as we transition to this next phase of the California Jobs First Initiative.

This initiative has given us the opportunity to effectively dismantle sector silos and build partnerships that will extend beyond this project, demonstrating adaptability and flexibility. Trust and relationship-building have been challenges - and also successes - that we all share.

Community engagement has been a cornerstone of our approach, with local partners taking ownership and actively participating in a robust feedback loop. The high turnout of over 300 participants through the Investment Plan sprint underscores our collective commitment and the strength of each of our Local Table's collaborative efforts.

However, the process also presented challenges. Balancing local and regional priorities within a diverse group of stakeholders requires careful attention, as does creating inclusive spaces where every voice can be heard. Despite the wide range of voices included, we sought additional organizations and communities to engage for further discussion and collaboration.

While we applaud the State for its bold and creative approach to building regional investment plans through Jobs First, we encountered challenges in administering this participatory process.

Consistent and coordinated communication, particularly when addressing complex issues like economic development and climate resilience, proved challenging. Additionally, we identified a need for more researchers and research institutions to be rooted in our local communities.

Despite these hurdles, our region has made significant progress. We urge the State to remain committed to uplifting these plans, incorporating them into its statewide policy priorities.

In other words, it has taken a lot for our region to get to this point, and we urge the State to stay the course in working with us to make these investment plans come to fruition.

It is essential to continue building on the substantial work already achieved and ensure ongoing coordination to prevent a return to previous silos. The Regional and Local Tables within the Sierra San Joaquin region can play a crucial role in maintaining this alignment and balance between the interests of the wider region and the uniqueness of our local communities. We will strive to continue our efforts to support equity and inclusion, especially for disinvested communities, to maximize the impact of our work.

We are committed to using these insights to refine our approach as we enter the Catalyst and Implementation phases of the California Jobs First initiative and value your continued support and partnership.

Sincerely,

Kyle Rahn

*Interim CEO
and President*

United Way Fresno
and Madera Counties

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Local Convener

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A special thanks to the following local photographers and organizations for the images used throughout this plan.

Enrique Meza
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State Center Community
College District
HMC Farms

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Executive Summary

S2J2 Jobs First

The Sierra San Joaquin Jobs (S2J2) Initiative is a groundbreaking, four-county effort aimed at creating an **inclusive, resilient, and sustainable economy in the S2J2 region**. Encompassing Fresno, Madera, Tulare, and Kings counties, this initiative has co-created a comprehensive Regional Investment Plan that will deliver quality jobs and provide equitable economic access to all residents.

This investment plan will deliver **more than \$99B in economic impact** and create more than **138,000 new jobs over a 20-year period**. This impact is achievable because the strategies and projected impacts are firmly rooted in local needs and aspirations and backed by real buy-in from key stakeholders across traditionally disinvested communities.

The aspirations and investment strategies proposed in this plan represent transformational change for the region’s economy, with significant implications for critical sectors like agriculture, water, and climate across the region. Managing this transformation will require a commitment to the boldness of the aspiration and ensuring that communities impacted are well-equipped to fully participate in and benefit from the vision outlined.



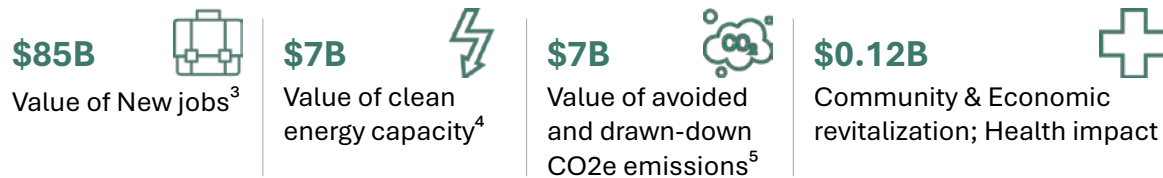
Anticipated Impact by 2045

Potential outcomes attributable to or influenced by S2J2 efforts¹. All values approximate.

Economy

\$99B+

Economic impact generated²



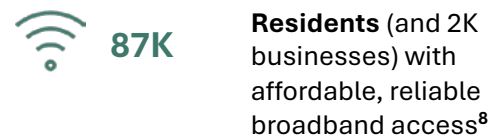
Workforce



Climate



People



Water investments

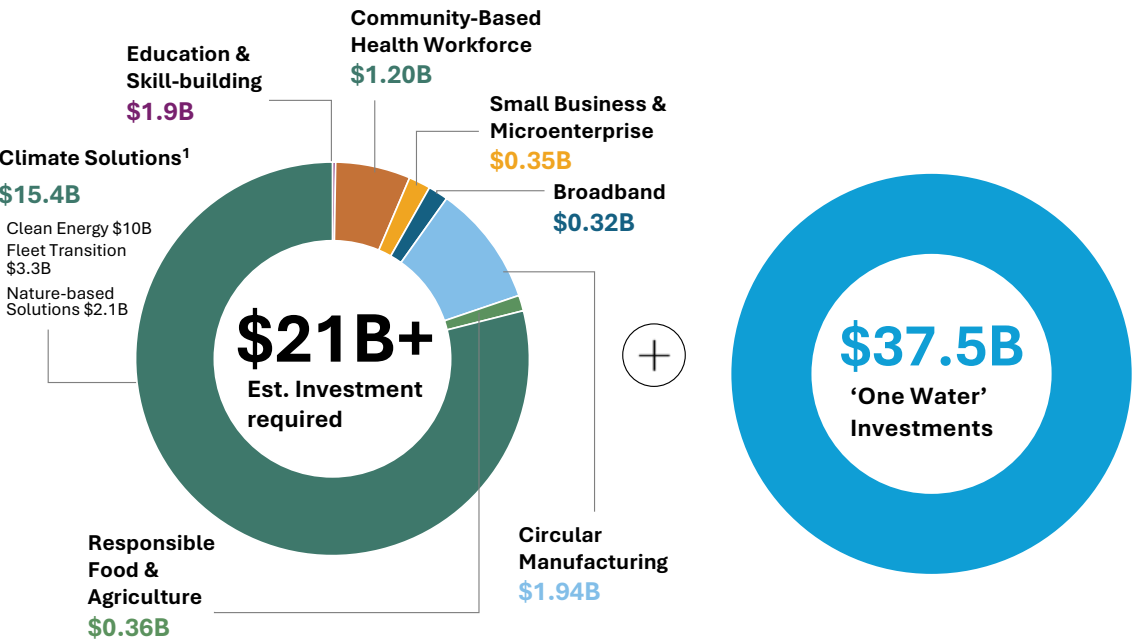


1. A portion of outcomes identified may occur without any S2J2-related intervention, and therefore are not fully attributable to the anticipated investment strategies. However, S2J2 investments aim to amplify such outcomes with a multiplier effect through strategic implementation and do so in way that is anchored in S2J2 principles. 2. Sum of the five components listed. 3. Represents the sum of a new job's economic value for the first 10 years after the job is created. Summed for all new jobs to be created between 2025 and 2045. The economic value a single jobs is calculated using the weighted average of annual earnings for Climate Solutions, Broadband and Circular Manufacturing (~\$62K). 4. Calculated at ~\$0.2/kWh for wholesale electricity price (CAISO, 2023), 1.2k Wh/W (RAND toolkit). 5. Calculated using ~\$51/ton of CO2 (The White House, 2021). 6. Sum of organic and inorganic new jobs created across Climate Solutions (through 2045), Responsible Food & Agriculture (duration not specified); Circular Manufacturing (through 2030); Broadband (through 2030); Community-based Healthcare Workforce (duration not specified). Does not include new job totals from 3 workgroups: One Water, Small Business & Micro-enterprise; and Education & Skill-building; 7. Combines workers trained across Broadband, Circular Manufacturing, Responsible Food and Agriculture, and Community-Based Healthcare Workforce; for broadband assumes ~2 workers per household provided with digital skills. 8. Residential and residential & business locations as derived from State of California challenge map as of 07/09/2024 (using % residential and business across all locations and multiplying it by number of unserved and underserved locations as specified in the map for each county).

Estimated Investment Required by 2045

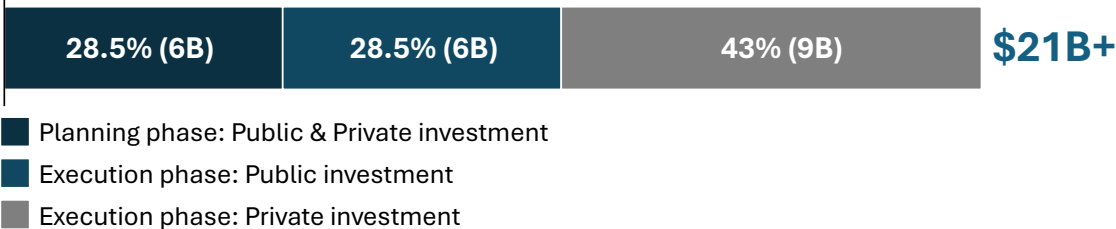
All values approximate

\$58B+

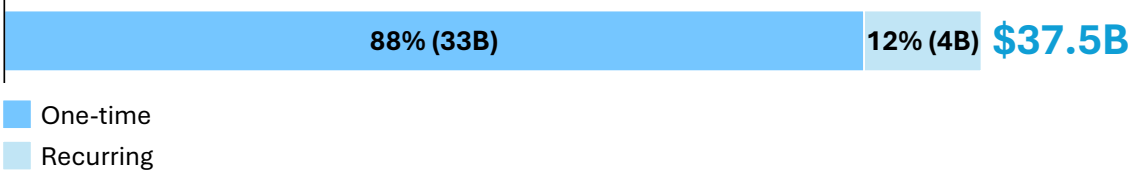


Estimated investment for planning phase and execution phases*

*Excludes One Water



Estimated one-time and recurring investments for One Water



1. The Community Benefits workgroup anticipates requiring investments to support 1) core functions (including staffing to support internal functions; technical assistance and capacity building; stakeholder engagement; and general administrative costs) and 2) community benefits agreement development (including continued community education; regional analysis and coordination; fund management and distribution; monitoring, tracking, and transparency).

Our Starting Point

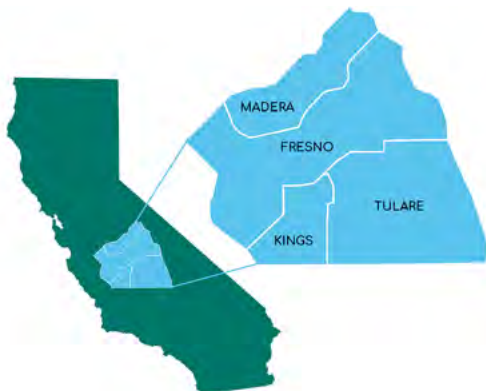


CHALLENGES

Economically, our region faces significant challenges, including lower household incomes, higher poverty rates, higher unemployment, and greater reliance on public assistance compared to California. Roughly two-thirds of the S2J2 region is designated as disinvested according to the state. Educational attainment is generally lower, and while housing cost burdens are slightly lower overall, they remain a significant issue in disinvested areas. Environmental issues are also a major concern, with S2J2's population being at higher risk than the rest of the state for respiratory illness, cancer, cardiovascular disease, birth complications, and other public health concerns.¹ These factors underscore the need for targeted economic development in S2J2.

The regional unemployment rate is
~7%
which is higher than the statewide rate of
~4%

3 out of the 4 counties ranked in the top
10 most polluted places to live in 2022
based on air pollution.²



OPPORTUNITIES

The S2J2 region has the resources and potential to unlock significant opportunities for economic growth and development. Our region's robust agricultural sector provides jobs and drives innovation in sustainable farming practices. Our abundant land and other natural resources position the region well to contribute significantly to the state's clean energy goals. The region's relatively young workforce and comparative affordability attracts businesses, and our region's National Parks support a strong tourism industry. Ongoing infrastructure development is enhancing connectivity and economic vitality, making the area increasingly attractive for investment and relocation.

With the strength of these opportunities as tailwinds, our region is set to embrace the boldness of our S2J2 vision and transition into the next phase of our evolution.

The S2J2 Region generated nearly
\$21 billion
in agricultural production, which
represents a ~14% increase in total
agricultural value from 2017.³

The region is poised to add
29 GW
of clean energy electricity
capacity by 2045.⁴

The region has **~29%** of its
population under 18 years old, higher than
the state average of ~23%,⁵
promising a robust future workforce.

¹. S2J2 Regional Plan Part **2**. American Lung Association "State of the Air", 2022 ³. S2J2 Regional Plan Part **4**. Fresno County had an agricultural production value of ~\$8.5 billion, Tulare generated ~\$7.99 billion, Kings and Madera generated ~\$2.34 billion and ~\$2.04 billion, respectively ⁵. RAND toolkit, proportional x1.5 scenario

VISION



To foster an inclusive, resilient, and sustainable economy that creates quality jobs and provides equitable economic access to all across S2J2.



ROADMAP

Clean Energy & Fuels

- Build skilled workforce capabilities for clean energy and fuels development
- Maximize economic/social/educational benefits from the energy transition
- Attract businesses across the clean energy value chain
- Position S2J2 region as clean energy innovation hub
- Establish coordination mechanisms to lower hurdles for clean energy deployment

ZEV Transition & Infrastructure

- Develop workforce enable and sustain ZEV transition
- Supply locally-based fleets in the ZEV transition
- Identify opportunities for local businesses to thrive in the ZEV transition
- Increase access to clean, affordable, reliable, safe (CARS) transportation options for everyone
- Enable timely, cost-effective build-out of ZEV charging infrastructure

Nature Based Solutions

- Assess land-cover impacts of proposed approaches
- Implement integrated water management and sustainability programs
- Utilize biomass for sustainable energy production
- Promote eco- and agri-tourism for education and local economic support
- Encourage corporate sustainability and explore potential carbon markets
- Integrate disaster planning into climate resiliency efforts

Responsible Food & Ag

- Create pathways for improved food access and public health
- Foster an ecosystem for innovative technologies
- Encourage sustainable agriculture
- Empower farmworkers
- Build resilience in small farms and food producers
- Support investments that balance community and industry needs

Circular Manufacturing

- Drive circular transformation
- Enhance infrastructure
- Leverage local supply chains
- Expand workforce development
- Offer economic development incentives
- Foster permitting clarity

One Water

- Ensure universal access to safe, reliable, and affordable drinking water for all S2J2 residents
- Invest in sustainable water supplies to support a diverse economy, ecosystems, and agriculture
- Promote ecosystem restoration to enhance biodiversity and aquatic habitats

Broadband

- Support middle mile- and last-mile connectivity
- Launch a multi-county initiative
- Facilitate broadband deployment in multi-dwelling units
- Provide centralized application assistance for grant applications
- Strengthen digital skills
- Train local talent for broadband deployment jobs
- Build long-term regional capacity through a broadband consortium

Small Business & Microenterprise

- Diversify capital options for small businesses and potential investors
- Integrate CBOs to enhance support and outreach for hard-to-reach populations
- Assess and map the current small business and microenterprise landscape in the S2J2 region

Education & Skill Building

- Develop regional capacity to meet workforce needs with 4-county collaboration
- Reimagine employer-education partnerships
- Develop flexible pathways
- Provide supports to thrive at all stages of education and career

Community-Based Health Workforce

- Conduct research and build data on the healthcare workforce
- Advocate for a resilient and robust workforce
- Provide living wage and benefits
- Develop career pipeline + pathway with community partners
- Create opportunities for increased access to good healthcare jobs
- Build trust between the community and healthcare systems
- Create resources on available healthcare services

Community Benefits Policies

- Create a consistent baseline approach throughout the S2J2 region
- Center community voices and leadership
- Strengthen the region's climate resilience
- Identify regional mechanisms and long-term oversight structure
- Balance past / current / future timeframes

PATH FORWARD

Our four-county region is ready to meet this moment with a transformative economic development approach. Achieving the S2J2 vision requires long-term commitment from all stakeholders. The plan provides a clear starting point, but this transformative approach to inclusive economic development demands ongoing engagement and adaptation. This investment plan serves as the first step in a significant, ongoing endeavor.



PATH FORWARD (Continued)

Deepen Relationships

Building trust with our community stakeholders remains a top priority. We will establish robust accountability and stewardship mechanisms, ensuring transparent communication and consistent engagement. Our commitment to following through on promises will be demonstrated through clear feedback channels, regular progress reporting, and responsive issue resolution. Through these efforts, we aim to foster a sense of shared ownership among all stakeholders.

Deepen relationships for implementing initiatives moving forward

Establish new entities (e.g., Regional Coordinating Entities)



Leverage existing entities that are already involved in the workgroup



Get buy-in from existing entities that are not involved in the workgroup

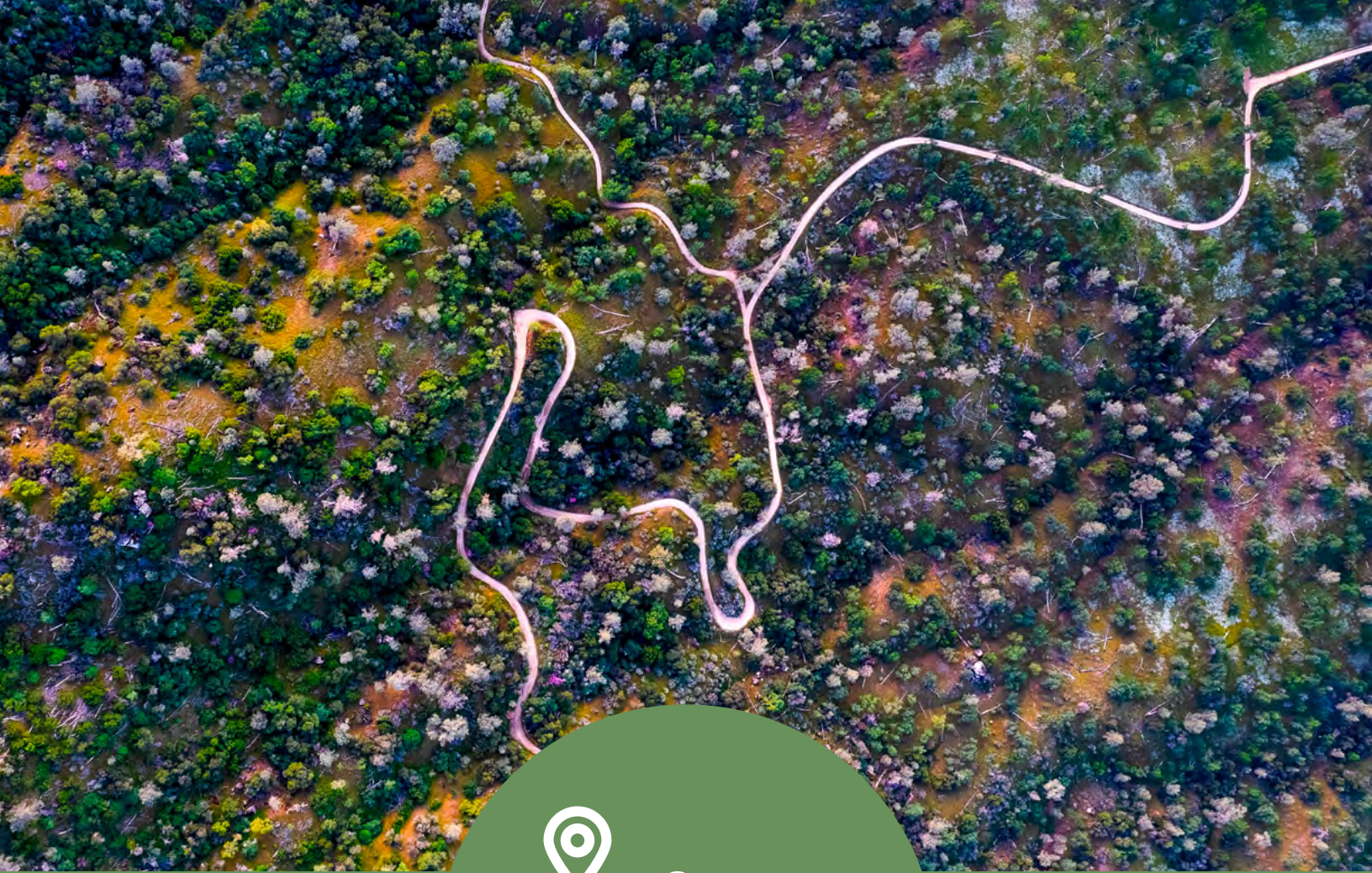


Near-Term Strategic Investments

To maintain momentum, we will identify and prioritize key, near-term investments. Our selection will be based on alignment with our broader vision and ability to address immediate regional needs. These may include workforce development programs, infrastructure improvements, or targeted business support initiatives. Through these strategic investments, we aim to demonstrate early wins, build credibility, and lay the groundwork for longer-term projects.

Execution

In implementing each investment, we will adhere strictly to our S2J2 principles of equity, environmental stewardship, job quality, economic resilience, and data-driven planning. We will establish continuous monitoring and evaluation systems to track our progress, learn from our experiences, and make data-driven adjustments. By maintaining this principled approach, we ensure that every project, regardless of scale, contributes meaningfully to our region's transformation and overall initiative goals.



Journey to the S2J2 Regional Investment Plan Draft

Introduction

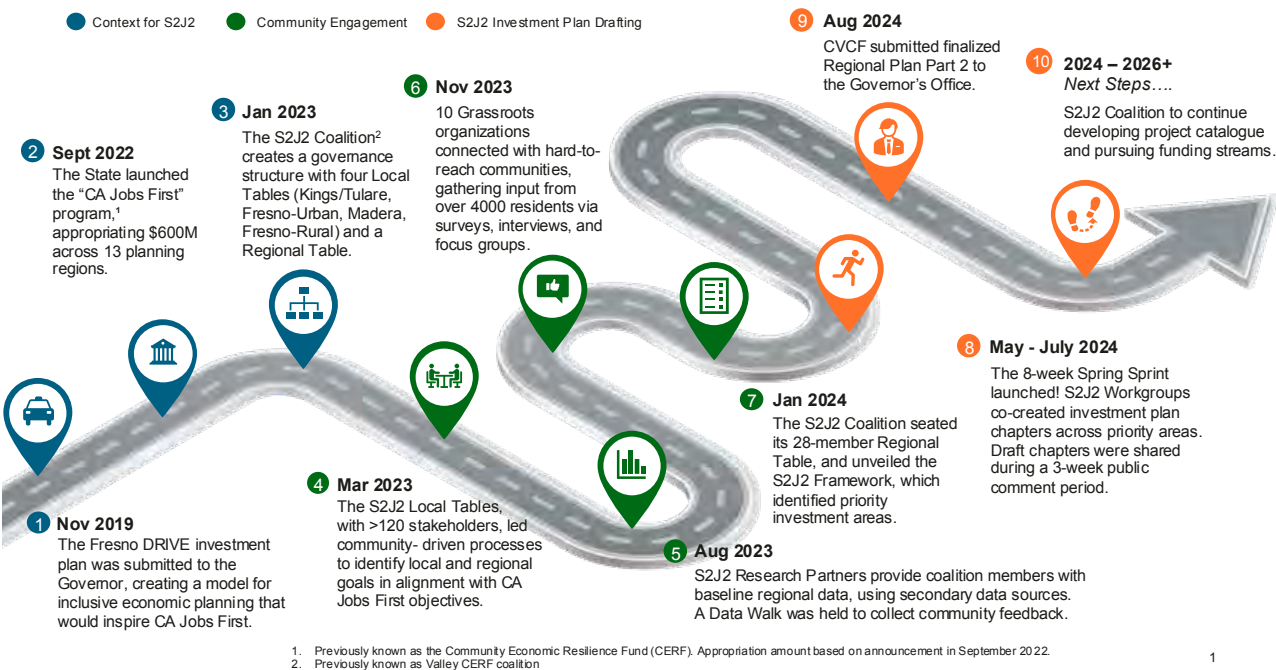
1 Journey to the S2J2 Regional Investment Plan Draft

State Launches the Regional Investment Initiative

In 2022, the \$600M Regional Investment Initiative (formerly the Community Economic Resilience Fund, or CERF) was launched by the California Governor’s Office of Planning and Research (OPR), Office of Business and Economic Development (GO-Biz), and the California Labor Workforce Development Agency (LWDA). This investment supported the development of “Jobs First” collaboratives across the State’s 13 economic planning regions – with the goal of creating new strategies to advance competitive and resilient economies that center equity, quality jobs, and climate-positive outcomes.

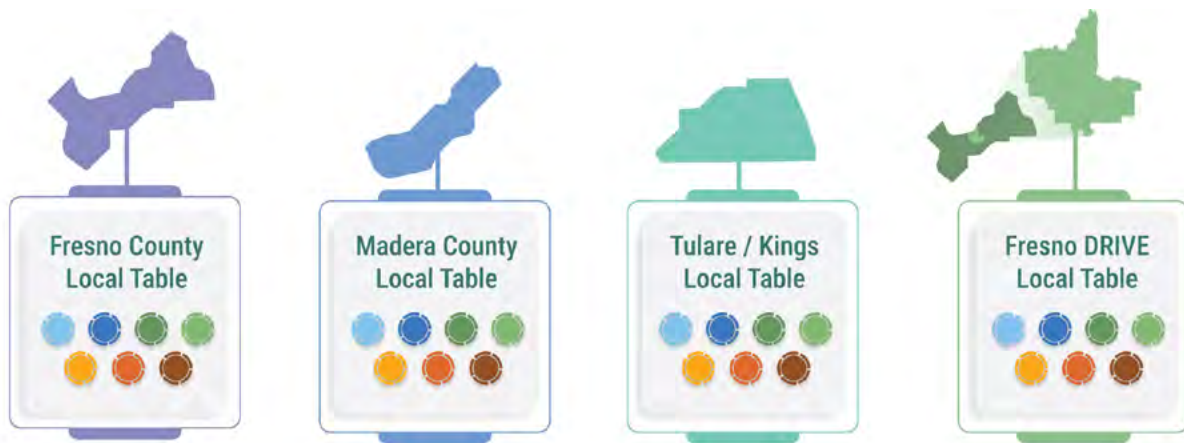
The Central Valley Community Foundation (CVCF) was selected by the State to lead the effort for the Sierra San Joaquin Jobs (S2J2) region, serving as the regional convenor charged with facilitating a group of diverse stakeholders in a highly participatory planning process. CVCF partnered with four “Local Table” conveners—the Office of Community and Economic Development (OECD) at Fresno State, United Way Fresno and Madera Counties, the Workforce Investment Board (WIB) of Tulare County, and the Fresno DRIVE Executive Committee—each convening a table of their local stakeholders. Collectively, the Local Tables comprised more than 100 organizations across seven stakeholder categories in the region’s four counties of Fresno, Kings, Madera, and Tulare.

United across geography and sectors, the S2J2 Coalition embraced this planning process as the opportunity of a lifetime, a chance to add the capacity and resources needed to build a regional vision while still serving immediate community needs. Through a community-driven process grounded in data that challenged biases and invited diverse viewpoints and experiences, the Coalition sought to answer the question, “What will it take to fundamentally transform our region and foster an inclusive, resilient, and sustainable economy?” The journey of the S2J2 Coalition, and the development of this S2J2 Regional Investment Plan, is marked by unprecedented collaboration, bold thinking, and community engagement across the region.



S2J2's Representative Governance Structure

Recognizing the geographic size, diversity, and complexity of the region and the need to balance power among stakeholders and multiple jurisdictions, the S2J2 Coalition established a collaborative governance structure and decision-making process that allowed for maximum input and inclusion at the local level. Four Local Tables were established:



Each Local Table was comprised of up to 35 representatives, with up to five representatives in each of seven major stakeholder groups.

Seven Stakeholder Groups



Throughout 2023, the S2J2 Initiative focused on work at the Local Tables. Each Local Table underwent independent, inclusive processes to identify local needs and priorities, oversee community engagement, review baseline regional data, and support the collaborative governance structure. The Local Table learnings and findings provided the foundation for the structure and priorities of this Regional Plan.

In Fall 2023, the Local Tables each recommended seven representatives to serve on the Regional Table. The Regional Table members were charged with overseeing the development of the Regional Plan and approving funding decisions on behalf of the Coalition. Like an accordion, this governance structure flexibly reaches both local and regional needs; it allows the S2J2 Coalition to hone in on the unique aspirations of local communities through Local Tables and community outreach, and it expands regionally to meet the need for comprehensive and inclusive regional planning and large-scale, multi-jurisdiction projects.

The Sierra San Joaquin Jobs Regional Table

The Regional Table is made up of seven representatives from each of the local tables, for a total of 28 members.



S2J2 Regional Framework

Over the course of 2023, the S2J2 Local Tables held discussions, data walks, and brainstorming sessions to uncover community desires and concerns for our region’s economic development. The Coalition heard from over 4,000 residents from historically underrepresented communities through surveys, interviews, and focus groups. [For more information, see the “Community Voice” section of this Plan.] Through this engagement, several priority industry and infrastructure sectors emerged, forming the S2J2 Framework. The Framework, finalized in January 2024, identifies the priority investment areas needed for our region to achieve its vision of ***“resourcing California’s climate economy.”***



The S2J2 Framework reflects the alignment between local voices that prioritize “climate solutions as economic development” and the State’s broader climate targets and priorities. S2J2 priority industry sectors include Climate Solutions, Responsible Food and Agriculture Systems, and Circular Manufacturing; infrastructure sectors include Broadband and Water. Our stakeholders also expressed the importance of several “community investment and planning” sectors, which provide the foundation for a thriving workforce and economic ecosystem. The Coalition heard concerns that just because an industry is producing sustainable products doesn’t mean it will provide significant and sustained benefits to local workers. Residents wanted to ensure that economic growth led to greater investment in Education and Skill Building, a Community-Based Healthcare Workforce, and local Small Business Development. Community Benefits Planning was added to the Framework in recognition that intentional planning was needed to advance community needs.

The S2J2 ‘Spring Sprint’

In Spring 2024, the S2J2 Coalition began building workgroups around each of the priority areas in the S2J2 Framework¹ – with the goal of bringing together the best and brightest minds to help craft the S2J2 Regional Investment Plan. S2J2 Coalition members actively recruited and nominated individuals and organizations with expertise, lived experience, and/or local knowledge in one or more of the S2J2 Framework priority areas. **The request of workgroup participants was substantial: participation in an intense, eight-week planning process called the “Spring Sprint,” during which each workgroup would review existing evidence, engage in hard conversations, challenge the status quo, and put pen to paper to draft a chapter of the S2J2 Regional Plan.** Hundreds of new and existing S2J2 Coalition members heeded the call to participate.

On May 9, 2024, the Spring Sprint was launched. More than 300 representatives convened at the Madera Fairgrounds to start work on this first-of-its-kind regional investment plan for Madera, Fresno, Tulare and Kings Counties. The kickoff event featured speakers Dee Dee Myers, Senior Advisor and Director of the Governor’s Office of Business and Economic Development and Secretary Stewart Knox from the California Labor and Workforce Development Agency. Over the next eight weeks, **participants of each workgroup worked through a coordinated process to identify (1) problem statements and opportunities, (2) promising strategies, (3) potential funding models, (4) key stakeholders, (5) barriers and solutions, and (6) actionable next steps.** The workgroups were structured with designated Convenors, Facilitators, Technical Assistance/Data providers, Administrative personnel, and a CVCF team member to coordinate across workgroups. To encourage participation from diverse stakeholders and community members that are traditionally excluded from similar planning processes, all participants were offered a payment to compensate for their contribution of expertise and time.

On July 18th, the Coalition culminated its Spring Sprint journey with a “Sprint to the Finish Line” celebration, featuring comments from Congressman Jim Costa and CVCF President and CEO Ashley Swearengin. The Coalition celebrated the completion of the draft S2J2 Regional Investment Plan – the first steps toward a shared vision for our four-county region. After hundreds of meetings, comments received from thousands of area residents, and input from more than three dozen subject-matter experts, the S2J2 Coalition submitted to the Regional Table the following pages that paint a picture of how our region may transcend current economic and environmental challenges and emerge as a vibrant, sustainable and inclusive region. **The S2J2 Regional Table reviewed and debated the draft Plan, and on August 9, 2024, unanimously voted to advance the Plan to the State of California.**

1. The workgroups included: Climate Solutions, Responsible Food and Agriculture Systems, Circular Manufacturing, Broadband, Water, Community Health Workforce, Education & Skill building, Small Business & Microenterprise, and Community Benefits Planning. Given the breadth of the Climate Solutions priority area, it was divided into four workgroups: Clean Energy & Fuels, Fleet (Zero Emission Vehicle) Transitions, Nature-based Climate Solutions, and Carbon Capture.



Our Regional Investment Plan Draft





Clean Energy and Fuels

Industry Clusters



Industry Clusters

Clean Energy and Fuels

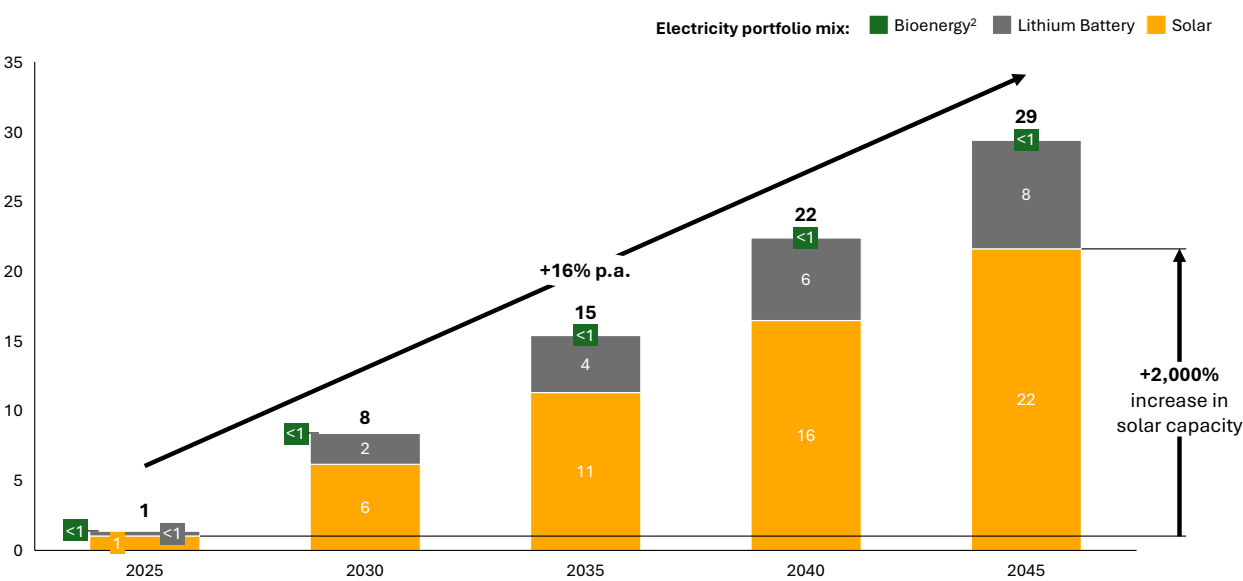
1 Problem Statement, Opportunity, and Vision

The Sierra San Joaquin Jobs (S2J2) region is at the geographic forefront of California’s transition to clean energy and fuels. With its abundance of clean energy resources, the S2J2 region will be critical to achieving the State’s goal of carbon neutrality by 2045. However, the ancillary benefits of the deployment of renewable, low-carbon and clean energy are not guaranteed. Without action, energy produced locally may be used around the state and country but local communities may not take full advantage of the suite of benefits the clean energy transition will provide, leaving the very people and places that generated it behind. Investment and development are already on the rise, placing the region at a pivotal moment to define priorities and strategies that ensure everyone can share in the economic and environmental benefits of this historic moment.

Opportunity: Clean energy can be an economic driver in the region, aligning with S2J2’s principal goals of bringing high-road jobs and growth to the S2J2 region. The region has developed a desired portfolio for clean energy buildout, shown in Figure 1 and Figure 2 (Details on “clean” energy included in the scenario below is detailed in Appendix E: Inputs and Outputs in S2J2’s Desired Portfolio Mix). Note: S2J2’s desired portfolio (i.e., proportional 1.5x scenario) indicates ***the region could contribute 1.5x more than its proportional share of the State’s energy needs*** via utility-scale generation. Additional energy generation beyond utility-scale, e.g., distributed generation, is detailed further in Investment Strategy E.

Figure 1. S2J2’s Clean Electricity Capacity from 2025 to 2045

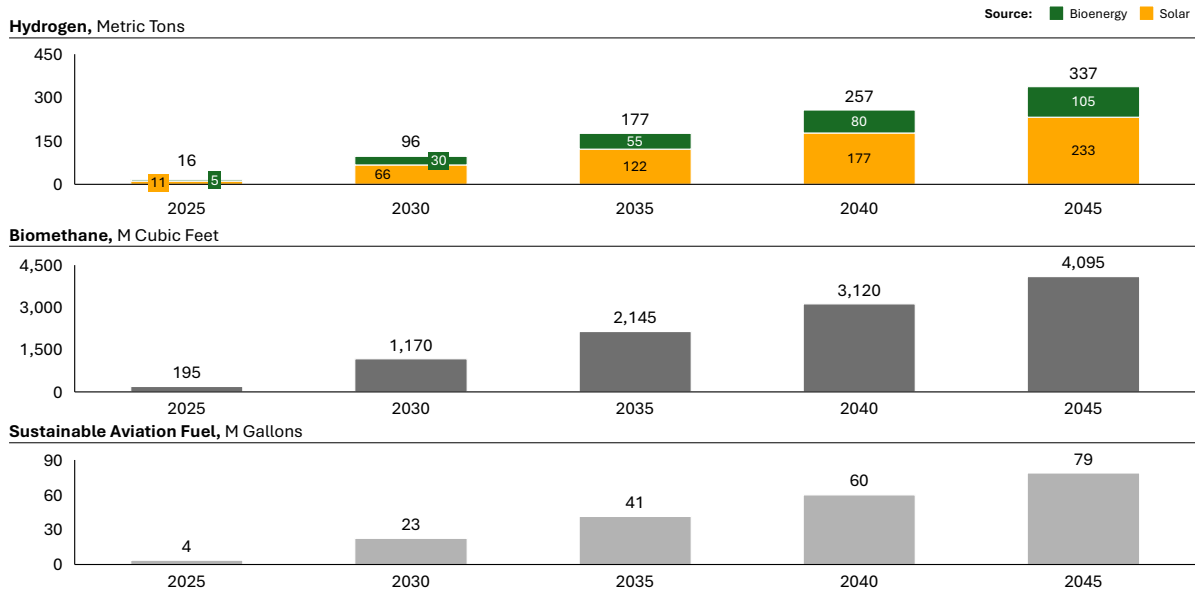
Electricity: S2J2’s clean electricity capacity from 2025 to 2045 in the proportional 1.5x scenario¹, GW



1. Proportional 1.5x scenario (i.e., one in which the S2J2 produces clean energy 1.5x that which is proportional to its resources compared to the states resources). Excludes "energy molecules" produced (e.g., hydrogen, biofuel)
2. Includes biomass (e.g., agriculture waste, forest waste) and biogas (e.g., animal manure, diverted organic waste)
Source: RAND Toolkit

Figure 2. S2J2’s Expected Low-Carbon Fuels from 2025 to 2045

Fuels: S2J2's expected low-carbon fuels to be produced from 2025 to 2045 in the proportional 1.5x scenario¹

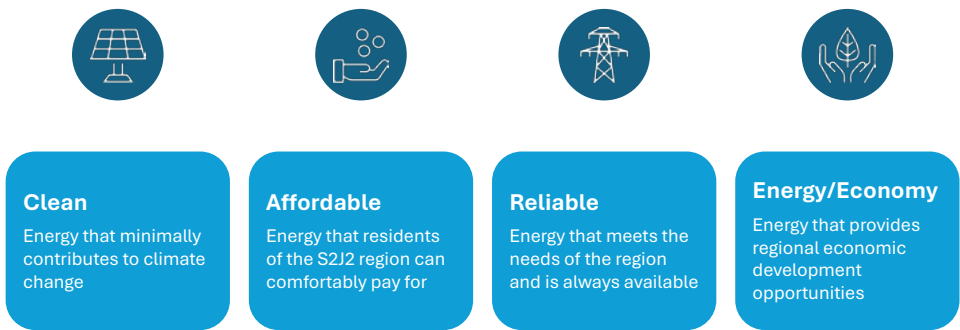


1. Proportional scenario (i.e., one in which the S2J2 produces clean energy 1.5x that which is proportional to its resources compared to the states resources). Excludes electrons (i.e., electricity produced).
Source: RAND Toolkit

The region is naturally advantaged to catalyze clean energy deployment in the region due to:

- **Existing Industries:** The existing agriculture-to-food ecosystem in the S2J2 region, along with the abundance of bio-feedstocks, positions the region to develop a circular agri-economy. The circular agri-economy could include on-farm waste-to-bioenergy production and green food processing hubs near agricultural production areas.
- **Natural Resources:** The region has ample land well-suited (i.e., due to sunlight availability) for development of solar with battery storage and the potential to repurpose land for multiple uses.¹ The region also has an abundance of bio-feedstock available (e.g., agricultural waste, animal waste, forest and lumber waste, industrial and commercial waste, food waste).
- **Economic Incentives:** Due to California’s ambitious Climate Change goals, capital incentives (e.g, Low Carbon Fuel Standard Credits, Active Solar Energy System Exclusion, Self-Generation Incentive Program), dedicated funding sources (e.g., California Infrastructure and Economic Development Bank’s (IBank) CLEEN Center, California Sustainable Energy Entrepreneur Development (CalSEED) Initiative), and investment totaling \$41 Billion has been enacted to support buildout and deployment of clean energy and fuels.²
- The region can leverage these existing resources to enable utility-scale and distributed clean energy deployment and also has the opportunity to expand the existing clean energy value chain, technology and infrastructure, and innovation resources to fully realize the potential of clean energy and fuels in the region.
- **Vision:** The region aims for clean, affordable, and reliable energy sources, while supporting shared economic prosperity across all communities (please see Figure 3).

Figure 3. Visual of the S2J2 Region’s Clean Energy Vision



All activities will be grounded in and built upon the existing S2J2 principles:

- **Equity:** Support those who least benefit from the current economy and ensure no harm is done to local communities as a result of clean energy deployment.
- **Environmental Stewardship:** Transition to clean energy to directly reduce production of fossil-fuel based energy sources, which are highly polluting.
- **Good Jobs/Resilient Economy:** Create sustainable jobs that span generations, support families and their needs (e.g., college or career education, housing, retirement) and stay in the S2J2 region. Invest in workforce development so residents can access new jobs and attract entrepreneurs, researchers and businesses who want to partner in supporting the region in achieving its goals.

1 See the Clean Air Task Force’s blog for an analysis of dual use solar in the region: <https://www.catf.us/2024/04/dual-use-solar-exploration-potential-san-joaquin-valley/>
2 California Energy Commission

- **Data-Based Planning:** Use land-use data to begin to identify areas for clean energy development and determine there is sufficient land for projected development, while maximizing benefits to the region across factors such as air quality, water implications, job opportunities and regional asset preservation (e.g., prime farmland, habitat corridors).
- **Community Benefits:** Implement a regional framework that serves as a guide to local jurisdictions and sets expectations for clean energy and fuels developers to fund meaningful, locally determined community benefits, including formal agreements to guide implementation.

2 Investment Strategies

The S2J2 region has developed the following investment strategies to facilitate and leverage clean energy deployment in the region:

- Develop the workforce:** Build on the region's skilled workforce capabilities to meet the needs of clean energy and fuels development.
- Maximize community benefits:** Maximize economic and educational community benefits from clean energy deployment.
- Build a clean energy economic development ecosystem:** Attract, develop, and expand businesses that support distinctive clean energy opportunities (e.g., solar, storage, bioenergy, hydrogen, and sustainable aviation fuel) within the region and across the clean energy value chain (e.g., generation technology development, component manufacturing, renewables development, supports and services).
- Drive development of the region as an innovation hub:** Position S2J2 as a center of clean energy research and innovation to develop next-generation technologies that reflect the unique benefits of this region.
- Establish regional coordination:** Determine a mechanism for local government to coordinate with regional and state stakeholders to decrease barriers to meet the S2J2 clean energy vision.

Through the 5 key investment strategies outlined above, the S2J2 region aims to bring a variety of benefits to the region, with key impacts highlighted in Figure 4.

Figure 4. Key Clean Energy & Fuels Impacts on the S2J2 Region by 2045



1. Not accounting for potential job loss
Source: RAND Toolkit, Consulting team analysis (see Workforce Figure 5 for details)

2.1 Strategy A: Develop the Workforce

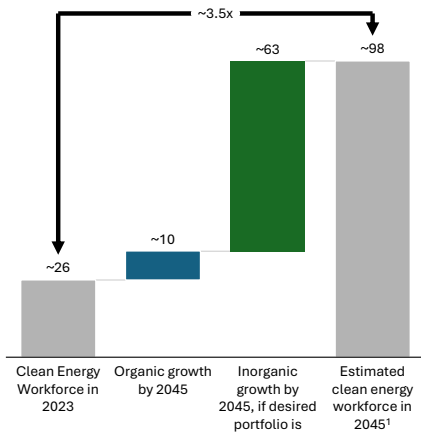
Advancing clean energy development will increase the demand for a specialized and trained workforce across the clean energy value chain. Preliminary analysis shows that clean energy deployment of the desired portfolio in the region will result in an estimated increase of 73,000 workers across ~50 occupations with average hourly earnings of \$32/hour (Figure 5, Appendix G: Occupation Breakdown Included in Clean Energy Workforce). Although this is a sizable opportunity, workers in the 4-county region presently feel inadequately prepared for this transition. For example, the Urban Institute Community Engagement Survey found that, within Fresno County, 17% (n=279) of workers believe that technology shifts or skills deficiencies will pose the most significant threats to their work. Although current clean energy training initiatives exist, a comprehensive workforce development strategy mobilizing stakeholders such as academic institutions, school districts, labor unions, and employers will be necessary to ensure the workforce is prepared and able to access new clean energy and fuels jobs and relevant education and training. See the Education and Skill Building Investment Plan for a detailed outline of proposed initiatives.

Figure 5. Estimated Increase in S2J2 Clean Energy Workforce by 2045

Clean Energy workforce outlook

S2J2 workforce in 2045 in clean energy sectors, Thousands

PROPORTIONAL 1.5X SCENARIO



1. ~2.6k workers in clean energy related occupations are unemployed, calculated by multiplying the average of 2023 unemployment rate across primary clean energy industries (e.g. Utilities, Construction, Manufacturing) with the 2045 estimated workforce. 2. Represents sum of organic and inorganic growth estimates. 3. Weighted by number of jobs per occupation in the S2J2 region in 2023. Note that "average hourly earnings" represent weighting across ~50 occupations. Full list can be found in the appendix.

Sources: Lightcast – Labor Market Analytics Data (2023), NREL California’s Clean Energy Jobs Potential (2020), UC Berkeley’s Environmental and Economic Benefits of Building Solar in California (2014), Employment Estimates in the Energy Sector (2015), U.S. Energy & Employment Jobs Report (2023), IMPLAN (RAND toolkit), NREL California’s Clean Energy Jobs Potential (2020), Energy Policy Institute’s Employment Estimates in the Energy Sector (2015)

Example jobs by occupation, median hourly earnings, and educational requirements in clean energy sectors

Educational requirements: High school diploma Bachelor's degree	
Occupations (not exhaustive)	Median hourly earnings
Electricians	~\$31
Carpenters, Millwrights, Piledrivers	~\$33
Solar Photovoltaic Installers	~\$23
Electrical Power-Line Installers and Repairers	~\$52
Ironworkers	~\$24
First-Line Supervisors of Construction Trades and Extraction Workers	~\$38
Market Research Analysts and Marketing Specialists	~\$32
Industrial Production Managers	~\$54
Electrical Engineers	~\$63
Operating Engineers	~\$37

~73k²

workers may need to be trained to achieve the desired clean energy portfolio in the four-county region by 2045.

Note: Active participation likely required to ensure a significant portion of jobs remains in S2J2 community

~\$32³

In average hourly earnings across ~50 occupations designated as clean energy-related.

2.2 Strategy B: Maximize Community Benefits

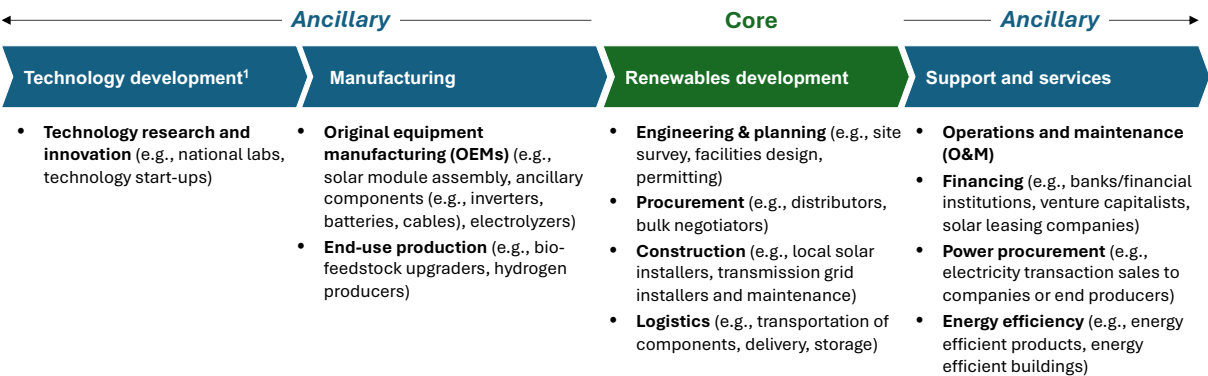
The region faces many challenges related to the environment and quality of life — such as constrained water resources, transitioning agricultural lands, a lack of high-wage/road job opportunities, and heavy air and water pollution. The impacts of intense agricultural and industrial development have disproportionately affected the region, resulting in a large number of systematically disadvantaged communities. At the same time, the S2J2 region is uniquely positioned to benefit from clean energy deployment and to improve community members’ quality of life. By building capacity in the region’s communities and attracting and guiding investments in clean electricity and fuel production, state, federal, and private funding for the transition can help reduce the largest sources of pollution in the region, improve overall community welfare, create new economic opportunities, and foster a cleaner local environment. The S2J2 region can work together to develop a community benefits framework that maximizes economic and educational community benefits from clean energy deployment.

See the Community Benefits Planning Investment Plan for details.

2.3 Strategy C: Build a Clean Energy Economic Development Ecosystem

The core of the S2J2 region’s clean energy value chain consists of renewables development, which supports buildout of clean energy and fuels generation capacity. However, ancillary businesses and services supporting upstream and downstream activities (Figure 6) are often from outside the region, resulting in a leakage of potential economic benefits from the region.

Figure 6. Potential Value Creation from Clean Energy Deployment in S2J2 Region



1. Technology defined as the processes for clean energy generation (e.g., pyrolytic technology to convert ag waste to fuel, electrolytic technology to split water to hydrogen, steam methane reforming technology to convert methane to hydrogen)

In order to capture benefits locally, the region aims to attract, expand, and develop businesses that support the distinct clean energy opportunities (e.g., solar, storage, bioenergy, hydrogen, and sustainable aviation fuel) within the region and across the clean energy value chain (e.g., generation technology development, component manufacturing, renewables development, supports and services).

To support the development of a clean energy ecosystem, the following initiatives may be undertaken:

1. **Support Economic Development Corporations (EDCs) in developing a unified strategy to attract businesses and secure clean energy investments for the region.** The strategy may include targeted attraction campaigns for upstream and downstream businesses that position the S2J2 region as ground-zero for clean energy development. Support may be offered in the form of targeted funding for business attraction and human resources and capacity for strategy development. Specific initiatives may include the following:

- a. **Systematically identify and proactively support businesses** along the clean energy value chain that can create jobs and bring investment to the region.
- b. **Offer to train workers at community colleges to meet the specific needs of the business.** An example of a similar initiative is the Quickstart Technical College System of Georgia, which offers training partnerships with businesses and allows workers to visit and familiarize themselves with business facilities and operations in advance.³ Similarly, local Workforce Investment Boards partner with local businesses, educational institutions, and community organizations to develop and implement training programs.
- c. **Release Requests for Proposals (RFPs) that offer favorable terms** for businesses that bring significant parts of their value chain to the region. These RFPs can take the form of public-private partnerships to help lower the upfront capital barrier for clean energy-related manufacturers entering the region.
- d. **Offer priority for site selection and touring** for businesses that establish multiple facilities locally.
- e. **Offer long-term contracts or partnership guarantees** with local businesses conditional on ancillary businesses moving to the region or hiring locally.
- f. **Host clean energy and fuels conferences** to begin developing relationships with business leaders and investors.

See Circular Manufacturing chapter for further details.

2. **Offer local incentives to reduce capital investments and ongoing operational costs for renewables developers aligned with the region's vision and principles.** This may include the following:

- a. **Subsidize land acquisition for clean energy businesses along the whole value chain:** Offer financial support for the purchase or lease of land designated for clean energy businesses (e.g., deferred payment plans or reduced rates tailored to the needs of startups or establish companies looking to expand their operations).
- b. **Provide research and development funding to offset the cost of ongoing innovation:** Allocate grants at the local level and advocate for state funding specific to R&D activities for clean energy (e.g., solar energy efficiency, battery storage solutions).
- c. **Offer rebates to reduce the operational costs of clean energy deployment in the four-county region:** Implement a variety of rebate programs for clean energy deployment (e.g., rebates that subsidize clean energy machinery and equipment, rebates that cover a portion of property taxes for facilities that meet green building standards).

Immediate Next Steps:

1. Fund a new, inter-county, regional clean energy team to establish synergies with and explore opportunities in circular manufacturing, clean energy component manufacturing (e.g., balancing supports, beams, batteries, transformers), and building and vehicle electrification.
2. Research the potential for public-private partnerships to lower the capital barrier for project execution and allow more firms to enter the clean energy market.

3 <https://www.georgiaquickstart.org/what-we-do/>

2.4 Strategy D: Drive Development of the Region as an Innovation Hub

The S2J2 and surrounding regions have several innovation centers such as the Water, Energy, and Technology (WET) Center at Fresno State; BEAM Circular, an organization that facilitates collaboration between public and private bio-industrial manufacturing projects; and Southern California Edison's (SCE) Energy Education Center (see Appendix C). However, despite the large amount of clean energy produced in the region, innovation primarily happens outside of the region. The region does not currently have the businesses, human capital, funding, resources, or expertise available for and dedicated to clean energy research and innovation. The region aims to position itself as a center of clean energy research and innovation to develop next-generation technologies that reflect the unique benefits of this region.

The region can take the following initiatives to develop an innovation hub in the region:

1. **Identify synergies for clean energy production unique to S2J2 region (e.g., dual-use, on-farm bioenergy production from agricultural waste, green food processing hubs).** This may involve a robust assessment and modeling of natural and clean energy resources in the region, investment in research and development of unique and innovative solutions, business cases for new technologies, and market identification for end-products. For example, the region may work with CARB, GO-Biz, and other state agencies to identify markets for bioenergy and hydrogen products that will help industries that are difficult to decarbonize.
2. **Accelerate clean technology development through incubator/accelerator programs and partnerships with research institutions.** These programs can leverage existing innovation ecosystems to provide startups and entrepreneurs with the resources, mentorship, and necessary funding. Research institutions can facilitate access to facilities, equipment, technical expertise, and avenues to secure additional funding. Additionally, connecting startups with established industry players or opening an innovation challenge can facilitate knowledge exchange for development and scaling of new technologies.
3. **Convene major power purchasers, technical experts, utilities, and infrastructure developers to explore feasibility of deploying innovative technologies and alternative financing mechanisms to improve transmission and distribution.** In addition to clean energy innovation, solutions are needed to expand and enhance the existing transmission and distribution grid. Examples may include grid-enhancing technology, advanced reconductoring, updated meters and monitoring, and advanced digital tools. Options for third party (non-utility) infrastructure companies to finance, design, construct, operate, and maintain grid upgrades should also be investigated.

Immediate next steps:

Identify key clean energy researchers in the S2J2 and surrounding regions and encourage collaboration to facilitate cross-institutional research.

Identify top agricultural waste producers to determine how to connect them to existing and innovative biofuel infrastructure.

2.5 Strategy E: Establish Regional Coordination

Various infrastructure and regulatory challenges continue to hinder clean energy and fuels deployment in the region:

- The **current grid needs significant upgrades** for energy distribution, to offset consumer costs, and to meet demand. The expected capacity requirement for the S2J2 region in 2040 is 12GW (Figure 11) and the region's capacity as of 2022 is ~7GW (Figure 12). Therefore, there is a minimum need for interconnecting ~5GW of energy capacity to meet regional demand. However, with 29GW of expected generation by 2045 (Figure 1), up to 22GW will need to be interconnected to the grid. See Appendix A for Figure 11 and Figure 12.
- **Transmission and the interconnection process** remain a significant bottleneck for clean energy deployment projects. Long queues due to backlogs in the approval process and an overwhelming number of interconnection applications continue to delay and even halt efforts to increase capacity. The typical time from connection request to commercial operation nearly doubled between 2000 to 2023, with a median wait time of five years in 2023.⁴
- **Local permitting and licensing for clean energy development projects are complicated and vary by jurisdiction.** The anticipated increase in clean energy initiatives may surpass local municipalities' permitting capacity.

The region can overcome these hurdles by developing a mechanism for local governments to coordinate with regional and state stakeholders to decrease barriers to meet S2J2's clean energy vision. Key initiatives include:

1. **Explore opportunities to lower energy rates in the region.** A regional collaborative effort could explore structures for lower cost energy generation and distribution beyond utility-scale, such as distributed generation, joint powers agreement/authority (JPA), community choice aggregation (CCA), municipal utility, etc. and/or encourage the CPUC to adopt a lower clean energy manufacturing electric rate.
2. **Engage with state agencies and/or the legislature to prioritize and enhance transmission and infrastructure development in the region.** This may involve the following:
 - a. Work with CAISO and CPUC to prioritize transmission development in the four-county region.
 - b. Coordinate with neighboring regions to facilitate inter-regional planning.
 - c. Urge CAISO to allow qualified third parties to conduct interconnection studies to save time and avoid deployment delays.
 - d. Encourage state procurement of grid infrastructure components to resolve supply chain delays.
 - e. Work with the legislature to review existing state laws and regulations (e.g., Williamson's Act) to ensure they meet needs of communities and developers.
3. **Consolidate and streamline local project review, permitting, siting, and other processes to support clean energy deployment.** This may involve the following:
 - a. Form a regional coalition to coordinate with local jurisdictions and preemptively plan and conduct local permitting for clean energy projects and related infrastructure.
 - b. Conduct community outreach to involve and align with community needs in advance of formal Community Benefits Agreement (CBA) and coordinate with municipal permitting processes and project mitigation requirements.

4 Energy Markets and Policy - Lawrence Berkeley National Laboratory

- c. Identify land suitable for clean energy deployment and conduct program environmental impact reports (PEIRs) and make information publicly available or available to developers. Facilitate allocation (e.g., bidding process, simplified application) for identified plots.
- d. Allocate additional staffing and capacity for all review processes.
- 5. **Explore funding mechanisms to expand microgrids and distributed energy generation** such as rooftop solar panels, community battery storage, and distributed bioenergy generation.⁵
 - a. Incentivize build-out of distributed generation through capital incentives like rebates, tax credits, and low-interest loans. Further, the region may consider additional incentives, or providing specific support to local and regional organizations, for deploying clean distributed energy near low-income and disadvantaged communities, which will expand benefits – such as lower electric bills, local reliability, and improved air quality – to residents with the fewest resources to respond to climate change.⁶
 - b. Coordinate with CAISO and utilities to identify areas where curtailed solar energy can be captured to support the energy transition (e.g., hydrogen production).
 - c. Explore the feasibility of upgrading future distributed generation infrastructure or building out new infrastructure and leasing it to utilities.

Immediate next steps:

- 1. Collaborate with groundwater sustainability agencies (GSAs) to identify lands that will be fallowed.
- 2. Conduct a study to determine the feasibility and benefits (e.g., potential capacity, cost to ratepayers, cost of construction) of microgrids and other distributed generation solutions.

2.6 Additional Cross-Strategy Considerations

The five investment strategies offer opportunity to **increase economic diversification and resilience**, including:

- **Increased discretionary income**, with higher wages and negotiated profit-sharing structure, that can be dispersed through the local economy.
- **Higher standard of living**, given the expansion in local short-term and long-term employment opportunities, as well as direct, indirect, and induced economic activity from increases in income.⁷
- **Increased regional competitiveness** in attracting clean energy business.
- **Expanded manufacturing sector** if a portion of components is manufactured locally.
- **Exploring options** that both improve energy independence from the state and nation more broadly and bring revenue to the region.

5 California is planning for 13 GW of distributed solar power and storage by 2035, representing nearly 24% of new renewables and 43% of new solar power to meet 2039 targets. Sources: California Energy Commission. 2023 Integrated Energy Policy Report, California Energy Commission. 2023 Behind-the-Meter Distributed Generation Forecast Updates.

6 California Distributed Generation Statistics.

7 Direct effects include on-site jobs and income created from clean energy investment; indirect effects include additional jobs and the economic activity involved in supplying goods and services related to the primary activity; induced effects include employment and other economic activity generated by spending the wages earned by those directly and indirectly employed in the industry. NREL Economic Benefits of Renewable Energy.

The five investment strategies offer opportunities for **workforce development and alignment with job quality and access, equity, and climate priorities**, including:

- **Expanding volume and duration of employment** opportunities in the four-county region through unions and project labor agreements to increase job security.
- **Expanding access (e.g., opportunities, awareness) to high-road jobs** that have high wages and benefits to support families.⁸
- **Up-skilling and re-skilling the workforce** to maintain competitiveness of labor, and thus, wages, with the State.
- **Promoting equitable access to jobs and job training** through the development of wraparound services.
- **Addressing the workforce gap** for successful deployment of clean energy and fuels infrastructure in the region.
- **Increasing protection of workers through unions** to ensure workplace safety and health.

The five investment strategies align with state strategies:

- **CA Employment Training Panel:** This panel can provide funding to employers to assist in upgrading worker skill sets and partnerships to supply industry leaders with frameworks for closing the workforce skill-gap.⁹
- **ARCHES /GO-Biz – Hydrogen Hub:** This alliance has anticipated investments in agricultural and forest waste, contributing to workforce skill enhancement in hydrogen energy.¹⁰
- **CA Alternative Energy and Advanced Transportation Financing Authority – Advanced Transportation Tax Exclusion:** Provides tax exclusions that reduce the capital cost for manufacturers of advanced transportation technologies.¹¹
- **CA Energy Commission – Climate Innovation Program**¹²: This program plans to direct funding towards technologies that mitigate climate change, including financial support for bioeconomy projects.
- **IBank – Climate Catalyst Fund:** This fund offers a range of financial instruments to support the scaling of advanced technologies including clean energy infrastructure.¹³
- **CA Energy Commission – Clean Hydrogen Program:** This program focuses on scaling up hydrogen projects that enhance the state’s energy infrastructure.¹⁴
- **CA Department of Conservation:** Forest Biomass to Carbon Negative Biofuels Pilot Program utilizes forest biomass from the Sierra Nevada to create carbon-negative liquid fuels or hydrogen.¹⁵
- **California Air Resources Board – San Joaquin Valley Agricultural Burning:** Adopted in 2023, this plan requires the phaseout of open burning of agricultural waste by 2025 to protect air quality and public health.¹⁶
- **CalRecycle – CA Short-Lived Climate Pollutant Reduction Strategy:** Adopted in 2017, this plan aims to reduce emissions of methane and black carbon, climate super pollutants emitted from organic waste, open burning, wildfires, and diesel combustion.¹⁷

8 Definition of high-road jobs

9 Employment Training Panel (ETP)

10 ARCHES

11 <https://www.treasurer.ca.gov/caeatfa/ste/index.asp>

12 California Energy Commission. Climate Innovation Program.

13 California Infrastructure and Economic Development Bank

14 California Energy Commission – Clean Hydrogen Program

15 California Department of Conservation

16 <https://ww2.arb.ca.gov/our-work/programs/agricultural-burning/san-joaquin-valley-agricultural-burning>

17 <https://calrecycle.ca.gov/organics/slcp/>

3 Potential Investment Required and Funding Sources

The clean energy development in the S2J2 region could require a total investment of **~\$10B by 2045**, composed of ~\$2.7B for initial startup funding and ~\$7.3B of additional public and private investment required to enable the S2J2 region's vision. The S2J2 region plans to use both public and private funding to advance its clean energy initiatives. Public funding will come from federal, state, and local **government programs** via tax credits, grants, and municipal bonds. Private funding includes **formal financing** from banking institutions and **informal financing** from sources like revolving loan funds.¹⁸ Additionally, the framework incorporates **entrepreneurial financing** from private investors that target startups, along with **philanthropic** contributions from foundations and nonprofits. This structured funding approach can help key stakeholders to find and use the necessary resources to drive forward clean energy projects that are grounded in the priorities of the S2J2 region. Potential funding sources for clean energy investments in the four-county region are outlined in Appendix B. Please note that the list of funding programs is not exhaustive.

Table 1. Potential Funding Source by Strategy

Strategy	Potential funding sources ¹⁹	Estimated total investment required by 2045	Rationale
Strategy A Develop workforce	- Career Skills Training - State-Based Home Efficiency Contractor Training Grants - Energy Auditor Training Grant Program (DOE)	~\$14M	Costs include: curriculum development, educational training, labor analysis reports, expert hiring fees, siting and permitting, training equipment, student transportation, multilingual material development, childcare services, and union agreements.
Strategy B Maximize community benefits	- Green and Resilient Retrofit Programs - High-Efficiency Electric Home Rebate Program - Home Energy Performance-Based, Whole-House Rebates - Philanthropic funding sources	~\$2.8M	Costs include: framework development to ensure transparent use of funds, salary and operational costs for implementation, tracking the investment of developer funds in clean energy projects, and consultancy fees to develop strategies for reducing local energy costs through clean energy solutions.

¹⁸ Informal Finance includes all forms of financing that is not formally regulated - Informal Finance and the Design of Microfinance, Mark Schreiner, Development in Practice Vol. 11, No. 5 (Nov.,Nov. 2001), pp. 637-640

¹⁹ Not exhaustive

Table 1. Potential Funding Source by Strategy Cont'd

Strategy	Potential funding sources ¹⁹	Estimated total investment required by 2045	Rationale
Strategy C Build a clean energy economic development ecosystem	• Energy Infrastructure Re-investment Financing (DOE) • Climate Catalyst Fund (IBank) • ARCHES H2 Hub (ARCHES/ Go-Biz) • Rural Energy for America Program (REAP), (Dept. of AG)	~\$6.5B	Costs include: investments in large-scale clean energy projects (e.g., solar, biofuel), business attraction, upfront and running cost reduction, analysis of potential manufacturing capabilities, identifying competitive advantages and potential for capturing federal subsidies, and establishing partnerships, legal and administrative expenses.
Strategy D Drive development of the region as an innovation hub	• Solar Recycling Research and Development (DOE) • Solar Energy Research and Development (DOE) • Various public sector grants • Philanthropic funding sources • Corporate philanthropy	~\$810M	Costs include: research and consultancy fees to identify and develop market strategies leveraging capabilities in the S2J2 region; establishing and maintaining incubator/accelerator programs, fostering partnerships with research institutions, and providing grants or funding to startups; funding allocated for organizing and facilitating meetings, conducting feasibility studies, and piloting advanced grid technologies, including reconductoring projects.
Strategy E Establish regional coordination	• Grants to Facilitate the Siting of Interstate Electricity Transmission Lines (DOE) • RNG Procurement Program (California Public Utilities Commission) • Forest Biomass to Carbon Negative Biofuels Pilot Program (CA Department of Conservation)	~\$2.7B	Costs include: accelerated development of transmission lines to support clean energy build-out, establishing and operating a regional coalition; advocacy, legal, and consultancy costs to support engagement with state authorities on tax amendments, Williamson Act contract re-evaluation, etc.; development of a streamlined permitting process to reduce timelines and enhance coordination; feasibility studies and pilot projects to expand microgrid and solar solutions to enhance local energy resilience.

4 Stakeholder Map

The successful implementation of clean energy initiatives in the S2J2 region requires strategic collaboration among key stakeholders – such as governments, industries, utilities, nonprofits, education, and unions. **Governmental bodies at local, state, and federal levels** establish regulatory frameworks conducive to clean energy development. **Industry partners** contribute the sector expertise and financial investment needed to advance sustainable energy solutions. **Utilities** ensure the reliability and resilience of energy infrastructure. **Nonprofit organizations** foster community engagement and prioritize social equity. **Educational institutions** and **workforce development organizations** cultivate a skilled workforce equipped to meet the demands of the evolving energy sector. **Unions** guarantee that workers receive the earnings and work environment necessary for success. Effective coordination among these stakeholders is imperative for achieving the region's clean energy objectives. To find a list of stakeholders mapped to strategy, please see Appendix C.

A **unified coalition** representing regional interests with committed staff, foundation-based funding, and resources is **essential for defining and achieving the clean energy objectives** outlined above. Administrative and convening bodies will be critical to establishing a well-functioning, effective coalition.

Insights from Prior Community Engagements

In 2022, the S2J2 region developed Regional Plan Part 1, in partnership with stakeholders including ten community-based organizations such as Central Valley Workers Center, Tulare Kings Hispanic Chamber of Commerce, Youth Leadership Institute, Madera Coalition for Community Justice, Community Action Partnership of Madera County, Inc., Familias Empoderadas del Valle Central, Jakara Movement, Southeast Asian Economic Development Coalition/ Fresno Center, Centro de Unidad Popular Benito Juárez, and Binational of Central California. The effort offered multiple forums for these communities to voice and provide input into this regional plan, including²⁰:

- Virtual and in-person meetings, ensuring accessibility for all stakeholders.
- Transparent, collaborative engagement that sought and incorporated input.
- Spanish interpretation / translation services to facilitate fair and inclusive participation.
- Additional question-and-answer sessions and opportunities for review.
- Surveys and breakout rooms to encourage participation.

5 Path Forward

Although the S2J2 Clean Energy and Fuels Investment Plan provides an initial framework for community-led, climate-forward economic development, the region acknowledges the considerable journey ahead to fully achieve the vision of generating and ensuring clean, affordable, and reliable energy (CARE) sources for the S2J2 region and contributing to the State’s renewable energy mandate.

While the S2J2 region engaged various community and industry stakeholders in the drafting process of this investment plan, the implementation of the investment strategies will require long-term engagement from local and regional stakeholders. To sustain this collaboration beyond the Clean Energy Workgroup, the S2J2 region should consider forming a regional coalition to enact the investment strategies to advocate for policy changes and coordinate regional planning. The regional collaborative effort could explore structures for energy generation and distribution beyond utility-scale, such as distributed generation, joint powers agreement/authority (JPA), community choice aggregation (CCA), municipal utility, etc.

Additional considerations (e.g., governance structure of the regional body, negotiated residential electricity rates) are required before the S2J2 region embarks on the journey to create a regional coalition and is not included in this investment plan. Ultimately, the S2J2 Clean Energy Investment Plan is more than just a plan – it is a roadmap towards achieving a community-centered, sustainable energy economy in S2J2.

Appendix A: Regional Assets and Tools

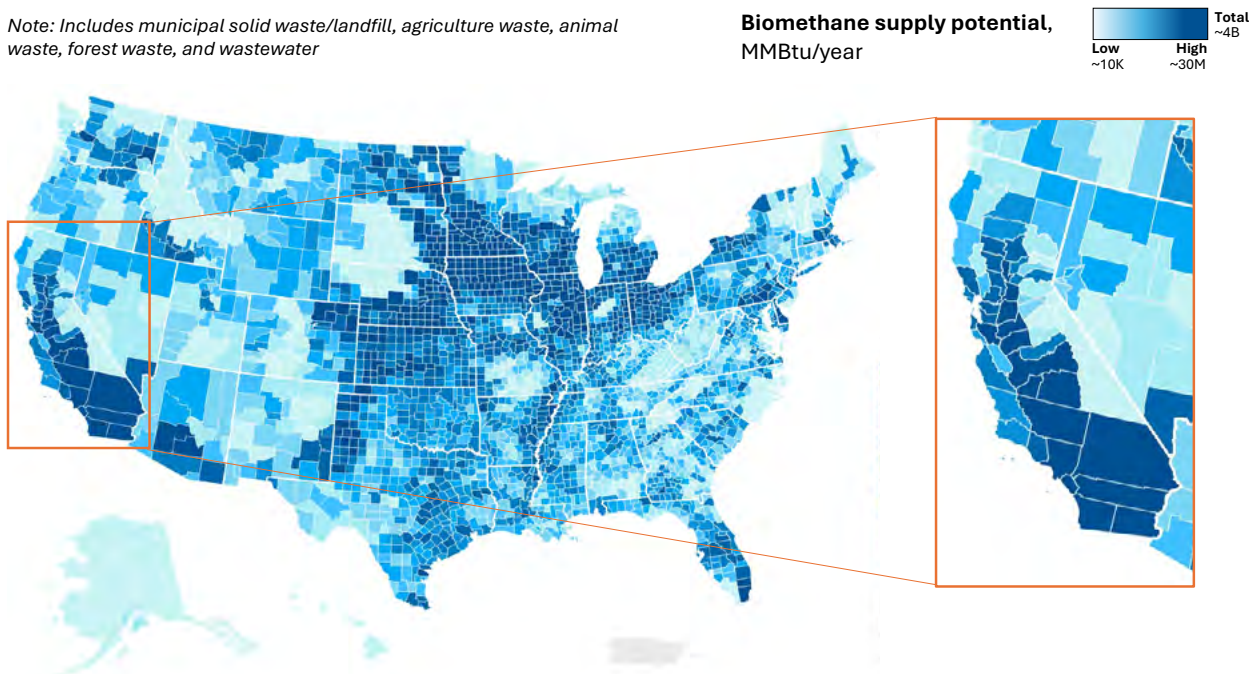
Regional clean energy assets that can influence the S2J2 plan include:

Existing feedstocks: The S2J2 region has a variety of potential available clean energy feedstocks, including solar, wind, and bioenergy/fuel feedstocks (such as agricultural waste, forest thinning, and municipal waste). In the S2J2 region, preliminary analysis shows that ~94% (~74M MMBtu/year) of bio-feedstock potential remains untapped, of which 85% is from animal waste, agricultural waste, and forest waste (Figure 7).

Figure 7. U.S. Untapped Bio-Feedstock Supply Potential in 2023

U.S. untapped bio-feedstock supply potential in 2023, MMBtu Biomethane per year

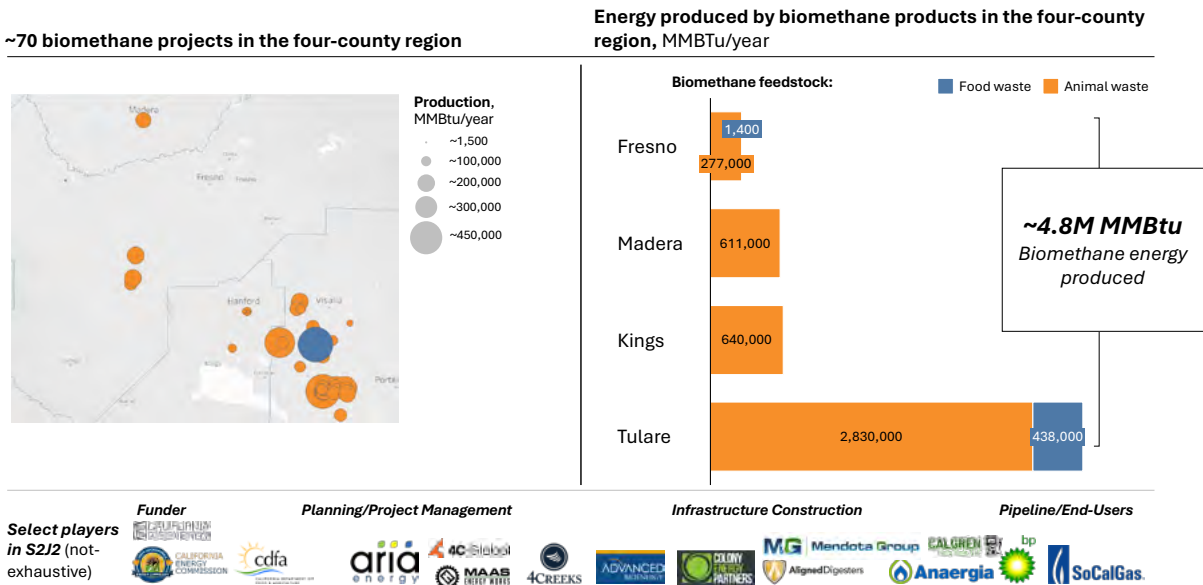
Note: Includes municipal solid waste/landfill, agriculture waste, animal waste, forest waste, and wastewater



Source: Argonne National Laboratory, RAND

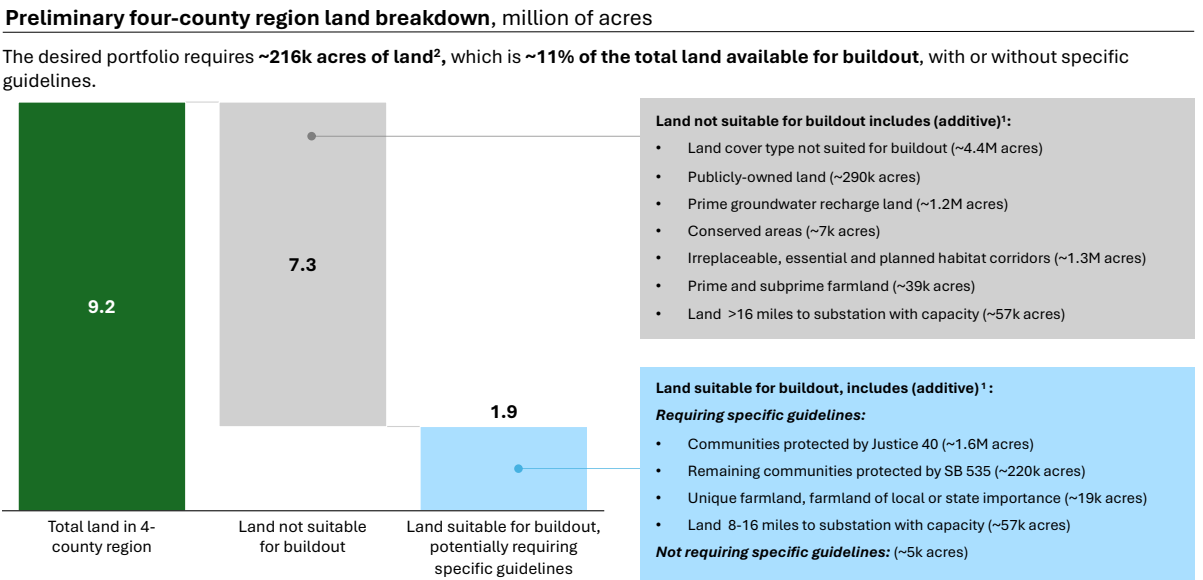
An example use of bio-feedstock is biomethane, of which there are currently ~70 biomethane projects in the 4-county region, producing ~4.8M MMBtu per year, shown in Figure 8.

Figure 8. Biomethane Projects in the S2J2 Region



Available land and water consumption constraints: Preliminary analysis shows that the S2J2 region has ~1.9M acres of land available for clean energy development, as shown in Figure 9. While the region is perpetually water constrained and water will have to be allocated carefully, the water demands for clean energy production are low when compared to agricultural uses.

Figure 9. Preliminary Land Breakdown in the S2J2 Region

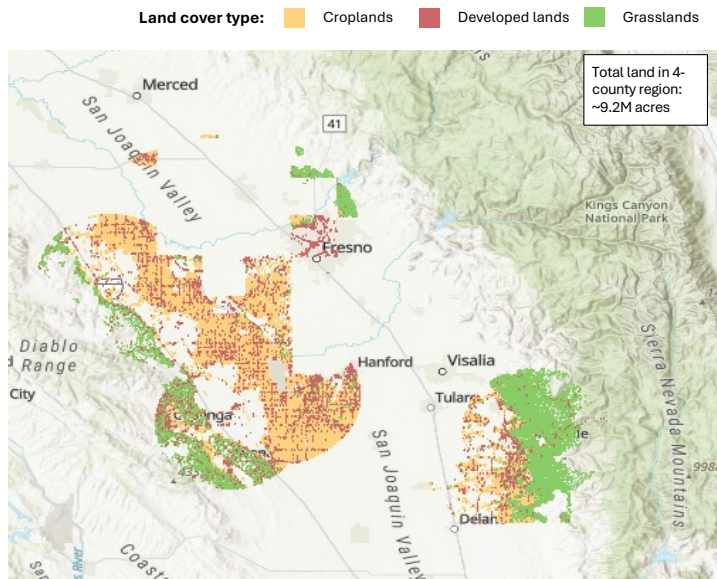


1. Note that filtering is done cumulatively, and a given acre could be categorized under different land types. The total acreage listed is not representative of the total land of that type, but simply of the remaining land being excluded after the previous filters have been applied.

2. Assuming 10 acres/MW as cited by developers from Large Solar Association and other technologies do not require additional land.

Source: Land Requirements for Utility-Scale PV, IEEE Journal of Photovoltaics (2022) , Land-use requirements for solar power plants in the United States. No. NREL/TP-6420-56290. National Renewable Energy Lab. (NREL), (RAND Toolkit), California Department of Conservation mapping tool, California Energy Commission SJV Distributed Energy Resource, The White House Justice40 Initiative, CalEPA's CalEnviroScreen 4.0, Clean Energy Workgroup Team Analysis

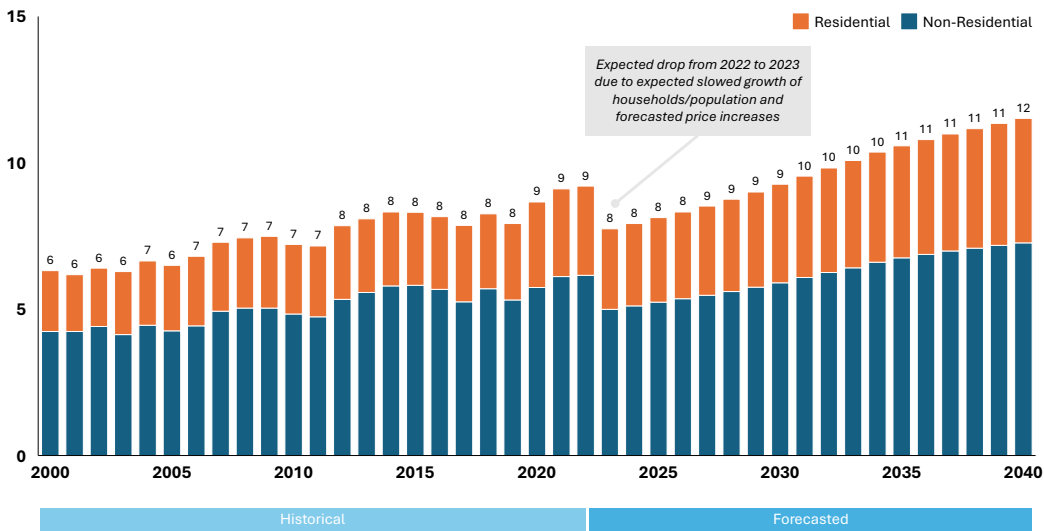
Figure 10. Example Land Available for Solar Build-Out in the S2J2 Region by Land-Cover Type



Source: California Department of Conservation mapping tool

Capacity: The S2J2 region’s forecasted demand for electricity is 12GW in 2040 (Figure 11).

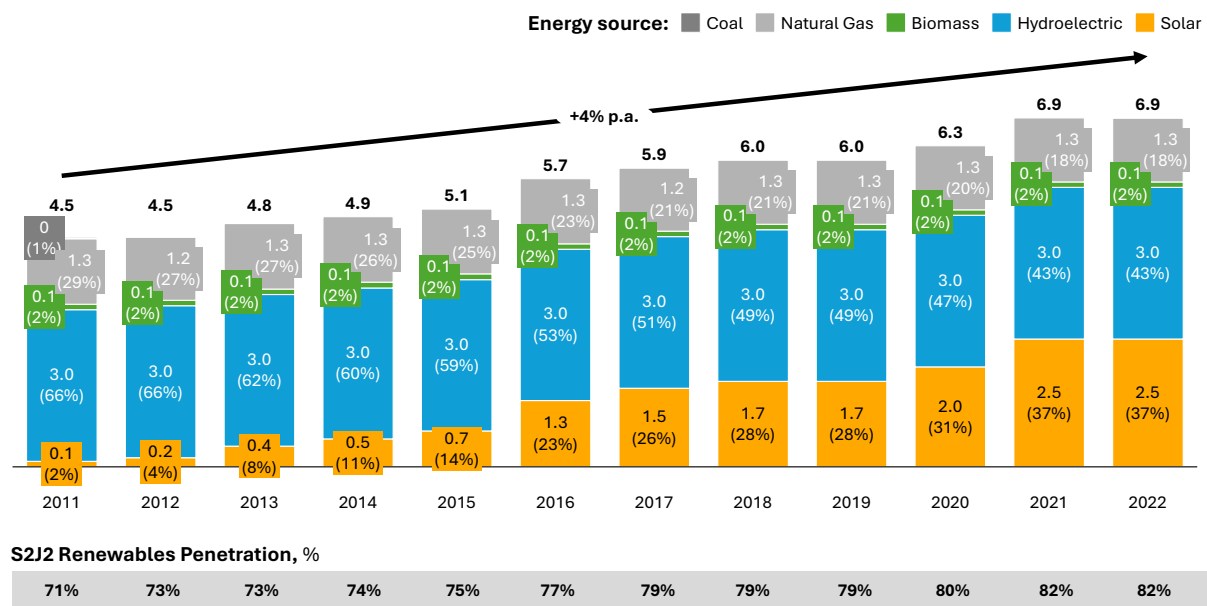
Figure 11. Historical and Forecasted Electricity Capacity Requirements in S2J2 from 2000-2040



1. Converted to GW from GWh using a weighted capacity factor calculated by taking energy efficiency for each clean energy factor and weighing it by its proportion in the "proportional portfolio" in RAND toolkit
Source: California Energy Demand Forecast, 2023 - 2040 Baseline Forecast, California Energy Commission, RAND toolkit

Current installed capacity in the S2J2 region is ~7GW (Figure 12)

Figure 12. S2J2 Region’s Effective Installed Capacity



Data and Tools

1. The RAND Corporation toolkit, which was developed in cooperation with the Clean Air Task Force, has allowed local leaders to evaluate clean energy deployment portfolios – each with its own mix of clean energy resources – and the related, expected environmental and economic impact. The “stretch” portfolio is shown as it includes 1.5 times the proportional amount of clean energy needed to meet the California Air Resources Board Scoping Plan estimates and the state’s Climate goals. It serves as a stretch goal for the region (and is named accordingly) and was chosen to push leaders to take the lead on clean energy planning so the region can shape its future. The portfolio includes energy development: solar + storage, wind, and bioenergy, as well as fuels: hydrogen (from solar and bioenergy), biofuels, and sustainable aviation fuel. The portfolio was developed by RAND by adjusting their 8 county SJV toolkit for the four county S2J2 region.²¹
2. The Department of Conservation (DOC)’s land-use tool provides local leaders with spatial mapping of S2J2’s agricultural, water, and economic land-use data. (See Figure 9 and Figure 10 for example land available for buildout in the four-county region, shown by land-cover type).²²

21 RAND Corporation Toolkit

22 Department of Conservation. Note The CEC has also developed land use screens (map-based footprints delineating important environmental and physical land characteristics) to assist state electricity planning processes and may also assist local and regional planning.

Appendix B: Potential Funding Sources

Table 2. Government Programs - Federal

Program	Estimated Amount Available Nationwide	Avail. Until	Eligibility
Assistance for Latest and Zero Building Energy Code Adoption (DOE)	~\$1B	09/30/2029	States and units of local government that have the authority to adopt building codes are eligible. ²³
Career Skills Training (DOE)	~\$10M	Until expended	Nonprofit partnerships with labor organizations targeting worker populations in the energy efficiency and renewable technologies field are eligible. ²⁴
Electric Loans for Renewable Energy (Dept. of Agriculture [DOA])	~\$1B	09/30/2031	State and local governmental entities, federally recognized Tribes, nonprofits, cooperatives, limited dividend or mutual associations, for-profit businesses (corporations or LLCs) are eligible. ²⁵
Energy Auditor Training Grant Program (DOE)	~\$40M	Until expended	States and U.S. territories, demonstrating a need for energy auditor training are eligible. ²⁶
Energy Efficiency and Conservation Block Grant Program (DOE)	~\$550M	Until expended	States, local governments, and tribes are eligible for this grant. ²⁷
Energy Efficient Commercial Buildings Deduction (Dept. of the Treasury)	\$5/sqft	N/A	Owners of qualified commercial buildings; designers of systems installed in buildings owned by specified tax-exempt entities. ²⁸
Energy Efficient Home Improvement Credit (Dept. of the Treasury)	\$5K/house	2032	Homeowners making improvements to existing homes in the US are eligible for this grant. ²⁹
Energy Infrastructure Re-investment Financing (DOE)	~\$5B	09/30/2026	Loan recipients can include government, educational, and nonprofit entities/businesses. ³⁰
Grants to Facilitate the Siting of Interstate Electricity Transmission Lines (DOE)	~\$760M	09/30/2029	State and local governments with authority over siting electricity transmission infrastructure in the US are eligible for this grant. ³¹
Green and Resilient Retrofit Program — Bench- marking (Dept. of Housing and Urban Dev.)	~\$42.5M	09/30/2028	Owners of HUD-assisted multifamily properties are eligible for this grant. ³²

23 EERE - Assistance for Latest and Zero Building Energy Code Adoption

24 EERE - Career Skills Training Program

25 Page 41: Inflation-Reduction-Act-Guidebook

26 EERE - Energy Auditor Training Grant Program

27 EERE - Energy Efficiency and Conservation Block Grant Program

28 IRS - Energy efficient commercial buildings deduction

29 U.S. Department of the Treasury – Press release

30 LPO - Energy Infrastructure Reinvestment Financing

31 Clean Energy Infrastructure Funding Opportunity Exchange

32 Page 21: Green Funding and Resources for New York Affordable Multifamily Housing

Table 2. Government Programs - Federal Cont'd

Program	Estimated Amount Available Nationwide	Avail. Until	Eligibility
Green and Resilient Retrofit Program - Contracts and Cooperative Agreements (Dept. of Housing and Urban Dev.)	~\$60M	09/30/2029	Owners of sponsors of properties assisted under various sections of the Housing Act and other related acts are eligible for this grant. ³³
Green and Resilient Retrofit Program - Grants and Loans (Dept. of Housing and Urban Dev.)	~\$837.5M	09/30/2028	Owners of sponsors of properties assisted under various sections of the Housing Act and other related acts are eligible for this grant. ³⁴
Greenhouse Gas Reduction Fund (EPA)	~\$27B	09/30/2024	Americans in low-income and disadvantaged communities are eligible for this grant. ³⁵
High-Efficiency Electric Home Rebate Program (DOE)	~\$4.5B	09/30/2031	States and Tribal entities are eligible, with ~\$225M allocated for Tribal grants. ³⁶
Home Energy Performance-Based, Whole-House Rebates (DOE)	~\$4.3B	09/30/2031	State energy offices are eligible to provide rebates for energy-saving retrofits in both single-family and multi-family buildings. ³⁷
Low Emissions Electricity Program (EPA)	~\$87M	09/30/2031	Low income and disadvantaged communities, industry, and state, local, and Tribal governments are eligible for this partnership. ³⁸
Residential Clean Energy Credit (Dept. of the Treasury)	26%-30% cost	2034	Tax credit is available for residents who invest in renewable energy systems in their main home, including solar, wind, geothermal, fuel cells, or battery storage technology. ³⁹
Rural Energy for America Program (REAP), (Dept. of AG)	~\$1.7B	09/30/2024	Agricultural producers and eligible small businesses can benefit from this partnership, with ~\$304M available for underutilized renewable energy technologies ⁴⁰
Solar Energy Research and Development (DOE)	~\$40M	Until expended	Eligible institutions for this partnership include institutions of higher learning, national laboratories, research agencies, tribal organizations, nonprofit organizations, industrial entities, and their consortia. ⁴¹
Solar Recycling Research and Development (DOE)	~\$20M	Until expended	Eligible entities for the partnership include institutions of higher learning, national laboratories, research agencies, tribal organizations, nonprofit organizations, industrial entities, and their consortia. ⁴²

33 Page 117 : Inflation-Reduction-Act-Guidebook

34 Page 116 : Inflation-Reduction-Act-Guidebook

35 EPA - About the Greenhouse Gas Reduction Fund

36 Home Electrification and Appliance Rebates

37 Home Efficiency Rebates

38 EPA - EPA Seeks Public Input on Inflation Reduction Act Programs to Fight Climate Change, Protect Health, and Advance Environmental Justice ; Page 96 : Inflation-Reduction-Act-Guidebook

39 IRS – Residential Clean Energy Credit

40 DOA - Rural Energy for America Program (REAP) – Underutilized Renewable Energy Technologies

41 EERE - Solar Improvement Research & Development

42 EERE - Solar Recycling Research & Development

Table 2. Government Programs - Federal Cont'd

Program	Estimated Amount Available Nationwide	Avail. Until	Eligibility
State-Based Home Efficiency Contractor Training Grants (DOE)	~\$200M	09/30/2031	State Energy Offices are eligible for these grants. ⁴³
Transmission Facility Financing (DOE)	~\$2B	09/30/2030	Transmission developers are eligible for these loans. ⁴⁴
USDA Assistance for Rural Electric Cooperatives (Dept. of AG)	~\$9.7B	2031	Electric cooperatives that buy or build new clean energy systems are eligible for this partnership. ⁴⁵
Wind Energy Tech Recycling Research and Development (DOE)	~\$40M	Until expended	Eligible entities for this partnership include institutions of higher education, national laboratories, research agencies, tribal organizations, nonprofit organizations, industrial entities, and their consortia. ⁴⁶
Environmental and Climate Data Improvement (Council on Environmental Quality)	~\$32.5M	09/30/2026	Communities impacted by climate change are eligible for these grants. ⁴⁷
Climate Pollution Reduction Grants (EPA)	~\$5B	08/01/2024	States, local governments, tribes, and territories aiming to reduce greenhouse gas emissions and other harmful air pollution are eligible for these grants. ⁴⁸
Environmental and Climate Justice Block Grants (EPA)	~\$3B	09/30/2026	States, tribes, and municipalities and community-based nonprofit organizations addressing clean air and climate pollution in disadvantaged communities are eligible for these grants. ⁴⁹

Table 3. Government Programs – State

Program	Estimated Amount Available Statewide	Avail. until	Eligibility
Climate Catalyst Fund (IBank)	Flexible	N/A	The loan program is open to both private- and public-sector applicants. ⁵⁰
RNG Procurement Program (California Public Utilities Commission)	~\$40M	N/A	California investor-owned natural-gas utilities are eligible for this cap-and-trade program. ⁵¹

43 Energy.gov - Training for Residential Energy Contractors Grants (Formula)

44 Transmission Facility Financing

45 Rural Power coalition - Rural Power Coalition Urges Voices of Rural Communities to Be Prioritized in Implementation of Inflation Reduction Act ; NCBA CLUSA - Electric and agricultural co-op leaders respond to passage of Inflation Reduction Act

46 EERE - Wind Energy Tech Recycling Research & Development

47 National Governor's Association - Inflation reduction act: infrastructure implementation resources ; CAP 20 - Securing Environmental Justice for All

48 EPA - Climate Pollution Reduction Grants

49 National Wildlife Federations - Climate and Environmental Justice Block Grants

50 IBank - Climate-catalyst-program

51 Ca.gov - CPUC Sets Biomethane Targets for Utilities ; SoCalGas - Renewable natural gas procurement

Table 2. Government Programs - Federal Cont'd

Program	Estimated Amount Available Statewide	Avail. until	Eligibility
ARCHES H2 Hub (ARCHES/ Go-Biz)	~\$1.2B	N/A	This public-private alliance, awarded in 2023 by U.S. Department of Energy, is designed to accelerate renewable hydrogen development in California, with 40% of the benefits from ARCHES's projects flowing to California's disadvantaged communities. ⁵²
Clean Hydrogen Program (CA Energy Commission)	~\$40M	2025-2025	Eligible projects must reduce sector-wide emissions, benefit geographically diverse areas of the state, maximize air quality, equity, health, and workforce benefits. ⁵³
Forest Biomass to Carbon Negative Biofuels Pilot Program (CA Department of Conservation)	~\$43.5M	2024	The program is available to local government, tribal nations, academic institutions, non-profit organizations, and for-profit businesses and corporations. ⁵⁴
California Pollution Control Financing Authority (CPCFA) Exempt Facility Bond Financing Program (Treasurer's Office)	~\$550M	Until expended	Any qualified California business, regardless of size, for projects that include the acquisition, construction, and/or equipping of eligible pollution control, waste disposal, water furnishing, sewage treatment, and resource recovery facilities. ⁵⁵
GFO-23-317 – Energy Storage Innovations to Support Grid Reliability	~\$30M	08/09/2024	This solicitation is open to all public and private entities with the exception of local publicly owned electric utilities. ⁵⁶
GFO-23-315 – Clean, Dispatchable Generation	~\$8M	09/13/2024	This solicitation is open to all public and private entities with the exception of local publicly owned electric utilities. ⁵⁷

Table 4. Government Programs – Local

Program	Estimated Amount Available across the Region	Avail. until	Eligibility
Fresno EOC Partnership for Energy Savings and GHG Reductions in SW Fresno	~\$3.2M	Until expended	170 Single-Family Homes ⁵⁸

52 Arches H2 – About and Community Benefits

53 California Energy Commissions - Clean Hydrogen Program

54 California Grants Portal - Forest Biomass to Carbon-Negative Biofuels Pilot Program

55 California Grants Portal - CPCFA

56 California Grants Portal – Energy Storage Innovations to Support Grid Reliability

57 California Grants Portal – Clean, Dispatchable Energy

58 Transform Fresno - Fresno EOC Partnership for Energy Savings and GHG Reductions in SW Fresno

Table 5. Private Funding Sources

Program	Estimated Amount Available	Avail. until	Eligibility
Valley Ventures (Water Energy and Technology Center)	Variable (regional)	Ongoing	Companies in the more advanced stages of their startup journey, explicitly targeting those at TRL 6+ and beyond ⁵⁹
BlueTechValley Initiative (Water Energy and Technology Center)	Variable (statewide)	Ongoing	Water and ag-tech startups, with a strong focus on disadvantaged communities across the Central Valley and underserved regions including rural and low-wealth communities and underserved populations ⁶⁰
William and Flora Hewlett Foundation	Variable	Ongoing	Tax-exempt organizations classified under section 501(c)(3) of the Internal Revenue Code. ⁶¹
Rockefeller Foundation	Varies	Ongoing	Grant programs are open to both public and private sector applicants. ⁶²

Appendix C: Potential Stakeholders by Investment Strategy

For reference: Clean Energy Investment Strategies

- A. Build on skilled workforce capabilities to meet the needs of clean energy and fuels development
- B. Maximize economic and educational community benefits from clean energy deployment
- C. Build a clean energy economic development ecosystem
- D. Drive development of the region as an innovation hub
- E. Establish regional coordination

Table 6. Stakeholder Mapping by Strategy

Stakeholder Group	Organizational Partner / Human Resource	Strategy				
		A	B	C	D	E
Local Government	All Cities in the 4-county region		✓	✓		✓
	All Resource Conservation Districts in the 4-county region			✓		
	All Counties in the 4-county region: Fresno, Madera, Tulare, Kings		✓	✓		✓
	All County Job Training Offices in the 4-county region	✓				
	All Economic Development commissions/corporations in the 4-county region		✓			
	All Workforce development boards in the 4-county region	✓				
	All County Groundwater Sustainability Agencies (GSAs) in the 4-county region		✓	✓		
	San Joaquin Valley Air Pollution Control District		✓			✓

⁵⁹ Wetcenter

⁶⁰ Wetcenter – Blue tech valley

⁶¹ Hewlett Foundation

⁶² Rockefeller Foundation – Power Grants

Table 6. Stakeholder Mapping by Strategy Cont'd

Stakeholder Group	Organizational Partner / Human Resource	Strategy				
		A	B	C	D	E
State Government	Employment Training Panel	✓				
	CA Independent Systems Operator (CAISO)			✓		
	CA Public Utilities Commission (CPUC)			✓		
	CA Energy Commission (CEC)			✓	✓	
	ARCHES H2		✓	✓	✓	
	Department of Conservation		✓		✓	
Tribes	Big Pine Paiute Tribe of the Owens Valley	✓		✓		
	Northfork Rancheria of Mono Indians of California	✓		✓		
	Big Sandy Rancheria of Western Mono Indians of California	✓		✓		
	Bishop Paiute Tribe	✓		✓		
	Fort Independence Indian Community of Paiute Indians	✓		✓		
	Lone Pine Paiute-Shoshone Tribe	✓		✓		
	Santa Rosa Indian Community of the Santa Rosa Rancheria	✓		✓		
	Timbisha Shoshone Tribe	✓		✓		
	Cold Springs Rancheria of Mono Indians of California	✓		✓		
	Tule River Indian Tribe of the Tule River Reservation, California	✓		✓		
	Picayune Rancheria of Chukchansi Indians of California	✓		✓		
	Table Mountain Rancheria	✓		✓		
Industry Partner	California Hydrogen Business Council		✓	✓	✓	
	Energy Storage Trade		✓	✓	✓	
	Large Scale Solar Association		✓	✓	✓	
	Bioenergy Association of California		✓	✓	✓	
	Various clean energy private developers		✓	✓	✓	
	BlueTechValley Innovation Cluster	✓			✓	
	CalTestBed			✓	✓	✓
	Association of California Water Agencies			✓	✓	✓
	Southeast Asian Economic Development Coalition		✓		✓	
	All Chambers of Commerce in the 4-county region		✓	✓		✓
Utilities	Pacific Gas and Electric (PG&E) - Kings, Fresno, and Madera			✓		✓
	Southern California Edison (SCE) - Tulare County			✓		✓
	All Water Authorities in the 4-county region			✓		✓
	SoCalGas			✓		✓

Table 6. Stakeholder Mapping by Strategy Cont'd

Stakeholder Group	Organizational Partner / Human Resource	Strategy				
		A	B	C	D	E
Nonprofit	Ellen MacArthur Foundation	✓	✓		✓	✓
	Career Nexus		✓		✓	
	GRID Alternatives	✓			✓	
	California Environmental Voters		✓		✓	✓
	Central Valley Opportunity Center		✓		✓	
	Community Services Employment Training		✓		✓	
	Education and Leadership Foundation		✓		✓	
	Jakara Movement		✓		✓	
	Madera Coalition for Community Justice		✓		✓	
	Proteus			✓	✓	
	San Joaquin Valley Clean Energy Organization	✓			✓	
	Central Valley Community Foundation (CVCF)		✓		✓	
	21st Energy Center	✓			✓	
	Trades Education Center	✓			✓	
	Training Institute	✓			✓	
	ExCITE Riverside	✓			✓	✓
	Opportunity to Advance Sustainability, Innovation, and Social Inclusion (OASIS)		✓		✓	
	US Green Building Council- Central California	✓	✓	✓	✓	
	Central California iHUB	✓			✓	
	BEAM Circular (Bioeconomy, Agriculture, and Manufacturing)			✓	✓	
Education/ Workforce Dev. Organizations	Central San Joaquin Valley K –16 Partnership	✓			✓	
	Central Valley Training Center	✓			✓	
	The Lawrence Berkeley National Lab Strategic Partnerships Office			✓	✓	✓
	California Renewable Energy Lab (CREL) (Kern Community College District)			✓	✓	✓
	Lyles Center for Innovation and Entrepreneurship	✓			✓	
	The Water, Energy, and Technology (WET) Center	✓			✓	✓
	All Community Colleges in the 4-county region	✓			✓	
	All County Superintendents of Schools in the 4-county region	✓			✓	
	California State University, Fresno	✓			✓	
	The California Renewable Energy Lab (CREL)					✓

Table 6. Stakeholder Mapping by Strategy Cont'd

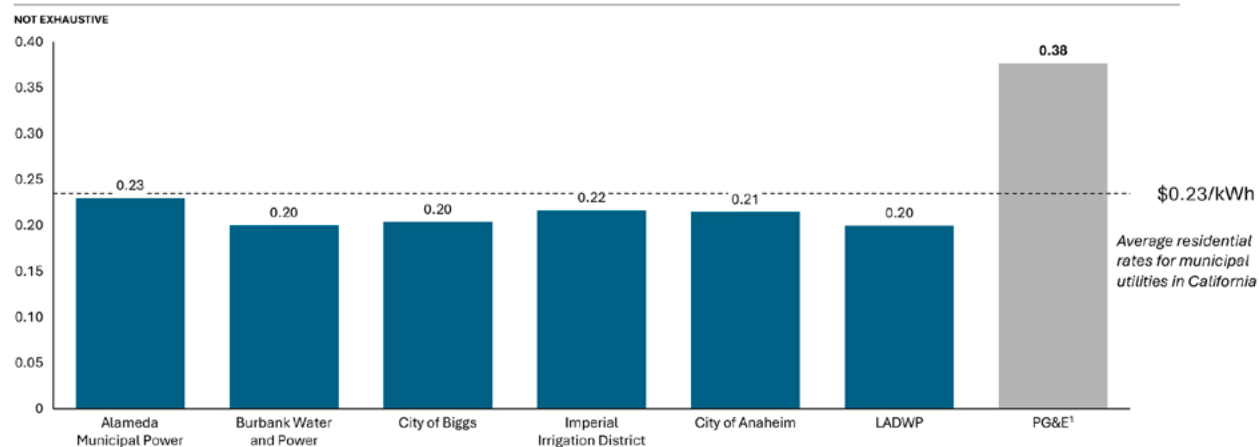
Stakeholder Group	Organizational Partner / Human Resource	Strategy				
		A	B	C	D	E
Unions	Communication Workers of America	✓				
	IBEW Local 100	✓		✓		✓
	National Latino Farmers and Ranchers		✓			
	Teamsters	✓	✓			
	Fresno, Madera, Tulare, & Kings Central Labor Council	✓	✓			✓
	Fresno, Madera, Kings, & Tulare Counties Building and Construction Trade Council	✓	✓			✓
	Northern California Carpenters Union	✓	✓			
DRIVE Work Groups	Civic Infrastructure			✓		
	Fresno Opportunity Corridors			✓	✓	
	Next Generation Aviation	✓				
	Upskilling	✓				

Appendix D: Residential Electricity Rate Considerations

An important consideration when comparing models for energy generation and distribution is the residential rate cost differential. On average, municipal utility residential rates in 2023 were 44% lower than utility-scale (PG&E) residential rates (that is, PG&E rates), as shown in Figure 13.⁶³

Figure 13. Residential Rate Comparison: Municipal Utilities vs. Utility-Scale Rates

Average municipal utility and utility-scale (PG&E)¹ residential rates in California,² \$/kWh

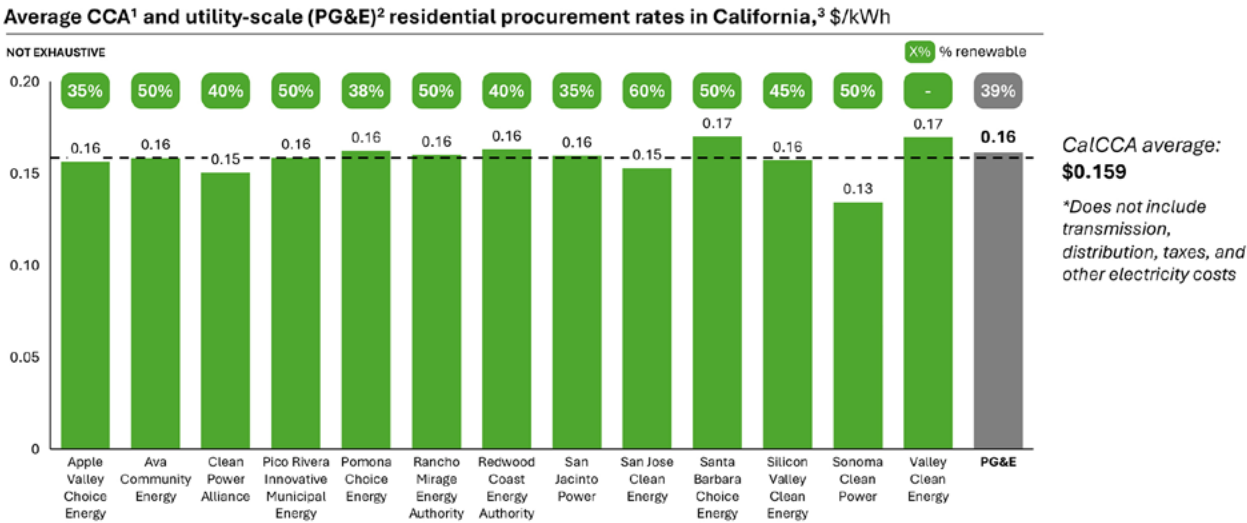


1. Average PG&E residential rates as of July 1st, 2023. 2. Excludes California Climate Credit from State of California, which is issued twice a year to residential customers
Source: PG&E, Alameda Municipal Power, Burbank Water and Power, City of Biggs, Imperial Irrigation District, City of Anaheim, Los Angeles Department of Water and Power

Overall **procurement rates** between **CCAs** and **utility-scale** rates are not significant drivers of the residential rate differential (Figure 14). **Renewable energy made up 45%** of CCAs' total energy mix, compared to PG&E's energy mix of 39% renewables.

63 Note that Figure 13 is not an exhaustive comparison of municipal utilities.

Figure 14. Comparison of renewable share of procured energy by CCAs and Utility Scale

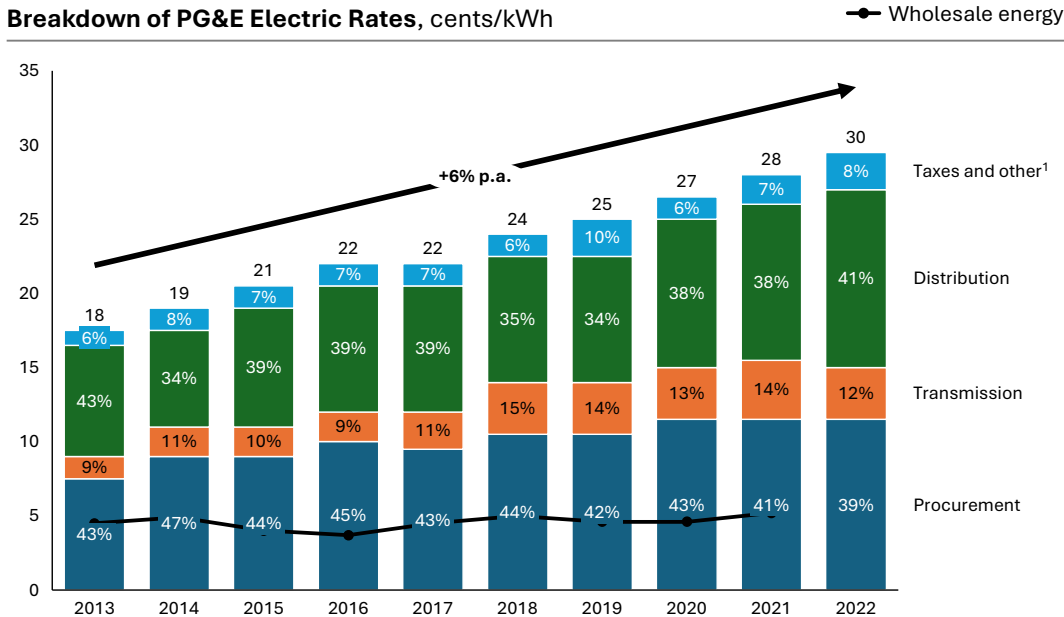


1. Average base plans published by CCAs - does not include optional plans (e.g., 100% renewable), which are typically 5-10% higher than the base plan. Not an exhaustive list of all CalCCAs - excludes CCAs with variable rates.
2. Average PG&E residential rates as of April 1st, 2024. Excludes California Climate Credit from State of California, which is issued twice a year to residential customers
3. Average excludes rates for low-income programs (e.g., California Alternate Rates for Energy (CARE))

Source: PG&E, CCA websites

CCAs likely influence only procurement rates, while transmission, distribution, and other rates remain comparable to those of investor-owned utilities (Figure 15). Procurement and transmission-and-distribution (T&D) accounted for 40% and 50% of electricity rates in 2022, respectively. Overall, PG&E electricity rates have risen 6% p.a. from 2013 to 2022, with the largest share of the increase in transmission.

Figure 15. Cost breakdown for utility-scale electricity rates



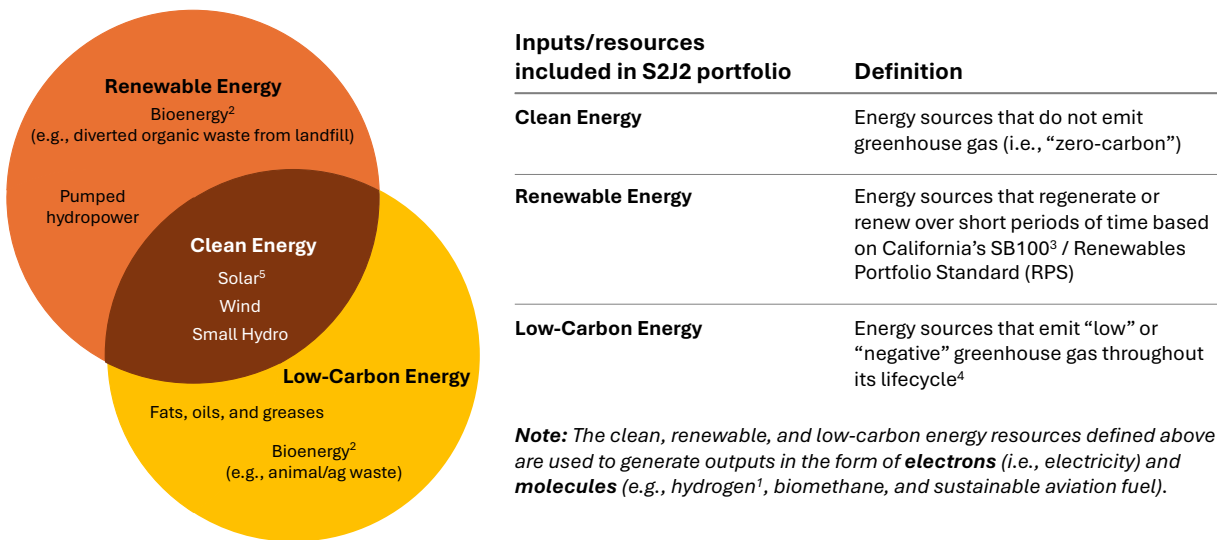
1. Other charges include wildfire costs (~\$0.05/kWh), public purpose programs, nuclear decommissioning, and other bond charges (e.g., division of water reserve, energy recovery bond)

Source: PG&E

Appendix E: S2J2’s Desired Portfolio Mix

Based on regional community and expert stakeholder feedback, the preferred input-output pathways for the S2J2 portfolio mix are clean, renewable, or low-carbon (Figure 16). Solar and wind energy are the sole clean inputs; to produce molecules at-scale, the S2J2 portfolio includes renewable or low-carbon input-output pathways. Hydrogen that is not produced in clean, renewable, or low-carbon pathways (that is, from natural gas without carbon capture or coal) is not considered in S2J2’s desired portfolio mix.

Figure 16. “Clean” energy in S2J2’s desired portfolio includes renewable, low-carbon, and clean energy



1. Defined for S2J2’s desired portfolio as hydrogen generated from renewable resources as defined in California’s Renewable Portfolio Standard (RPS) and clean/low-carbon resources with lifecycle carbon intensity scores of <165 g CO2 eq/MJ as defined in California’s Low Carbon Fuel Standard (LCFS).

2. Defined for S2J2’s desired portfolio as bioenergy generated from regionally-sourced organic waste using non-combustion conversion technologies and best-available emission control technologies that provide a net benefit to local air quality; Advanced technology bioenergy projects can provide significant (>98%) net reductions in air pollution compared to open burning of ag/forest waste, and can also provide net reductions in air pollution when biofuels or hydrogen are used in place of diesel in heavy duty trucks or backup generators.

3. SB 100 requires at least 60% of electricity be generated for California by 2030 from “eligible renewable energy resources” (solar, wind, geothermal, biomass, small hydro, biogas, ocean wave or thermal, or fuel cells using renewable fuels). The remaining 40% can come from any of those resources, plus existing large hydro and any other zero-carbon polluting resources.

4. “Low” or “negative” quantified by comparing the low-carbon fuel’s carbon intensity scores with the reference fuel being replaced (e.g., fossil-based gasoline/diesel) as defined in California’s Low Carbon Fuel Standard (LCFS). 5. Battery storage is one of the technology options that enable the reliability and integration of grid-scale solar and wind energy; however, it is important to consider emissions and pollution that is generated throughout the battery life cycle (e.g., raw materials mining, manufacturing, end-use disposal).

Source: SB100/Renewables Portfolio Standard (2021), California’s Low Carbon Fuel Standard Carbon Intensity Score (last updated July 2, 2024), U.S. Department of Energy, National Renewable Energy Laboratory, RAND

Figure 17. Inputs and Outputs in S2J2’s Proportional x1.5 Scenario

Input-output pathway:  Included in Proportional x1.5 Scenario (RAND)  Not included

		Outputs			
		Electrons	Molecules		
Inputs / resources	Input-output pathway	Electricity	Hydrogen	Biomethane	Sustainable aviation fuel
Included in S2J2 portfolio	Solar ¹				
	Wind				
	Bioenergy				
	Fats, oils, and greases				

1. Includes short-duration (e.g., lithium-ion battery) and long-duration energy storage (e.g., pumped hydropower). Battery storage is one of the technology options that enable the reliability and integration of grid-scale solar and wind energy; however, it is important to consider emissions and pollution that is generated throughout the battery life cycle (e.g., raw materials mining, manufacturing, end-use disposal).

Source: RAND Toolkit. Clean Energy Workgroup Team Analysis

Appendix F: Strategy-Specific Barriers

As discussed above, the strategies outlined in Section 2 have been developed to address the following barriers that the S2J2 region could face in efforts to deliver on the vision for Clean Energy. As outlined below, the S2J2 region will continue efforts to mitigate these barriers.

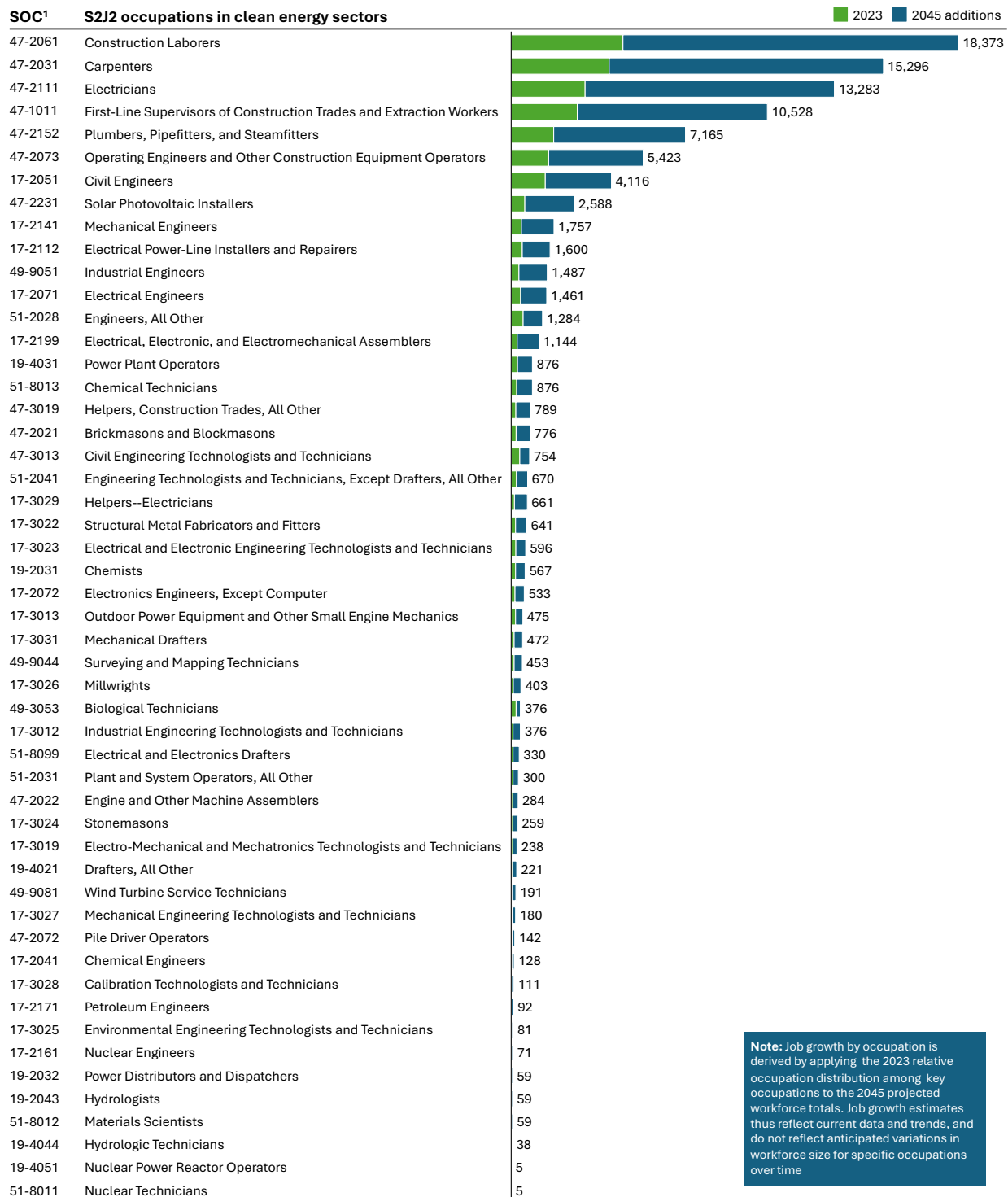
Table 7. Strategy-Specific Barriers

Strategies	Barriers
Strategy A Build on skilled workforce capabilities to meet the needs of clean energy and fuels development	Communities are not aware of available jobs, job training, and sources of funding for training in clean energy and fuels.
Strategy B Maximize economic and educational community benefits from clean energy deployment	- Many stakeholders do not fully understand next-generation, at-scale technologies for clean energy and fuels. - New construction of clean energy projects (e.g., energy efficient projects) are designed and built by firms from outside of the area, resulting in benefits of the financial investments into these projects partially leaving the area.
Strategy C Build a clean energy economic development ecosystem	- A reliable, long-term market for renewable gas (renewable hydrogen, biomethane, and biogas) and hydrogen does not presently exist. - The California Public Utilities Commission (CPUC)'s recent decision to limit the compensation future projects generate has stalled distributed generation installations (i.e. 82% fewer new applications in 2023 than in 2022).⁶⁴ The grid in the S2J2 region needs significant upgrades to support build-out of clean energy generation capacity. - The S2J2 region has limited collaboration across clean energy investment areas (e.g., manufacturing, electrification) slowing the transition.
Strategy D Drive development of the region as an innovation hub	- Funding availability for research development is limited which can discourage educational institutions. - The existing grid infrastructure requires substantial upgrades and investments to support new technologies. - The lack of established markets for bioenergy and hydrogen can discourage investment.
Strategy E Establish regional coordination	- State incentives for carbon-reducing projects (e.g., Renewables Portfolio Standard) may need to be updated to offer additional incentives for lower-carbon options, especially emissions from short-lived climate pollutants (SLCPs). Additionally, other benefits—like mitigating wildfires and reducing open burning of agricultural waste—are not recognized and may require additional incentives. - State policies for bioenergy may require updating to reflect carbon-neutral or carbon-negative production to enable funding and use of bioenergy. - Hydrogen production needs affordable energy to reduce costs, but CAISO holds back a large amount of solar energy during peak times. - Re-evaluating Williamson Act contracts to build clean energy projects on fallowed agricultural land is difficult and costly.⁶⁵ - The sales tax exemption for recycling, bioenergy, and advanced manufacturing equipment expires on December 31, 2025. - Local permitting is slow and varies by jurisdiction. - Counties, cities, and other local entities lack sufficient staffing for permitting to scale with the clean energy build-out. - Stakeholders have differing priorities that may lead to fragmented efforts in the region. - There are inefficient communication channels between local governments, businesses, and community organizations.

64 "California Solar Demand Plummets." CalMatters (2024)

65 Department of Conservation -- Williamson Act Program

Appendix G: Occupation Breakdown Included in Clean Energy Workforce



1. Standard occupation classification

Source: Lightcast – Labor Market Analytics Data (2023), NREL California's Clean Energy Jobs Potential (2020), UC Berkeley's Environmental and Economic Benefits of Building Solar in California (2014), Employment Estimates in the Energy Sector (2015), U.S. Energy & Employment Jobs Report (2023), IMPLAN (RAND toolkit), NREL California's Clean Energy Jobs Potential (2020), Energy Policy Institute's Employment Estimates in the Energy Sector (2015)



Zero Emission Vehicle Transition Plan

Industry Clusters



Industry Clusters

Zero Emission Vehicle Transition Plan

1 Problem Statement, Opportunity, and Vision

Transportation, for goods and people movement, is the highest emitting sector statewide, accounting for ~50% of total emissions.¹ In the Sierra San Joaquin Jobs (S2J2) region, residents experience significant air quality issues, and consequently, adverse health outcomes, in part, due to these high levels of smog and particulate matter.² Although the S2J2 region has made progress recently (e.g., highest number of “Good” air quality days on record, areas with the most persistent air quality challenges are closer than ever to meeting federal air quality standards³), improving air quality remains a pressing need. Additionally, many disadvantaged communities in the S2J2 region live in close proximity to the major transportation corridors, disproportionately exposing these communities to local air pollution, especially toxic diesel emissions (Figure 1).^{4,5,6}

Opportunity: California has set ambitious goals for eliminating emissions from the transportation sector: Zero Emission Vehicles (ZEVs) must account for 100% of light duty (passenger) vehicle sales by 2035, and all new medium- and heavy-duty vehicles (MHDV) must be 100 percent zero emission by 2045. While MHD trucks and buses represent only 15% of on-road vehicles, they contribute an estimated 70% of total vehicle emissions (Appendix F). Similarly, in the four-county region, MHDV vehicles make up disproportionate levels of smog-causing pollutants (e.g., sulfur oxides, nitrogen oxides, and organic gasses) and particulate matter, which contribute to respiratory health problems (Figure 2). Light duty vehicles – cars, SUVs and pick-up trucks – primarily used for personal transportation– contribute the largest share of CO₂ emissions, due to their much higher vehicle count.

In addition to California’s clean vehicle and fleet mandates, Senate Bill 671 (Gonzalez, Chapter 769, 2021) (SB 671) led to designation of six priority freight corridors for transition, two of which are in the S2J2 region.⁷ These policies are just two of many state and nationwide regulations supporting the ZEV transition and serve as a catalyst for investment in ZEVs, as well as charging and refueling infrastructure in the region. Large fleet owners and businesses may have fewer hurdles to private and public funding, enabling them to make this transition more readily.

1 <https://www.energy.ca.gov/about/core-responsibility-fact-sheets/transforming-transportation>

2 <https://www.s2j2initiative.org/news-resources>

3 <https://ww2.valleyair.org/media/rtylmbgb/annualreport2023-english-1.pdf>

4 <https://www.s2j2initiative.org/news-resources>

5 California Transportation Commission – SB 671 Clean Freight Corridors Assessment

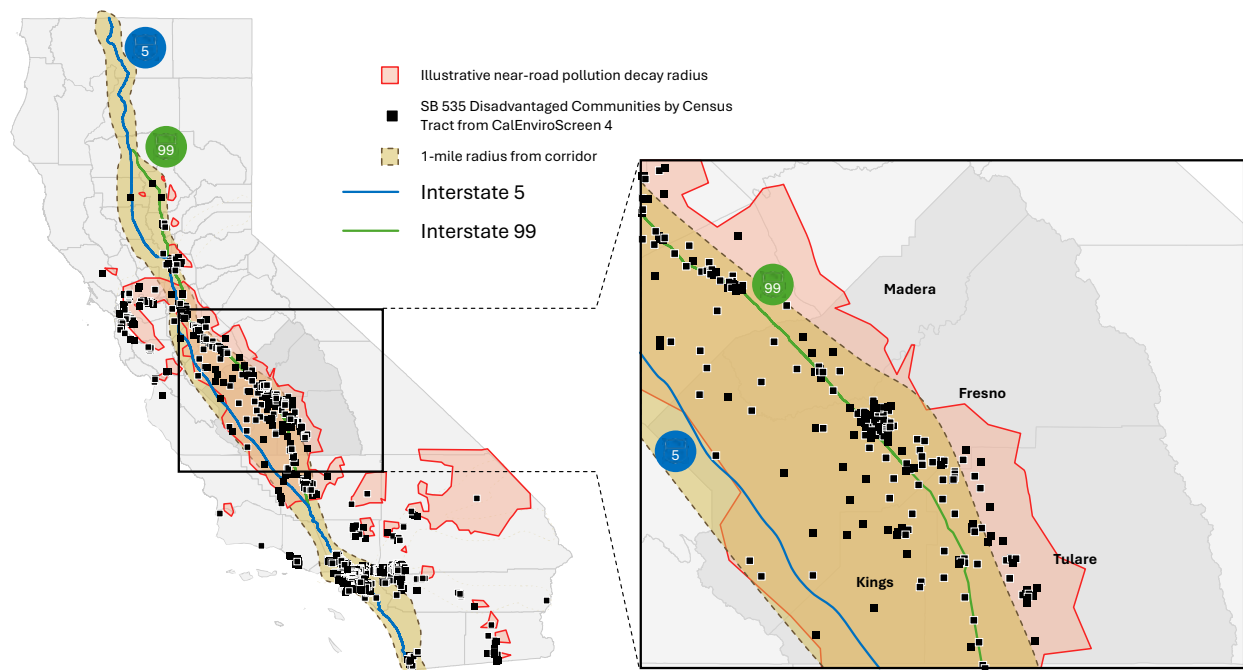
6 <https://ww2.arb.ca.gov/ghg-descriptions-sources>

7 Gonzalez, Chapter 769, 2021

However, locally-owned fleets—especially those owned by small businesses—often lack access to the capital, expertise, and resources required to make the ZEV transition.⁸ Additionally, many individual drivers do not appreciate the savings they can realize from choosing a ZEV.

Vision: The region seeks to leverage incoming investment, resources, and infrastructure to **create a dynamic and inclusive economy that elevates local workers, fleet owners, and businesses, while improving access to clean transportation and transportation infrastructure for everyone.** Facilitating this transition can result in up to ~710k fossil fuel vehicles off the road, the vast majority of which are LDVs, and ~4 million metric tons of air polluting emissions⁹ reduced in the region, which will **yield long-lasting community, health, and environmental benefits** and improve outcomes for disadvantaged communities and the region.

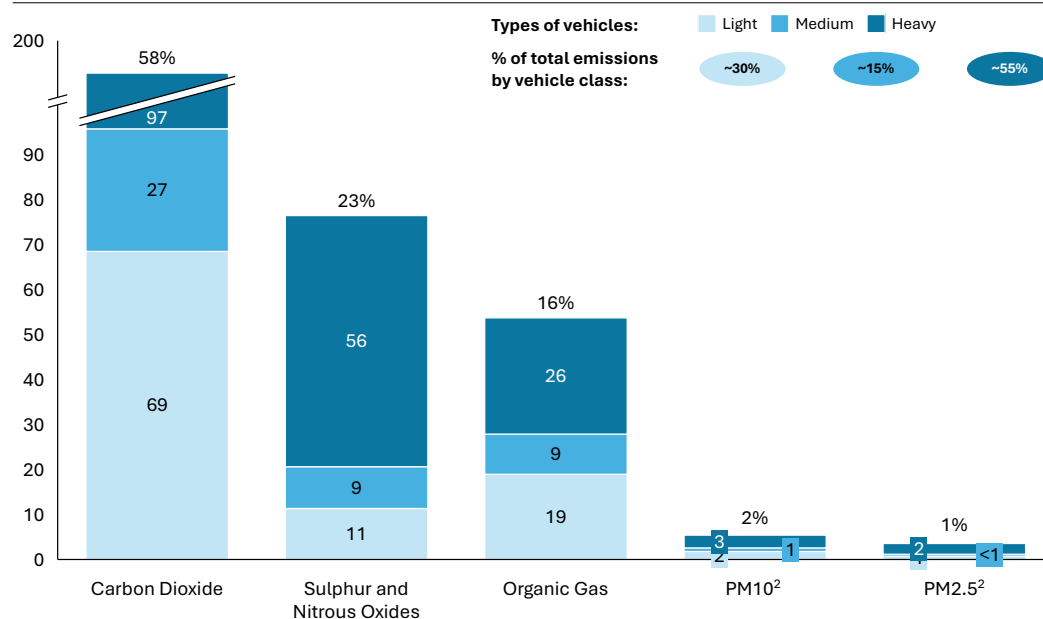
Figure 1. Air Quality and Disadvantaged Communities Near Priority Freight Corridors in CA



8 https://zevalliance.org/wp-content/uploads/2023/01/Environmental-Justice-Impacts-of-ZEVs_Final-Report.pdf

9 Air pollutants include carbon dioxide, sulfur and nitrogen oxides, organic gasses, and particulate matter

Figure 2. Breakdown of Vehicle Weight Classes and Emissions Contribution in the S2J2 Region

4-county emissions by vehicle class¹, Million Metric Tons per day (MMT/day)

1. Includes number of vehicles registered in the county. This does not account for number of vehicles that travel through the 4-county region.

2. PM = Particulate Matter

Source: California Air Resources Board (2017)

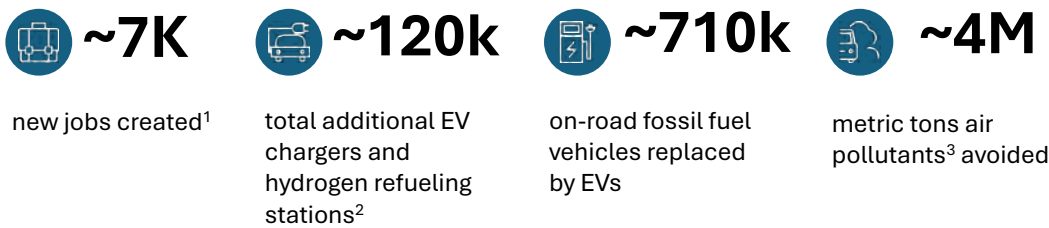
2 Investment Strategies

The S2J2 region has developed the following investment strategies to support a successful transition from primarily fossil-fuel burning vehicles to ZEV's:

- A. **Develop a regional workforce** to enable and sustain ZEV transition.
- B. **Support locally based fleets** in the ZEV transition.
- C. **Identify opportunities for new and existing local businesses** to thrive in the ZEV transition.
- D. **Increase access to clean, affordable, reliable, safe (CARS) personal transportation options** for everyone.
- E. **Enable timely, cost-effective build-out of ZEV charging infrastructure.**

Through the 5 key investment strategies outlined above, the S2J2 region aims to deliver key benefits to the region.

Figure 3. Key Fleet Transition Impacts on the S2J2 Region

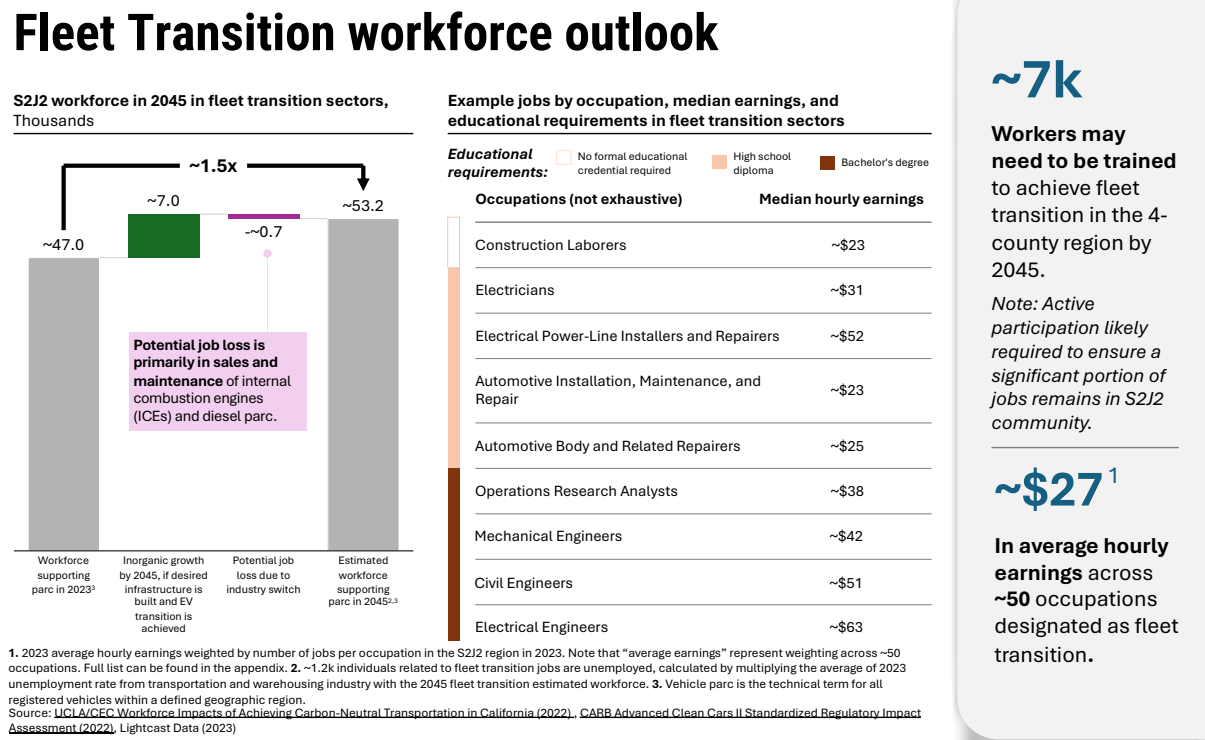


1. Not accounting for job loss
2. Public and shared private stations
3. Includes carbon dioxide, sulfur oxides, nitrogen oxides, organic gases, and particulate matter
Source: [UCLA/CEC Workforce Impacts of Achieving Carbon-Neutral Transportation in California \(2022\)](#), [California DMV](#)

Strategy A – Develop Workforce to Enable and Sustain ZEV Transition

The transition to ZEVs will reconfigure the transportation sector’s labor requirements with spillover effects on labor demand in the electricity, oil, and gas industries (see Figure 4 for example occupations). Preliminary analysis shows that up to 7,000 new workers may be required across ~50 occupations with average earnings of \$27/hour (Figure 4, Appendix G: Occupation Breakdown Included in Fleet Transition Workforce). Workforce shifts due to the ZEV fleet transition will likely be driven by: 1) the transition from diesel and combustion engine workforce (e.g., mechanics, gas station retailers) to ZEV workforce (e.g., battery or fuel cell technicians, electric charging station or hydrogen refueling maintenance workers), and 2) the buildout of both charging/refueling infrastructure and supporting grid infrastructure. Existing training programs will likely not be sufficient to prepare the workforce for fleet transition jobs. Specialized training and education may be required for jobs related to fleet transition such as those in ZEV maintenance, EV infrastructure construction, and upgrading the electrical grid. By anticipating the need to train, reskill, and upskill workers, the S2J2 region can both support the transition and position the future workforce to benefit from it. See the Education and Skill-Building Investment Plan for further details on workforce development.

Figure 4. Estimated Increase in S2J2 Fleet Transition Workforce by 2045



Strategy B – Support Locally-Based Fleets in the ZEV Transition

Given California’s policies (e.g., Advanced Clean Fleets, Advanced Clean Trucks), the region expects a significant increase in medium- and heavy-duty (M/HD) ZEVs and electric corridors; charging and refueling stations are already planned to support the fleet transition (see Figure in Appendix A). However, local commercial/retail businesses, governments, and public service institutions (e.g., schools, hospitals, nursing homes) looking to transition their M/ HD fleets face a variety of challenges:

- 1. **Upfront investments for electric fleets are high.** Today M/HD ZEVs still cost significantly more than conventional vehicles, although lower refueling and maintenance costs may yield a lower total cost of ownership over a ZEV’s useful life. Local fleet owners, who often lack capital for the upfront costs of transitioning, must invest upfront not only in costlier ZEVs, but also charging or refueling infrastructure.¹⁰
- 2. The M/HD ZEVs available today are **not well suited for some fleet vocations and duty cycles.** Fleet operators may be reluctant to give up diesel vehicles that they will no longer be able to replace (due to the ACT regulation) if current ZEV options prove unworkable.
- 3. **Electrification can be highly disruptive** to fleet operations, requiring staff to be retrained, structures to be modified to accommodate charging infrastructure, and (often) costly upgrades to utility service.
- 4. Local fleet owners **may not have all the information they need around the prerequisites** for vehicle electrification (e.g., resources, expertise, infrastructure, human capital, grid access).

10 Although total cost of ownership for an electric vehicle (EV) is lower or at-parity compared to internal combustion engine vehicles (ICEV), upfront costs are typically higher. Source: International Council of Clean Transportation

5. **Insufficient grid capacity and multi-year timelines to complete necessary grid upgrades** often significantly delay energization of EV chargers at depots and charging hubs.
6. Although state and federal incentives to support the transition exist, many local fleet owners may be **unaware of the resources** and how to best navigate them. Additionally, many of these incentives are at risk of sunseting over the next few years, making up-front capital even that much more difficult.

Finally, even with many of these barriers removed, fleet owners may still be cautious about transitioning if they are not fully aware of the benefits of vehicle electrification. Consequently, this strategy aims to **alleviate financial, information, and resource gaps** that fleet owners in the S2J2 region face in order to support them in the ZEV transition. Actions include:

- **Identify locally based public and private fleets best suited for electrification**, which may include a regional survey of local businesses, governments, and public service institutions to compile information (e.g., number of fleets owned, vehicle class, and typical daily distance traveled) similar to the work conducted by CARB or San Joaquin Valley Air Pollution Control District on large entity fleet reporting.¹¹ Survey insights may be used to prioritize key local fleets by operation type (e.g., last-mile delivery, regional haul, people transport) in order to minimize transition-related business disruptions and maximize access to resources.
- **Provide resources** (e.g., technical assistance, funding) **to help facilitate the transition for local fleets by leveraging existing programs**. Support could include grant writers and technical experts who are available to provide subsidized or pro-bono consulting services for fleet owners. Utility initiatives such as PG&E's EV Fleet Program, and Southern California Edison's Charge Ready Transport Program and Transportation Electrification Advisory Services can help underwrite infrastructure costs and connect fleet owners to existing resources. These programs may be especially valuable to small and public-service fleet owners.
- **Leverage public and utility funding programs to facilitate the transition of public transportation**. The region may also consider setting up contracts directly with EV manufacturers to purchase electric buses and public fleets in high volumes and at lower prices to make clean public transportation more accessible.
- **Support private-sector entities deploying novel business models that can ease the ZEV transition for local fleets**. These include turnkey electrification solutions for both electric vehicles (EVs) and electric vehicle charging infrastructure (EVCi)-- Trucks-as-a-Service, Charging-as-a-Service, and Charging-Infrastructure-as-a-Service.
- **Coordinate sharing or co-owning of private charging infrastructure**. This may include creating co-operatives for groups of local businesses, governments, and public institutions to collectively invest in charging and refueling infrastructure. This infrastructure can be jointly used or owned to share the cost of charging and refueling ports and reduce upfront capital investment costs.
- **Actively reach out to fleet owners to educate them about ZEV technology through community-led events and awareness programs**. Community-led events (e.g., CALSTART and CARB's Ride & Drive, San Joaquin Valley Air Pollution Control District's Valley Air ZEV Mobility Pilot Project) at local venues can provide information on ZEV benefits and capabilities. Activities might include "ride-and-drives" and live demonstrations of ZEVs, including trucks, buses, and agricultural equipment.

The S2J2 region may take the following immediate steps:

- **Hold gatherings to distribute accessible information** (such as a single "menu" of information or a how-to guide tailored to fleet types). These gatherings can host an expert who can provide guidance on navigating the process, determining eligibility, and identifying "stackable" grants. Make these resources accessible to both urban and rural areas and provide in-language materials and outreach as needed.

11 CARB – Large Entity Fleet Reporting Statewide Aggregated Data

- **Initiate partnerships with larger fleets to begin a loaner truck program.** The S2J2 region can also consider partnering with larger local fleet owners or fleet dealerships to offer short-term, low- or no-cost truck loans to small businesses. This loaner program can help build trust and alleviate skepticism about ZEVs among local fleet owners. A limited number of diesel vehicles could be included to alleviate fleet operators' concerns about MH/D ZEVs not being able to fulfill their vocations and duty cycles.

Strategy C – Identify Opportunities for New and Existing Local Businesses to Thrive in the ZEV Transition

The transition to ZEVs presents economic opportunities for locally owned businesses, including contractors, electricians, and technicians, who are poised to benefit from the construction and maintenance of charging and refueling equipment at depots. These depots could transform existing truck stops and refueling stations and may offer secondary opportunities to provide services and amenities to drivers.

In the S2J2 region, particularly among Disadvantaged Communities (DACs), there is a lack of awareness about these potential new business opportunities, as well as a scarcity of access to capital and other essential resources. Addressing these challenges can ensure that all communities are able to thrive in the ZEV transition. Actions include:

- **Identify, prepare, and promote sectors where the ZEV transition will create opportunities for local businesses.** Building and maintaining ZEV charging and refueling infrastructure and the supporting electricity grid infrastructure will create opportunities for electricians, contractors, and other supporting businesses. Growth may be facilitated by offering local regulatory or financial incentives to contract with local businesses, supporting local businesses in making capital or infrastructure investments, ensuring local businesses are aware of and in compliance with required qualifications, and providing dedicated funding sources for small businesses.
- **Provide technical support to new and growing businesses** through coaching, mentoring, and networking to ensure that business owners develop the skills and connections needed to win business and grow as the ZEV economy develops.
- **Encourage companies developing charging and H2 refueling infrastructure in the S2J2 region to contract with local businesses.** This may include, but is not limited to, offering incentives to developers contracting with local businesses, creating networking and partnership-building opportunities between developers and local businesses, publishing case studies highlighting local capabilities and expertise, and encouraging commitment to building an inclusive supply chain (e.g., PG&E's and SCE's Supplier Diversity Programs).

The S2J2 region may take the following immediate next steps:

- **Identify local partners and collaboratives** to take a leading role and dedicate staff time to implement these initiatives.
- **Engage local businesses** through networking and education programs to share ZEV technologies, funding, and best practices in the EV transition.
- **Include ZEV fleet transition in the comprehensive economic development strategy** to be developed and implemented by regional economic development corporations to ensure the region maximizes benefits from economic development opportunities from the ZEV transition. See Clean Energy Investment Plan (Strategy C: Build a clean energy economic development ecosystem) for further details.

Strategy D – Increase Access to Clean, Affordable, Reliable, Safe Transportation Options for Everyone

Reliable and affordable personal transportation is an important enabler for educational, social, and economic activity. However, low-income residents have the least access to personal transportation, and especially, clean personal transportation.

The region, specifically, aims to enable resident access to clean, affordable, reliable and safe, personal transportation. This criteria includes:

- **Meeting owner needs**, including adequate range, reliability, and payload capacity (e.g., transporting tools or equipment for work).
- **Affordability**. The higher upfront cost of ZEVs is often a significant barrier and federal/state incentives for buying ZEVs or trading-in fossil fuel vehicles are not enough to offset the initial down payment for most residents. This is especially true in disadvantaged and low-income populations.
- **Long-lasting**. The maintenance ecosystem for electric and hydrogen vehicles is not yet established, leading to hesitancy from car owners to transition to ZEVs.
- **Convenient, dependable, safe and affordable charging options** are necessary to enable drivers to choose electric vehicles. (See Strategy E)

To achieve an equitable fleet transition, the S2J2 region may consider scaling up and expanding beyond existing initiatives to build awareness of the benefits of ZEVs and increase access to them among residents of disinvested communities. The following may be undertaken:

- **Develop a comprehensive plan for hosting a series of test drives, informational booths, and interactive sessions** on the benefits and operation of ZEVs. These sessions should aim to specifically demonstrate how and if ZEVs can meet the tailored needs of the community, including range, payload capacity, and reliability. Additional actions to facilitate this initiative may include:
 - **Forging partnerships with ZEV Original Equipment Manufacturers (OEMs) and dealers, local businesses, and environmental organizations** to sponsor events and provide vehicles for demonstrations and test drives.
 - **Creating targeted marketing campaigns** to raise community awareness about the events.
 - **Collecting participant feedback during the events** to gauge public interest and perception of ZEVs and conduct post-event analysis to assess the impact on community attitudes towards ZEV adoption.
 - **Facilitating community-driven educational initiatives** where residents can inform each other about ZEVs' advantages and functionalities to build grassroots support for the transition away from conventional vehicles.
- **Position the S2J2 region as a destination for used electric vehicles (EVs)**. This may be facilitated through collaborations with auto OEMs, auto dealerships and online marketplaces to bring more used EVs to the region by offering higher trade-in incentives in the region for EVs. The region can also consider investing in creating an EV parts bank to support the maintenance ecosystem.

- **Facilitate the creation or expansion of ZEV ridesharing and carsharing programs.** Existing programs, including the examples listed below, can be leveraged as a starting point for creating or expanding such a program:
 - **The City of Anaheim’ EV ridesharing pilot program:** This program is for residents who live in multi-family affordable housing and housing in disadvantaged communities and provides rebates for the leasing of EVs that allow residents to share the cost of an EV.¹²
 - **The Fresno Metro Black Chamber of Commerce’s Clean Share Mobility Network:** Southwest Fresno residents can rent environmentally-friendly vehicles including pedal-assist bikes, electric cars, and ride-share vans.¹³
 - **The City of Huron’s Green Raiteros:** This ridesharing program provides transportation for non-emergency medical and other essential appointments.
- **Develop a ZEV maintenance ecosystem through public-sector funding or private-sector investments.** This may include but is not limited to developing a workforce dedicated to ZEV maintenance, procuring ZEV parts, developing ZEV service centers, and ensuring low-income ZEV drivers can access maintenance services.
- **Explore potential to support development of clean multimodal transportation in the S2J2 region,** in addition to the ZEV transition of fleet and personal vehicles.

The S2J2 region may take the following immediate steps:

- **Collaborate with Valley CAN (Clean Air Now) to increase clean fleet access for low-income families.** Identify the opportunity to expand Valley CAN’s existing repair and replacement program for older, high-polluting vehicles with cleaner models, and pinpoint key funding sources to help achieve this.
- **Design a marketing strategy** for a series of ZEV-focused community events aimed at increasing public awareness of ZEV benefits, including reliability, payload, and range.
- **Conduct comprehensive research on local ride-sharing program** usage and demand to identify and prioritize key programs for strategic expansion.
- **Engage directly with low-income ZEV drivers** to ensure that investment of public and utility funds in charging infrastructure supports their charging needs.

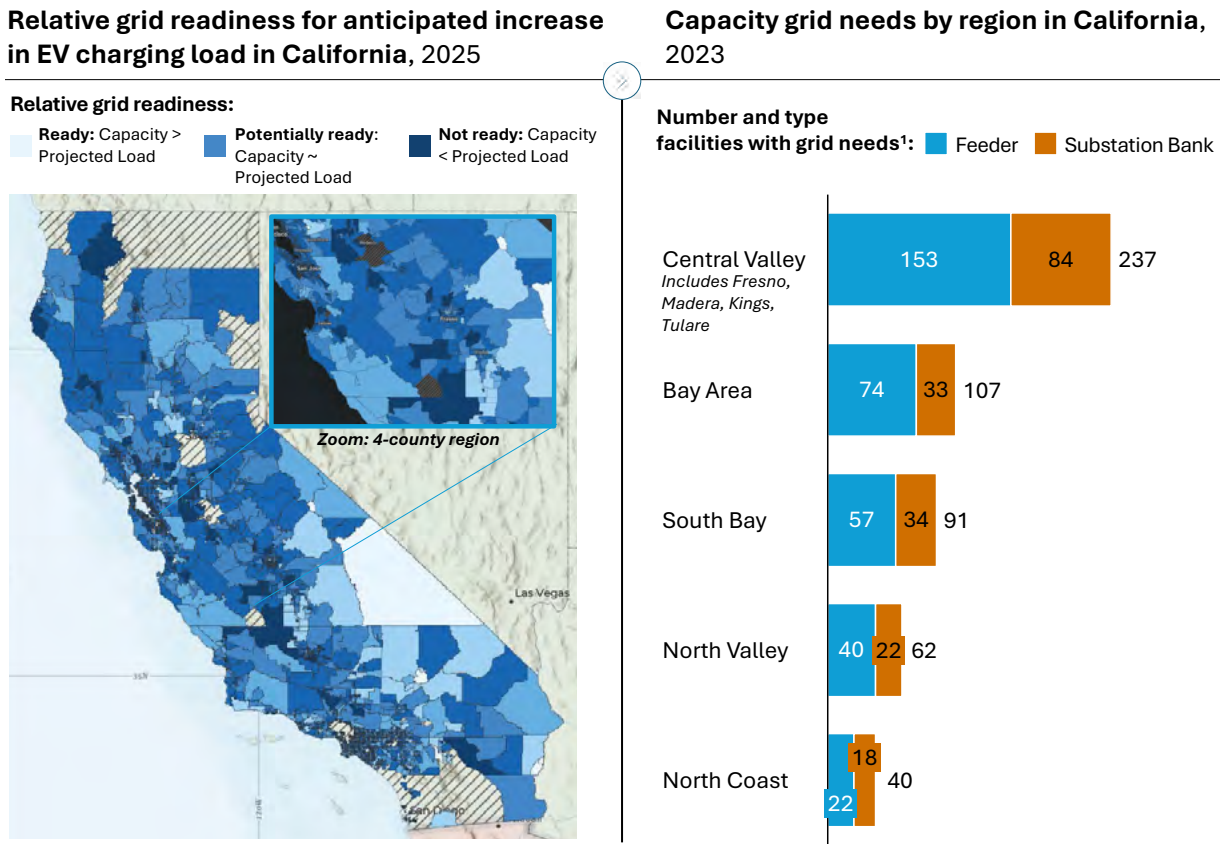
¹² City of Anaheim – EV Ride Sharing

¹³ <https://fresnoland.org/2023/10/26/clean-share-mobility/>

Strategy E – Enable Timely, Cost-Effective Build-Out of ZEV Charging Infrastructure

To enable fleet transition in the S2J2 region, build-out of ZEV charging and refueling infrastructure will be critical. Given California’s policies (e.g., Advanced Clean Cars II, Advanced Clean Fleets, Advanced Clean Trucks), the region expects a significant increase in ZEVs, and electric corridors and charging and refueling stations are already planned to support the fleet transition (see Figure in Appendix A). Up to 120,000 additional EV chargers and hydrogen refueling stations may be required in the region to support a full EV transition by 2045.¹⁴ In addition, grid upgrades are especially critical in the S2J2 region, as some areas do not have enough capacity to support the projected EV charging load. PG&E has identified the Central Valley, which includes the S2J2 region, as the region with California’s highest grid upgrades required (i.e., nearly double the capacity needed of other regions in California) (Figure 5). See the Clean Energy Investment Plan for more details on addressing grid upgrades.

Figure 5. Energy Grid Capacity Needs to Support Fleet Transition in the S2J2 Region



1. Excludes the 1 substation bank group (i.e., banks that operate in parallel) that require upgrading in Central Valley
Source: [California Energy Commission's EVSE Deployment and Grid Evaluation](#) (accessed 07/2024), [PG&E's Distribution Grid Needs Assessment](#) (accessed 07/2024)

14 UCLA/CEC Workforce Impacts of Achieving Carbon-Neutral Transportation in California (2022),

To accelerate infrastructure deployment and additional opportunities along the ZEV value chain (e.g., hardware procurement, software solutions, installation, operations and maintenance, energy sales and management), a regional planning and collaborative effort will be essential. Developing ZEV charging and refueling infrastructure in the S2J2 region can enable the transition for both local and passthrough fleets, which in turn, will help reduce air pollution from passthrough fleets along the transportation corridors. A regional electric vehicle charging and refueling infrastructure plan for the four-county region could include:

- Establishing a robust network of charging and refueling infrastructure and maintenance facilities for each of four categories for fleet service: commercial short-haul (e.g., regional vans, urban delivery vans, construction trucks, local medium-duty trucks), private long-haul (e.g., cargo vans, medium-and-heavy-duty vehicles), public (e.g., city and inter-city buses), and corporate (e.g., taxis, ride-hauling vehicles, employee cars). These facilities can be strategically placed along major transportation corridors and underserved regions as well as at local commercial complexes. Implementing this approach will involve regional planning, support for policies, and innovative mobile service solutions. Examples of regional infrastructure projects include WattEV's solar-powered truck charging depot in Fresno and Greenlane's zero-emission public charging and hydrogen fueling network for trucks through Southern California.
- Public-private partnerships that pool resources and expertise to enable sustainable infrastructure development. Legislation and building codes mandate the integration of ZEV charging and refueling stations into new and renovated buildings.¹⁵ Targeted government grants and private investments may fund infrastructure expansion, especially in rural and remote areas.
- Establishing capacity for zoning and permitting for charging and refueling facilities. This may include hiring more staff and directing more resources such as funding for zoning and permitting.

The S2J2 region may take the following immediate steps:

- **Assess existing charging and refueling infrastructure** and identify the enhancements needed to support electrification.
- **Expedite the permitting process** for development/deployment of zero-emission infrastructure.
- **Explore options** (e.g., with the CPUC or legislature) **to increase and/or augment utility funding for programs to expedite grid upgrades needed** to support electric vehicle charging and hydrogen refueling infrastructure (e.g., feeders, substation banks).
- **Establish a coordinating body** of key civic actors (e.g. coalition of COGs and/or local governments) to provide leadership and coordination of these strategies

15 2022 California Green Buildings Standards Code, Title 24, Part 11 (CALGreen) – exceptions made for lack of utility power, etc.

Additional Cross-Strategy Considerations

The five investment strategies align with state strategies, as seen in Table 1:

Table 1. Fleet Transition Strategies and Alignment with State Strategies

Description	Alignment with state strategies
A. Develop workforce to enable and sustain ZEV transition	- CA Air Resources Board: California's Plan for Zero-Emission Vehicles¹⁶ is a good summary of the requirements on heavy machinery and trucks to be implemented in coming years, along with statutory references and program links. Given the San Joaquin Valley's dependence on heavy machinery for agricultural operations and processing, it may be a good idea to look into this more, and perhaps get some additional information from the local air district. - CA Energy Commission – Clean Hydrogen Program:¹⁷ This program was established by Assembly Bill 209 (The Energy and Climate Change budget bill, Chapter 251, Section 12, Chapter 7.6, Article 4, enacted in September 2022) to demonstrate or scale-up hydrogen projects that produce, process, deliver, store, or use hydrogen derived from water using eligible renewable energy resources, or produced from these eligible renewable energy resources. - California Workforce Development Board: The High Road Training Partnerships (H RTP)¹⁸ initiative started as a \$10M demonstration project designed to model partnership strategies for the state. Ranging from transportation to health care to hospitality, the H RTP model embodies the sector approach championed by the Board—industry partnerships that deliver equity, sustainability, and job quality. Along with these program investments, the Board is producing a body of policy and principle to guide related undertakings across the workforce system. - The Employment Training Panel (ETP)¹⁹ provides funding to employers to assist in upgrading the skills of their workers through training that leads to well-paying, long-term jobs. The ETP was created in 1982 by the California State Legislature and is funded by California employers through a special payroll tax. ETP has a tripartite governing structure, with appointed Panel members representing business, unions, and state government. The ETP is a funding agency, not a training agency. Businesses determine their own training needs and how to provide training. ETP staff is available to assist in applying for funds and other aspects of participation. - The California Climate Scoping Plan includes a collection of “technologically feasible and cost effective” policies to set California on a path to achieve carbon neutrality by 2045. The Scoping Plan is required under Assembly Bill 32 (the California Global Warming Solutions Act of 2006).²⁰ - California Natural Resources Agency: The California Climate Adaptation Strategy is updated by the California Natural Resources Agency and Strategic Growth Council every three years under the Assembly Bill.²¹
B. Support locally based fleets in ZEV transition	- CA Air Resources Board: California's Plan for Zero-Emission Vehicles: See Strategy A above. - California Air Resources Board: California Climate Scoping Plan: See Strategy A above. - California Natural Resources Agency: California Climate Adaptation Strategy: See Strategy A above. - CA Alternative Energy and Advanced Transportation Financing Authority – Advanced Transportation Tax Exclusion:²² This provides a sales and use tax exclusion for qualified manufacturers of advanced transportation products, components, or systems that reduce pollution and energy use and promote economic development. Incentives are available until December 31, 2025.

16 <https://ww2.arb.ca.gov/our-work/programs/truckstop-resources/zev-truckstop/zev-101/californias-plan-zero-emission-vehicles>

17 <https://www.energy.ca.gov/programs-and-topics/programs/clean-hydrogen-program>

18 <https://cwdb.ca.gov/initiatives/high-road-training-partnerships/>

19 <https://etp.ca.gov/>

20 <https://ww2.arb.ca.gov/our-work/programs/ab-32-climate-change-scoping-plan>

21 <https://climateresilience.ca.gov/>

22 <https://www.treasurer.ca.gov/caeatfa/ste/index.asp>

Table 1. Fleet Transition Strategies and Alignment with State Strategies Cont'd

Description	Alignment with state strategies
C. Identify opportunities for new and existing local businesses to thrive in the ZEV transition	- California Air Resources Board – California Climate Scoping Plan: See Strategy A above. - California Natural Resources Agency – California Climate Adaptation Strategy: See Strategy A above.
D. Increase access to clean, affordable, reliable, safe (CARS) transportation	- CA Alternative Energy and Advanced Transportation Financing Authority – Advanced Transportation Tax Exclusion: See Strategy B above. - California Air Resources Board: California Climate Scoping Plan: See Strategy A above. - California Natural Resources Agency – California Climate Adaptation Strategy: See Strategy A above.
E. Enable timely, cost-effective buildout of EV charging infrastructure	- California Air Resources Board – California Climate Scoping Plan: See Strategy A above. - California Natural Resources Agency – California Climate Adaptation Strategy: See Strategy A above. - ARCHES²³/GO-Biz – Hydrogen Hub: This alliance has anticipated investments in project development that include the use of agricultural and forest waste, contributing to workforce skill enhancement in hydrogen energy.

23 ARCHES is an acronym for Alliance Renewable Clean Energy Systems.

The five investment strategies offer opportunity to increase economic diversification and resilience, including (Table 2):

Table 2. Fleet Transition Strategies and the Opportunity to Increase Economic Diversification and Resilience

Strategy	Opportunity to increase economic diversification and resilience
A. Develop workforce to enable and sustain ZEV transition	- Promote local involvement in infrastructure deployment by engaging S2J2 residents in the construction and maintenance of charging infrastructure, fostering local employment and expertise in essential skills. - Enhance support for ZEV adoption by boosting locally based fleets and through traffic in their transition to ZEVs, reinforcing the region's commitment to sustainable transportation. - Improve energy systems by upgrading the power grid to support ZEVs, increasing the reliability and efficiency of the region's energy supply.
B. Support locally based fleets in ZEV transition	- Reduced exposure to diesel particulate matter (PM) in communities near freight corridors and major traffic arteries, often in disadvantaged areas. - Lower total cost of ownership for ZEVs may improve the operating economics for locally based fleets, freeing up resources to fuel investment and economic development in the region. - Expanded grid services during idle daytime hours and summers on behalf of V2G-equipped school buses, enhancing the economics of the transition.
C. Identify opportunities for new and existing local businesses to thrive in the ZEV transition	- Centering local businesses in the ZEV transition may lead to the following: - Expanded financial equity within the S2J2 region that may encourage further outside investment in the area. - Increased number of local firms participating in the ZEV transition, a tech-oriented shift that may strengthen local innovation.
D. Increase access to clean, affordable, reliable, safe (CARS) transportation options for everyone	- Reduction in Air Pollution: Implementing clean transportation options can significantly reduce air pollution. This can attract more sustainable businesses, thereby strengthening the local economy. - Improved Health Outcomes: By decreasing air pollution levels, communities may incur lower healthcare costs and see enhanced productivity, contributing to economic stability and growth. - Lower Personal Transportation Costs: Transitioning to ZEVs can reduce overall individual fuel and maintenance expenses. This increase in disposable income can boost local spending and economic activity, further diversifying the economic base of the region.
E. Enable timely, cost-effective buildout of ZEV charging infrastructure	- Growth of related industries such as vehicle sales, maintenance, and charging infrastructure construction as more individuals opt for new or used ZEVs can spur productivity. - Increased public awareness of ZEV benefits can create a snowball effect, where growing interest in cleaner transportation options boosts consumer demand and attracts further investment into local ZEV charging infrastructure. - Attract private capital to develop a comprehensive public ZEV refueling network, which not only meets the rising clean fuel demand but also strengthens the region's infrastructure and economic resilience.

2 Potential Investment Required and Funding Sources

The fleet transition in the S2J2 region could require a total investment of **~\$3.3B by 2045** (i.e., ~\$0.7B for initial start-up funding and ~\$2.6B of additional public and private investment) to enable the S2J2 region's vision. The S2J2 region plans to use both **public** (e.g., government, public securities) **and private** (e.g., formal/informal, entrepreneurial, philanthropic) **funding** to advance its investment strategies. See Section 3 in the Clean Energy Investment Plan for a detailed view of funding types. Table 3 lists potential funding sources for fleet transition in the four-county region, with additional sources outlined in Appendix B: Potential Funding Sources. Please note that the list of funding programs may not be exhaustive.

Table 3. Potential Funding Sources by Strategy

Strategy	Potential funding sources	Total investment required	Rationale
Strategy A Develop workforce to enable and sustain ZEV transition	1. Clean Transportation Program (CEC) ²⁴ 2. Rural Energy for America Program (REAP) – Electric Vehicle Infrastructure Grants and Loan Guarantees (USDA) 6 3. Zero-emission School Bus and Infrastructure (CARB) 6 4. Investment for Zero-emission Transportation Infrastructure (CEC) 6	~\$2.7M	Costs include curriculum development, educator training, partnership programs with educational institutions, administration and materials for specialized ZEV training, multilingual material development, hiring translators, running media campaigns across diverse platforms, training facilities, hiring industry experts as trainers, and subsidies for participants from underserved communities. *Note: assumed ~20 schools & training programs and ~133K investment per school (basis: ValleyCAN's investment in STEM workforce development in the San Joaquin Valley region)
Strategy B Support locally based fleets in ZEV transition	1. Clean Heavy-Duty Vehicles 2. Clean Vehicle Credit 3. Credit for Previously Owned Clean Vehicles 4. Clean Cars 4 All's Fuel-Efficient Vehicle Tax Exemption 5. Low Emission Truck and Bus Purchase Vouchers	~\$204M	Costs include hosting ongoing industry events and shows (e.g., venue costs, labor, administration), data analysis, administrative expenses related to identifying optimal fleets for electrification, hiring experts (e.g., grant writers, technical experts) for educational seminars, material development to educate operators, PG&E coordination to integrate existing technical assistance programs and cover operational costs. *Note: assumed ~126M to host industry events and shows over 20 years, ~78M for hiring experts and provide resources to facilitate transition for local fleets

24 Funds can also be used for workforce development.

Table 3. Potential Funding Sources by Strategy

Strategy	Potential funding sources	Total investment required	Rationale
Strategy C Identify opportunities for new and existing local businesses to thrive in the ZEV transition	1. Credit for Qualified Commercial Clean Vehicles 2. Truck Replacement Program 3. Charge Up! Program 4. Zero-Emission Commercial Vehicles (EnergIIZE) 5. Commercial EV and FCEV Tax Credit	~\$74M	Costs include event planning, venue and ZEV vehicle rental fees, marketing design, coordination with local stakeholders, rideshare operator incentives, EV acquisition, initial integration of technology systems, marketing campaigns, carsharing services, and subsidies for EV inclusion in fleets.
Strategy D Increase access to clean, affordable, reliable, safe (CARS) personal transportation options for everyone	1. The California Clean Mobility Options Voucher Pilot Program	~\$236M	Costs include marketing initiatives, promotional activities to attract a used EV market, charging station installations, grid upgrades, and project management for public EV charging availability, adapting existing fleets, training personnel, and funding management.
Strategy E Enable timely, cost-effective build-out of ZEV charging infrastructure	2. Drive Clean in the San Joaquin²⁵ 3. Southern California's Edison's Charge Ready Program¹¹ 4. Incentives for Shovel-Ready EV Charging Projects (CEC) ¹¹	~\$2.8B	Costs include the accelerated development of distribution grid to support expanded public and shared private ZEV charging and hydrogen refueling infrastructure (e.g., L2-Ps, DC-fast charging, hydrogen, bus). *Note: Does not include ~\$2.7B cost to build-out transmission grid (e.g., network upgrades, gen-ties associated with new clean energy generation built in S2J2 region); see Clean Energy funding chapter for details

3 Stakeholder Map

To facilitate a transition to clean fleets in the S2J2 region, key stakeholders—including government, industry, utilities, nonprofits, educational institutions, and unions — must work together. Local, state, and federal authorities could implement measures to promote and enable adoption of electric vehicles, deployment of charging, refueling and grid infrastructure, and engagement in sustainable transportation practices. Industry partners are pivotal in providing expertise, investment, and integration of ZEV technologies into fleet operations. Utilities play a crucial role by providing access to a safe and reliable energy grid, thereby encouraging the uptake of clean fleet technologies. Nonprofit organizations serve as partners, raising awareness about the benefits of fleet transition and promoting community engagement. Educational institutions, workforce development organizations, and labor unions are instrumental in training a skilled workforce capable of constructing, maintaining, and operating clean fleet infrastructure. See Table 8 in Appendix B for potential stakeholder groups and organizational partners by investment strategy.

25 Funds can also be used for awareness.

4 The Path Forward

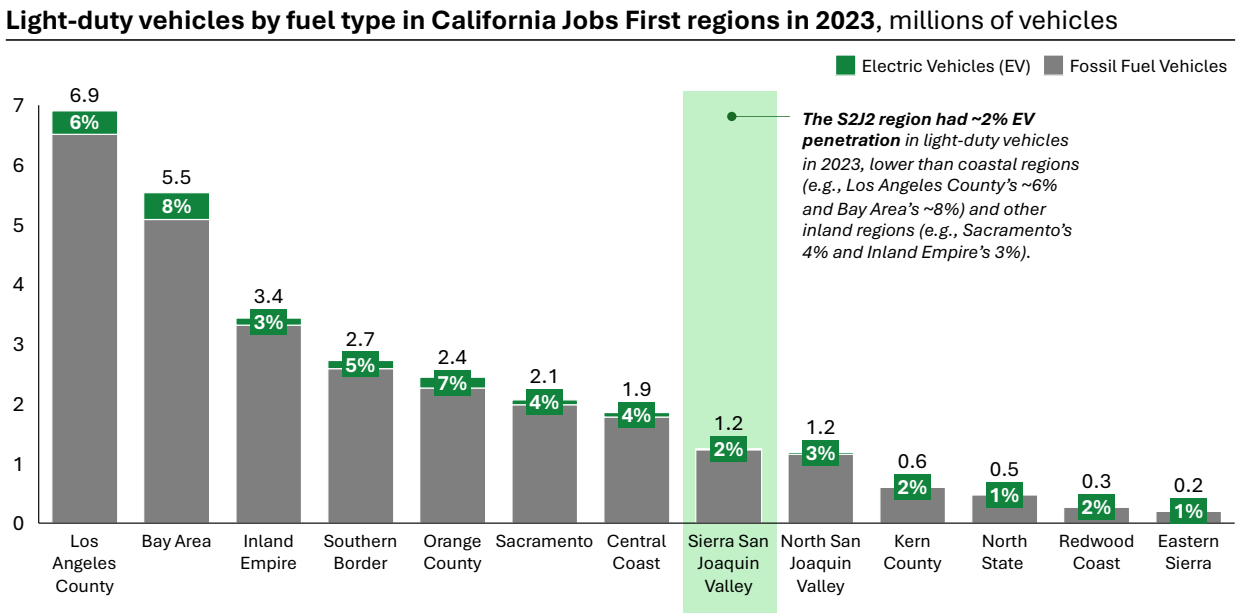
While the S2J2 Zero Emission Vehicle Transition Investment Plan provides a foundational framework for addressing key barriers—workforce, funding, infrastructure, regulation, and acceptance—the region recognizes the path to achieving clean, affordable, reliable, and safe transportation requires sustained commitment and collaboration from local and regional stakeholders (e.g., regional air districts, county and city governments, utilities, fleet owner cooperatives, and businesses). A renewable energy regional coordinating entity with a team dedicated to fleet transition could serve this purpose. This entity could identify, plan, and allocate resources to support stakeholders in activities such as transitioning fleets, coordinating infrastructure build-out, and ensuring clean transportation is accessible to all residents in the S2J2 region.

Appendix A: Overview of the Area

Current State of S2J2 Region

As of 2023, there were approximately 1.2 million light-duty vehicles and 58,000 heavy-duty vehicles in the S2J2 region, only ~73,000 of which are hybrid or fully electric vehicles (Figure 6).²⁶ Existing EV infrastructure includes around 600 direct-current fast chargers (DCFC) and 1600 Level 2 chargers, with nearly 60% in the Fresno area.^{27,28} Approximately 60% of the chargers are public, and 40% are shared-private.²⁹

Figure 6. Light-Duty Vehicles by Fuel Type in the California Jobs First Region in 2023



Source: [California Energy Commission's Light Duty Vehicle Population Dashboard](#) (2023)

26 California Open Data Portal - 1/1/2024 Vehicle Fuel Type Count by Zip Code
27 Level 2 chargers use alternating-current (AC) electricity to charge a plug-in electric vehicle at 208 to 240 volts and can provide about 14 to 35 miles of range per hour of charging.
28 California Energy Commission Dashboard on Electric Vehicle Chargers in California
29 Shared private chargers are located at parking space(s) designated by a property owner or lessee to be available to, and accessible by, employees, tenants, visitors, and residents.

Clear Local Market Signals

Tailwinds

- **Many federal and state regulations and incentives** for net-zero emissions efforts are attracting investments into vehicle electrification. **Federal regulations** include the U.S. EPA’s fuel economy standards and 2050 Net-Zero Emissions Regulations. **State regulations** include the California Air Resources Board (CARB)’s Advanced Clean Cars II/Trucks/Fleets/Transit regulation, California’s Assembly Bill 2127, and Governor Newsom’s Executive Order N-79-20. **Federal incentives** are coming from the Inflation Reduction Act, the Infrastructure Investment and Jobs Act, and Government Vehicle Procurement of ZEVs. **State incentives** are offered by CARB’s Clean Truck and Bus Vouchers (HVIP) program, including low-oxide nitrogen (NOx) engines, a bus replacement program, and disbursement of funds from the IIJA funded National Electric Vehicle Infrastructure (NEVI) formula grant program.
- **Opportunities for consumers and fleets to save on transportation costs** are growing as the total cost of ownership for EVs continues to decline. This decline arises from several factors: the price differential between electricity and petroleum-based fuels, the increasing availability of second-hand EVs, and state and federal incentives.
- **Investment into expanding the public-charging infrastructure throughout the US has been substantial**—resulting in a 30% increase in the number of charge ports from 2021 to 2022. Specifically, the California Energy Commission has funded more than 8,800 EV charging stations across California through the Alternative and Renewable Fuel and Vehicle Technology Program (ARFVTP). Fresno County has seen the largest rural deployment of solar-powered chargers in the region.

Headwinds

- Although the total cost of ownership (TCO) of electric fleets is forecasted to decrease, **input costs for EVs are expected to increase** due to raw material inflation and potential supply chain imbalances (such as semiconductor shortages), which may raise the upfront capital costs for EV fleets. Higher upfront costs and economic uncertainties related to operating and maintaining electrified fleets deter fleet operators from investing in them. These concerns are especially significant for businesses with small to medium-sized fleets that lack the capital for substantial investments.
- **EV adoption remains low despite increased incentives.** EVs are often not consumers’ or fleet operators’ first choice when selecting vehicles, largely due to higher purchase prices than conventional fossil fuel vehicles. Further, skepticism about ZEVs’ viability and reliability hinders their acceptance, particularly among operators of medium- and heavy-duty vehicles (MHDVs) who are uncertain about performance and operational costs. Moreover, many individuals and businesses are unaware of available grants and tax credits and of the cost-benefit trade-offs involved in transitioning to EV. Local communities thus hesitate to make the transition, and over 98% of registered light-duty vehicles are still fossil-fuel-powered (**Figure 3**). Between 2019 and 2023, the total number of EV light-duty vehicles in S2J2 increased from 7,000 to 21,000, and the penetration of EVs (that is, the share of EVs among all light-duty vehicles) has grown from 1% to 2%.
- **There is insufficient infrastructure for charging and maintenance of EVs.** The lack of widespread, accessible charging infrastructure and maintenance facilities for ZEVs makes the transition challenging. This challenge is particularly acute in rural and sparsely populated areas, as well as areas without substantial public or private investment in ZEV support infrastructure.

Value Chain and Infrastructure

Supplying EVs to the four-county region cost-effectively and accessibly will require significant funding, support, and resources to navigate and obtain such funding – including private investment – especially for small and mid-sized businesses. Other synergies may be considered in attracting local investment to create a market for ZEV aftermarket services and equipment, like EV maintenance, charging infrastructure, transmission lines, and hydrogen pipelines. Further, determining how to interconnect EV charging infrastructure with clean energy grids will be critical to decarbonizing the transportation sector. Although existing EV charging infrastructure and investment in grid infrastructure are growing, significant buildout is required to support the ambition of S2J2 region’s transition to EV.

Regional Assets

The S2J2 region sits astride two of six freight corridors in California and has sufficient land to support expanded EV-charging infrastructure. Additionally, the S2J2 region’s clean energy transition will drive investments in transmission lines and substations to help expand the charging infrastructure network.

Regional organizations, sources of expertise, and tools include:

- **San Joaquin Valley Air Pollution Control District**, developing datasets and insights (e.g., current landscape of fleets in S2J2 region)
- **Fresno/Tulare/Kings Council of Governments**, preparing the region’s Federal Transportation Improvement Program; EV readiness planning
- **Madera County Transportation Commission (CTC)**, zero-emission transportation planning
- **Imperial Electric Service**, design and installation of EV infrastructure
- **School district representatives**, electrification planning for school buses
- **Kingsburg Truck Center**, sales, and after-market services for EV trucks
- **California Air Resources Board**, support in developing datasets and insights at the regional level

Appendix B: Potential Funding Sources

Table 4. Government Programs – Federal

Program	Estimated Amount Available	Avail. Until	Eligibility
Clean Heavy-Duty Vehicles (Environmental Protection Agency [EPA])	~\$1B	07/25/2024	States, including U.S. territories, municipalities, public school districts, Indian Tribes and nonprofit school transportation associations are eligible for this grant. ³⁰
Clean Vehicle Credit (Dept. of the Treasury)	~\$3.8K - \$7.5K/vehicle	12/31/2032	Buyers of clean vehicles (used or new) that have mid-to-low-income income are eligible for this tax credit. ³¹
Credit for Previously Owned Clean Vehicles (Dept. of the Treasury)	~\$4k/vehicle	12/31/2032	Buyers of used clean vehicles that have mid-to-low-income income are eligible for this tax credit. ³²
Credit for Qualified Commercial Clean Vehicles (Dept. of the Treasury)	~\$7k - \$40k	N/A	Businesses and tax-exempt organizations are eligible for the tax credit. ³³
Commercial Electric Vehicle (EV) and Fuel Cell Electric Vehicle (FCEV) Tax Credit (U.S. Internal Revenue Service [IRS])	~\$40k/vehicles	N/A	Businesses qualify for the tax credit. ³⁴
Rural Energy for America Program (REAP) – Electric Vehicle (EV) Infrastructure Grants and Loan Guarantees (U.S. Department of Agriculture [AG])	Twenty-five percent of project costs	Until expended	Agricultural producers and rural small businesses are grant-eligible. ³⁵
Charging and Fueling Infrastructure (CFI) Discretionary Grant Program (U.S. Department of Transportation's (DOT) Federal Highway Administration (FHWA))	~\$100M	08/28/2024	Auto suppliers and state governments are grant-eligible ³⁶ .
Domestic Manufacturing Conversion Grants Program (U.S. Department of Energy's Office of Manufacturing and Energy Supply Chains)	~\$2B	9/30/2031	Manufacturers, whether small businesses, larger enterprises, or individuals, are eligible for grants. ³⁷

30 Environmental Protection Agency – Clean Heavy-Duty Vehicles

31 IRS - Clean Vehicle Credit

32 IRS – Used Clean Vehicle Credit

33 IRS –Commercial Clean Vehicle Credit

34 U.S. DOE – Alternative Fuels Data Center Public Law 117

35 USDA – Rural Energy For America Program

36 U.S.DOT – Charging and Fueling Infrastructure Grant Program

37 Energy.gov – Domestic Automotive Manufacturing Conversion Grants

Table 5. Government Programs – State

Program	Estimated Amount Available	Avail. Until	Eligibility
Clean Cars 4 All's Fuel-Efficient Vehicle Tax Exemption (California Air Resources Board (CARB))	~\$9.5K	Until expended	California residents with lower incomes living in or near disadvantaged communities within the Joaquin Valley, South Coast, Bay Area, Sacramento, and San Diego air districts are eligible for the rebate. ³⁸
Low Emission Truck and Bus Purchase Vouchers (CARB)	~\$20k - \$240k	Until expended	Individual owner-operators, small businesses, corporate leaders, school districts, and municipal fleets qualify for the rebate. ³⁹
Clean Transportation Program (California Energy Commission (CEC))	~\$100M	07/01/2035	Businesses, vehicle manufacturers, workforce training partners, fleet owners, consumers, and academic institutions qualify. ⁴⁰
The Carl Moyer Memorial Air Quality Standards Attainment Program (Program) (CARB in partnership with California's 35 local air districts)	~\$60M	2024	Equipment owners are grant-eligible. ⁴¹
The Hybrid and Zero-Emission Truck and Bus Voucher Incentive Project (HVIP) Public Bus Set-Aside Program (CARB)	~\$395k	12/15/2023	School districts qualify for the rebate. ⁴²
The California Electric Vehicle Infrastructure Project (CALEVIP)(CEC)			
Bus Replacement Grant (CARB)	\$480k	Until expended	Owners of transit, school, and shuttle buses are grant-eligible ⁴³ .
Innovative Small e-Fleet (ISEF) (CARB)	90% of vehicle price	N/A	Privately-owned or non-profit trucking fleets with 20 or fewer trucks and an annual revenue of less than \$15 million qualify for the rebate. ⁴⁴
Zero-Emission School Bus and Infrastructure (CARB)	~\$375k	09/30/2024	School districts are grant-eligible ⁴⁵ .
The California Clean Mobility Options Voucher Pilot Program (CARB)	~\$1M	Until expended	Low-income communities, disadvantaged communities, and tribal areas qualify for the rebate. ⁴⁶
Zero-Emission Commercial Vehicles (EnergIIZE) (CEC)	~\$500k - \$4M	N/A	Commercial fleets and station owners are grant-eligible. ⁴⁷

38 U.S.DOE –Fuel-Efficient Vehicle Tax Exemption

39 U.S.DOE – Low Emission Truck and Bus Purchase Vouchers

40 California Energy Commission –Clean Transportation Program

41 CARB –Carl Moyer Memorial Air Quality Standards Attainment Program

42 California HVIP –Clean-Air Vehicles at a Fraction of the Price

43 U.S.DOE – Bus Replacement Grant

44 California HVIP – Innovative Small e-Fleet Update

45 California HVIP – Zero-Emission School Bus and Infrastructure

46 California Air Resources Board – Clean Mobility Options Voucher Pilot Program

47 EnergIize – Electric Vehicle (EV) Public Charging Funding Lane

Table 5. Government Programs – State Cont'd

Program	Estimated Amount Available	Avail. Until	Eligibility
Property Assessed Clean Energy (PACE) Loss Reserve Program (The California Alternative Energy and Advanced Transportation Financing Authority (CAEATFA))	15% of the first \$700k and 10% of remaining property value	Until expended	Property owners qualify for assistance. ⁴⁸
EV Fleet program (Pacific Gas and Electric)	~\$3k-\$9k/vehicle ~\$15k-\$42k/charger	N/A	PG&E electric customers, organizations authorized to install charging infrastructure, and those planning to acquire at least 2 EVs in the next 5 years are eligible for vouchers. ⁴⁹
Investment for Zero-Emission Transportation Infrastructure (CEC)	~\$1.9B	2028	Businesses, nonprofit organizations, tribes, and public agencies are voucher eligible. ⁵⁰
The California Sustainable Energy Entrepreneur Development (CEC)	~\$700k	N/A	Early-stage clean energy entrepreneurs are grant-eligible. ⁵¹
Incentives Shovel-Ready EV Charging Projects (California Energy Commission (CEC))	~\$30M	Closed for 2024	Businesses, community organizations and public entities with construction projects in disadvantaged, low-income, and tribal communities qualify for these vouchers. ⁵²
Southern California Edison's Charge Ready Program (Center for Sustainable Energy (CSE))	~\$4.2k	2025, or until expended	Eligible locations include multifamily residences, public sector facilities, workplaces, businesses, and commercial properties. Entities must also be business customers of SCE (Southern California Edison). A minimum of 4 connectors must be installed to qualify for the rebate. ⁵³
Advanced Transportation Tax Exclusion (CAEATFA)	N/A	12/31/2025	Manufacturers of advanced transportation products, components, or systems that reduce pollution, energy use, and promote economic development qualify. ⁵⁴
California's Plan for Zero-Emission Vehicles (CARB)	~\$624M	2035	Statewide approach to reduce emissions from transportation to protect public health and meet climate goals, including economy-wide carbon neutrality by 2045 ⁵⁵

48 California State Treasurer – Property Assessed Clean Energy (PACE) Loss Reserve Program

49 PG&E – EV Fleet program

50 California Energy Commission – Investment for Zero-Emission Transportation Infrastructure

51 CalSEED – The California Sustainable Energy Entrepreneur Development

52 California Energy Commission – Incentives Shovel-Ready EV Charging Projects

53 Edison – Edison's Charge Ready Program

54 U.S.DOE – Advanced Transportation Tax Exclusion

55 California Air Resources Board – California's Plan for Zero-Emission Vehicles

Table 6. Government Programs – Local

Program	Estimated Amount Available	Avail. Until	Eligibility
Truck Replacement Program (The San Joaquin Valley Air Pollution Control District [SJVAPCD])	\$410k/truck	Until expended	Fleets owners are eligible for the grant. ⁵⁶
Drive Clean in the San Joaquin – Replace, Rebate, Refund Program (SJVAPCD)	~\$1k-\$12k/vehicle	Until expended	Residents and businesses located in The San Joaquin Valley Air Pollution Control District (SJVAPCD) qualify for the rebate. ⁵⁷
Charge Up! Program (SJVAPCD)	~\$5k-\$50k/applicant	Until expended	Public agencies, businesses, and property owners of multi-unit dwellings qualify for the rebate. ⁵⁸
Kings County Economic Development Corporation	Variable loans	N/A	Kings County businesses qualify for the loan program. ⁵⁹

Table 7. Private Funding Sources

Program	Estimated Amount Available	Avail. Until	Eligibility
ZeroNox	Variable (statewide)	N/A	Entrepreneurs developing clean tech solutions are eligible for funding. ⁶⁰

Appendix C: Potential Stakeholders by Investment Strategy

Table 8. Potential Stakeholder Groups and Organizational Partners by Investment Strategy

Stakeholder Group	Organizational Partner/Human Resource	Strategy				
		1	2	3	4	5
Local Government	S2J2 Cities (e.g., Avenal, Lemoore, Porterville, Selma, Visalia, San Joaquin, Madera)		✓		✓	✓
	Resource Conservation Districts for all 4-counties		✓			✓
	S2J2 Counties: Fresno, Madera, Tulare, Kings		✓		✓	✓
	Job Training Offices in the 4-counties	✓				
	Workforce Development Board of all 4-counties	✓				
	Economic Development Corporations of all 4-counties		✓		✓	✓
Industry Partner	Chamber of Commerce of all 4-counties		✓			
Fresno DRIVE	Civic Infrastructure		✓			✓
	Upskilling	✓				

⁵⁶ San Joaquin Valley Air Pollution Control District – Truck Replacement Program

⁵⁷ San Joaquin Valley Air Pollution Control District – Drive clean in the San Joaquin

⁵⁸ San Joaquin Valley Air Pollution Control District – Charge Up! Electric Vehicle Charger Incentive Program

⁵⁹ Kings EDC California – Kings County Economic Development Corporation

⁶⁰ ZeroNox

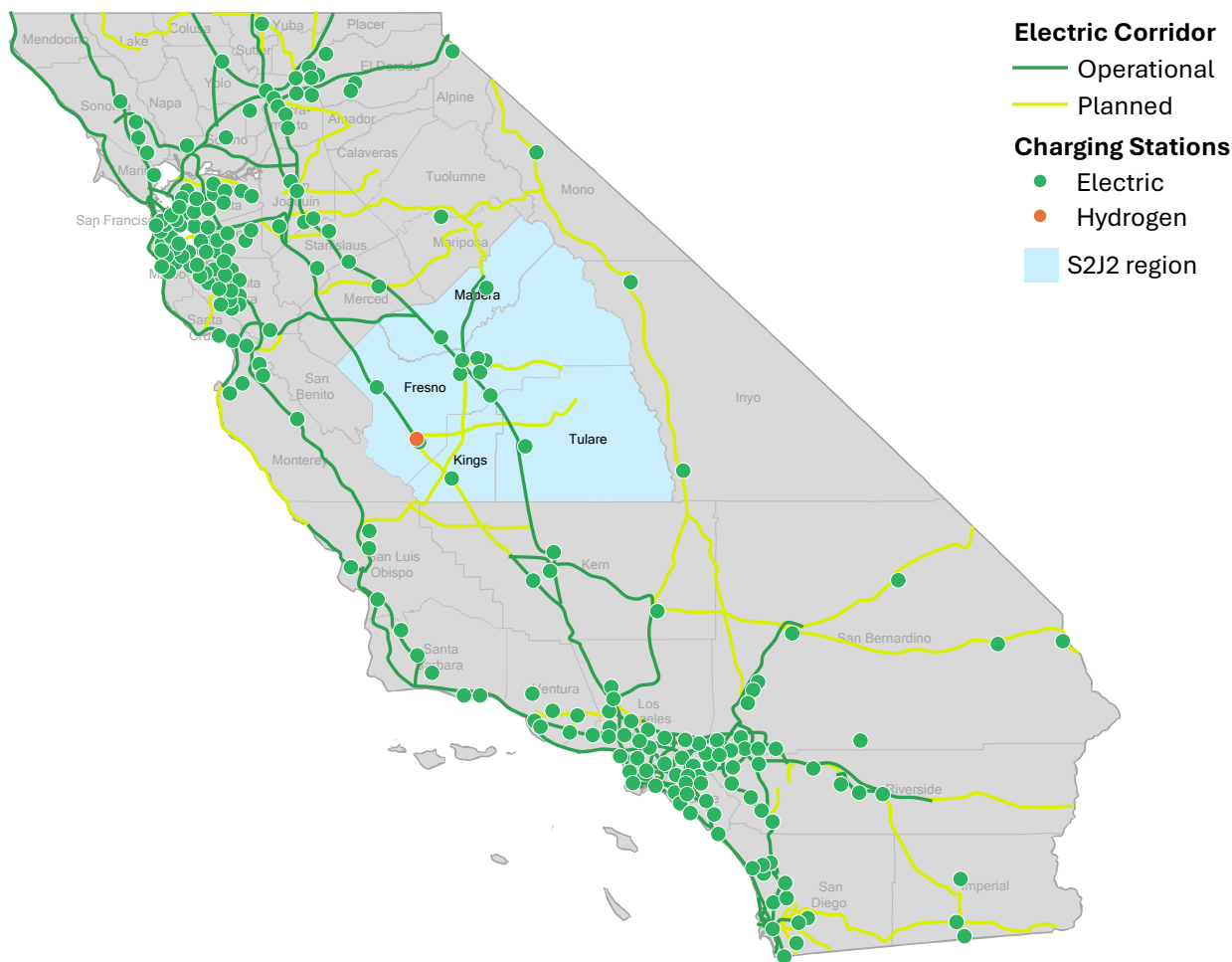
Table 8. Potential Stakeholder Groups and Organizational Partners by Investment Strategy Cont'd

Stakeholder Group	Organizational Partner/Human Resource	Strategy				
		1	2	3	4	5
Nonprofit	California Environmental Voters				✓	
	Fresno CDFI dba Access Plus Capital			✓		✓
	Community Services Employment Training	✓				
	Education and Leadership Foundation		✓			
	Central Valley Community Foundation (CVCF)		✓		✓	
	Jakara Movement				✓	
	Central California Asthma Collaborative				✓	
	Central Valley Opportunity Center	✓				
	Madera Coalition for Community Justice				✓	
	Proteus	✓	✓			
	Youth Leadership Institute				✓	
	CALSTART		✓	✓	✓	
	Career Nexus	✓				
	Fresno Food Security Network			✓		
	Southeast Asian Economic Development Coalition		✓			
	Fresno Center	✓				
	LEAP Institute				✓	
	Inspiration Transportation				✓	
	Valley Community Small Business Development Center		✓	✓	✓	
Education/ Workforce Dev. Organizations	California State University, Fresno	✓	✓	✓		
	Central San Joaquin Valley K –16 Partnership	✓				
	Central Valley Training Center	✓				
	Lyles Center for Innovation and Entrepreneurship		✓	✓	✓	✓
	Opportunity to Advance Sustainability, Innovation, and Social Inclusion (OASIS)		✓	✓		✓
	Office of Education of all 4-counties	✓	✓			
	Community Colleges of all 4-counties	✓	✓			
	Unified School Districts of all 4-counties	✓	✓			
Unions	National Latino Farmers and Ranchers				✓	
	Teamsters				✓	
	IBEW Local 100				✓	
	Fresno, Madera, Tulare, and Kings Counties Central Labor Council	✓	✓		✓	
	Fresno, Madera, Kings & Tulare Counties Building and Construction Trades Council		✓		✓	
	Northern California Carpenters Union				✓	
	Communications Workers of America				✓	

Appendix D: Current Infrastructure and Funding Landscape for EV Build-Out in California

The S2J2 region has one operational electric corridor running through the four counties, as well as several planned electric corridors located in and around the area. Electric charging stations are mainly clustered in Fresno County—also home to the region’s only hydrogen charging station. Figure 7 is a mapped overview of charging station locations in the S2J2 region.

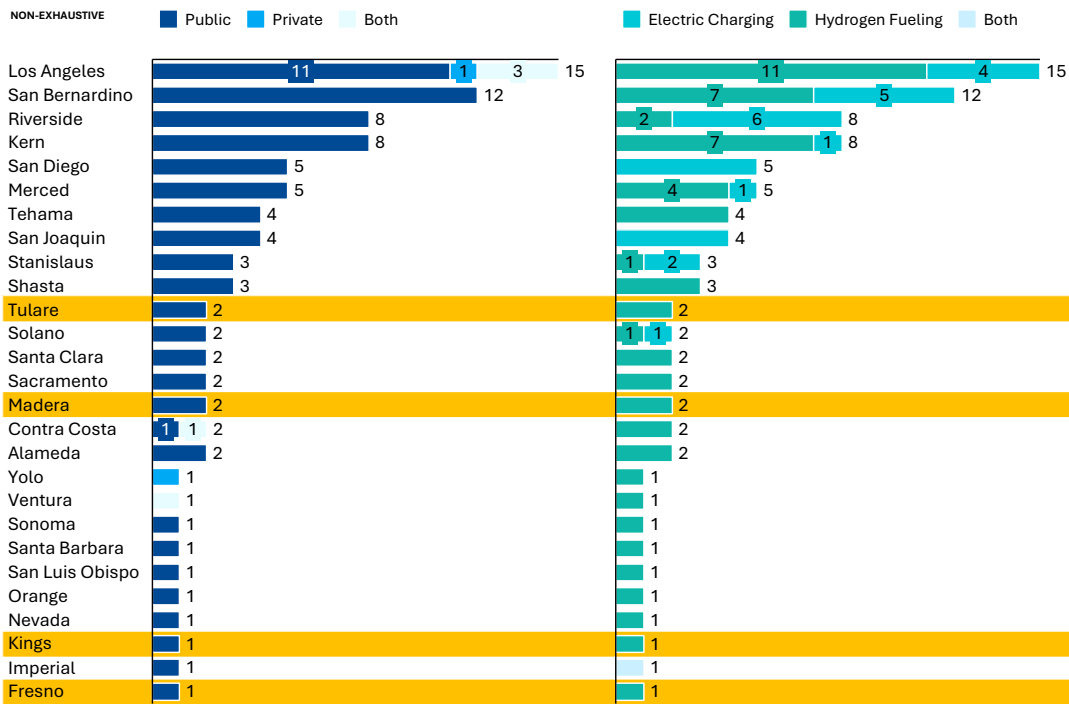
Figure 7. Electric Corridors and Charging Stations in California and S2J2, 2023



Source: [U.S. Department of Energy Alternative Fuels Data Center](#) (accessed 07/2024)

Figure 8 details the specific number of charging stations for various counties in California, including available access and fuel resource.

Figure 8. Charging Stations by Access and Resource in California

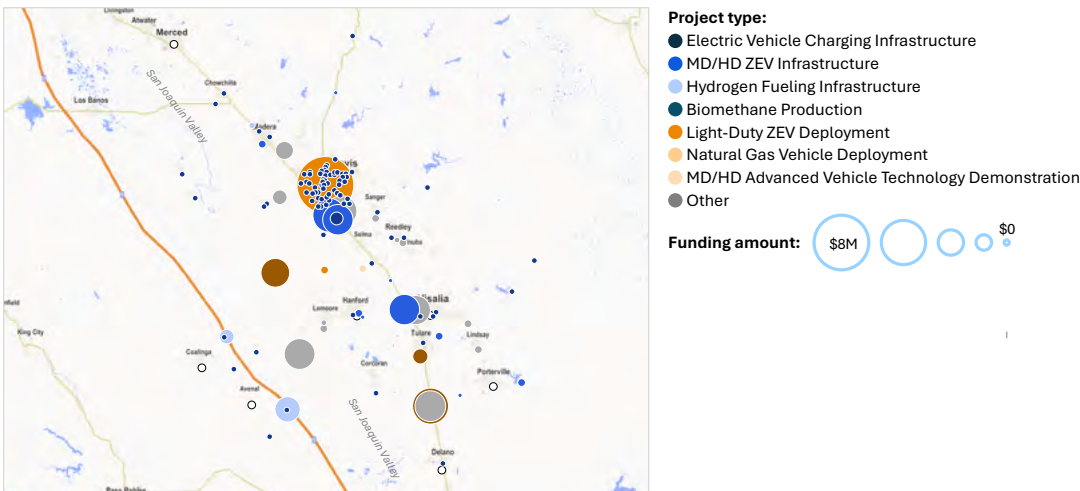


Source: [Senate Bill 671 Appendix 3](#) (updated 12/2023)

About 5% (\$100 million) of the California Energy Commission’s funding has gone toward EV projects in the four-county region (Figure 9). The four-county region has received \$100 million of \$2 billion in total state funding for EV infrastructure and fuel projects. Fresno County has seen the most investment of all four counties (60%), most of which has gone toward infrastructure for electric vehicle charging (n=143).

Figure 9. Allocation of the California Energy Commission’s EV Project Funding

Map of 4-county region by EV project types and funding amount



Appendix E: Strategy-Specific Barriers

As discussed above, the strategies outlined in Section 2 have been developed to address the following barriers that the S2J2 region could face in efforts to deliver on the vision for Fleet Transition. As outlined below, the S2J2 region will continue efforts to mitigate these barriers.

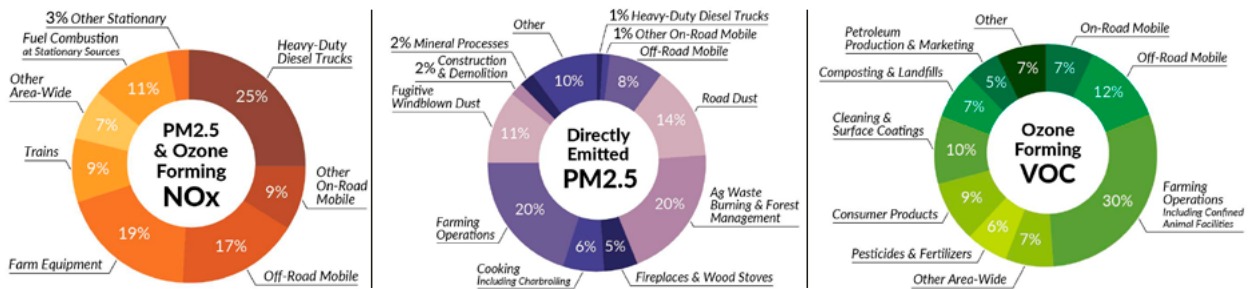
Table 9. Strategy-Specific Barriers

Strategies	Barriers
Strategy A Build on skilled workforce capabilities to meet the needs of clean energy and fuels development	- Many community members have a language barrier. - Community members are not aware of the kind and number of jobs that may be available. - Current programs are insufficient.
Strategy B Support locally based fleets in ZEV transition	- An entity or funding-and-coordinating body that could support work and research related to the ZEV transition has not been identified. - The necessary infrastructure, human resources, technological expertise, and knowledge—particularly at the regional/subregional level—are not yet in place for streamlining the permitting process. - Many businesses do not understand what is needed and may not be included in conversations about the ZEV transition. - Skepticism about the ZEV transition may delay adoption of M/HD ZEVs in locally based fleets, despite widespread awareness of the detrimental health impacts of air pollution from transportation. - The economics and logistics of ZEV vary widely across fleet use cases.
Strategy C Identify opportunities for new and existing local businesses to thrive in the ZEV transition	- Many are not aware of potential new business opportunities, especially in disadvantaged communities (DACs). - Access to capital and other necessary resources to invest and succeed is limited, especially in DACs. - Local businesses may lack the expertise or certification required to meet the technical and safety standards of ZEV and infrastructure projects.
Strategy D Increase access to clean, affordable, reliable, safe (CARS) personal transportation options for everyone	- Inexpensive, reliable personal transportation is a top priority for low-income residents, some of whom face a language barrier. - Older conventional vehicles that no longer meet California's emissions standards (e.g. cannot "pass Smog") and cannot be registered, are common in the region due to their low cost. They contribute disproportionately to regional air pollution. - Funding and knowledge gaps among school administrators about the long-term benefits and operational requirements of electric school buses.
Strategy E Enable timely, cost-effective build-out of ZEV charging infrastructure	- PG&E lacks the funding and capacity to build needed grid upgrades. - ZEVs and chargers are high-tech equipment that require a specific skill set to construct and maintain. - Charging infrastructure is not available at the right intervals.

Appendix F: Sources of Emission Affecting Air Quality in San Joaquin Valley Air Pollution Control District (8-County Region)

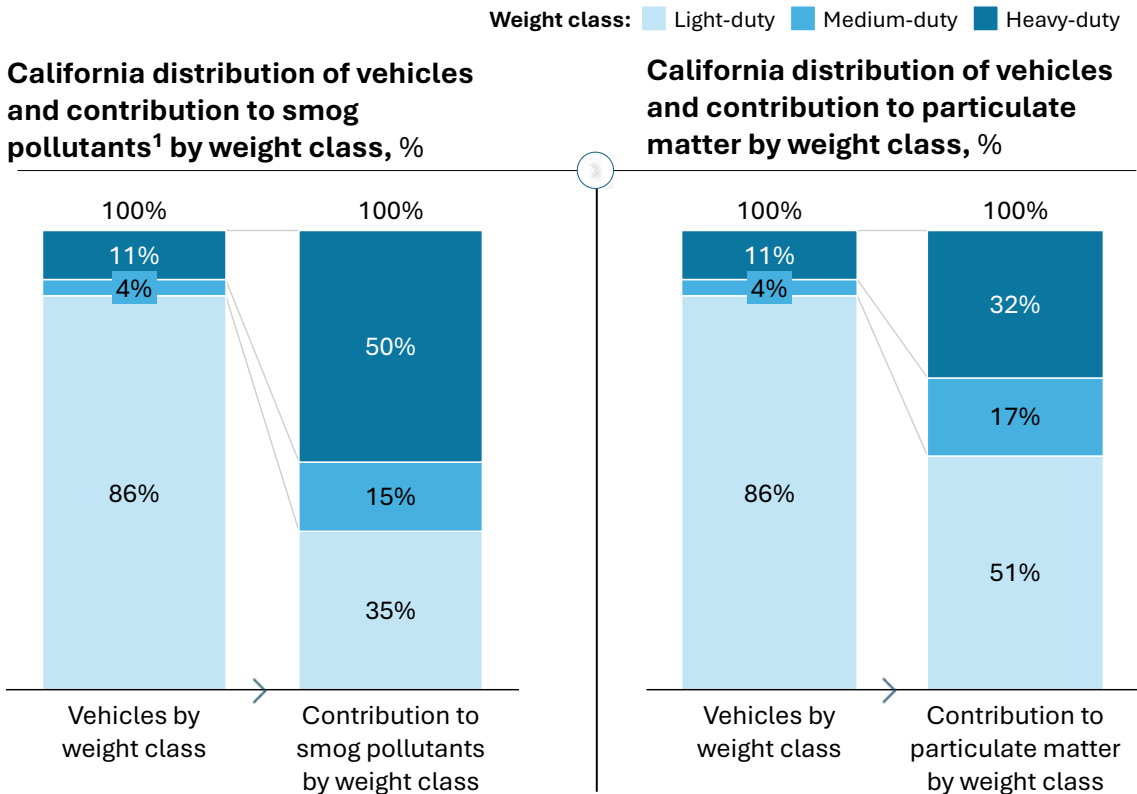
Air pollution in the San Joaquin Valley (SJV) is generated by various sources (e.g., industrial facilities, vehicles, and consumer products). The figures below break down the sources of emissions affecting air quality (e.g., particulate matters, nitrogen oxides, volatile organic compounds) in the 8-county SJV region.

Figure 10. Sources of Emissions Affecting Air Quality in the San Joaquin Valley



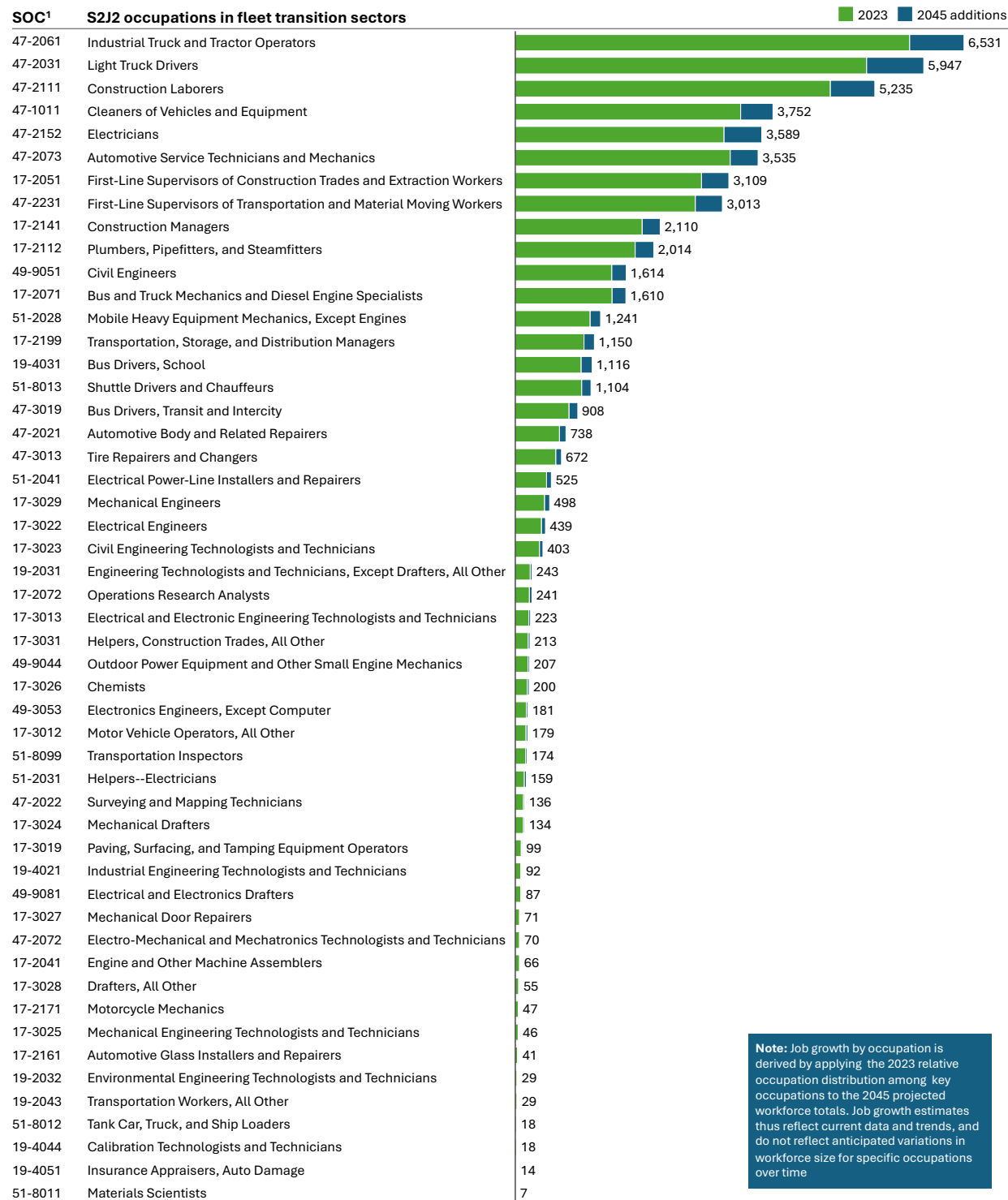
Source: San Joaquin Valley Air Pollution Control District (2023), California Air Resources Board (2023)

Figure 11. State Breakdown of Vehicle Weight Classes and their Emissions Contribution



1. Organic gases, Sulphur oxides, Nitrous oxides
Source: California Air Resources Board (2017), [California Air Resources Board Large Entity Fleet Reporting](#), California Department of Motor Vehicles

Appendix G: Occupation Breakdown Included in Fleet Transition Workforce



1. Standard occupation classification

Source: Lightcast – Labor Market Analytics Data (2023), NREL California's Clean Energy Jobs Potential (2020), UC Berkeley's Environmental and Economic Benefits of Building Solar in California (2014), Employment Estimates in the Energy Sector (2015), U.S. Energy & Employment Jobs Report (2023), IMPLAN (RAND toolkit), NREL California's Clean Energy Jobs Potential (2020), Energy Policy Institute's Employment Estimates in the Energy Sector (2015)



Nature-Based Climate Solutions

Industry Clusters



Industry Clusters

Nature-Based Climate Solutions

1 Problem Statement, Opportunity, and Vision

Global warming and the results of relentless climate extremes (including wildfire, extreme heat, drought, water pollution, and tree mortality) are straining communities across the world. Over the past 40 years, California itself has experienced ~50 climate disasters, with losses totaling more than \$50 billion.¹ In the Sierra San Joaquin Jobs (S2J2) region, urban and rural communities are suffering from long-term, pervasive environmental degradation. In addition to decarbonization investments, these challenges require proactive planning and implementation of nature-based solutions that: 1) use land conservation practices that generate new economic opportunities, especially for disadvantaged communities, and 2) harness nature to address our region's disproportionate environmental health burdens.

California has also recognized the importance of nature-based solutions in its ambition to achieve carbon neutrality by 2045.² The State has set natural and working land targets for nature-based solutions³ and invested \$9.6 billion dollars since 2020.⁴ Through nature-based solutions, the region expects to meet 30% of its emission reduction goals.

The S2J2 region borrows from California's definition of nature-based solutions: Nature-based Solutions (NbS) harness the power of nature to remove and store carbon from the atmosphere, act as a buffer against climate impact, and build resilience to future climate-driven extremes. The S2J2 region plans to leverage existing NbS efforts to continue this important work and contribute to state goals, enhancing and stewarding ~142,000 acres and sequestering and drawing down ~5M metric tons of CO₂e⁵. Figure 1 illustrates some example solutions for different landscapes, and Table 1 offers a description of the example solutions.

- 1 National Centers for Environmental Information
- 2 <https://ww2.arb.ca.gov/our-work/programs/ab-32-climate-change-scoping-plan>
- 3 California's Nature-Based Solutions Climate Targets
- 4 California Natural Resources Agency
- 5 CO₂e = carbon dioxide equivalent

Figure 1. Examples of Nature-Based Solutions

Conservation of and carbon-farming practices for working landscapes

Hedgerows



Cover crops



Prescriptive grazing



Stewardship of forests

Forestland treatment



Cultural and prescriptive burning



Nature-based solutions for urban landscapes

Urban greening



Water conservation (e.g., greywater systems)



Urban wetlands remediation (e.g., rain gardens)



Nature-based solutions for other landscapes

Re-greening of dry watersheds



On-farm recharge



Oak woodland restoration



Conservation easement protection



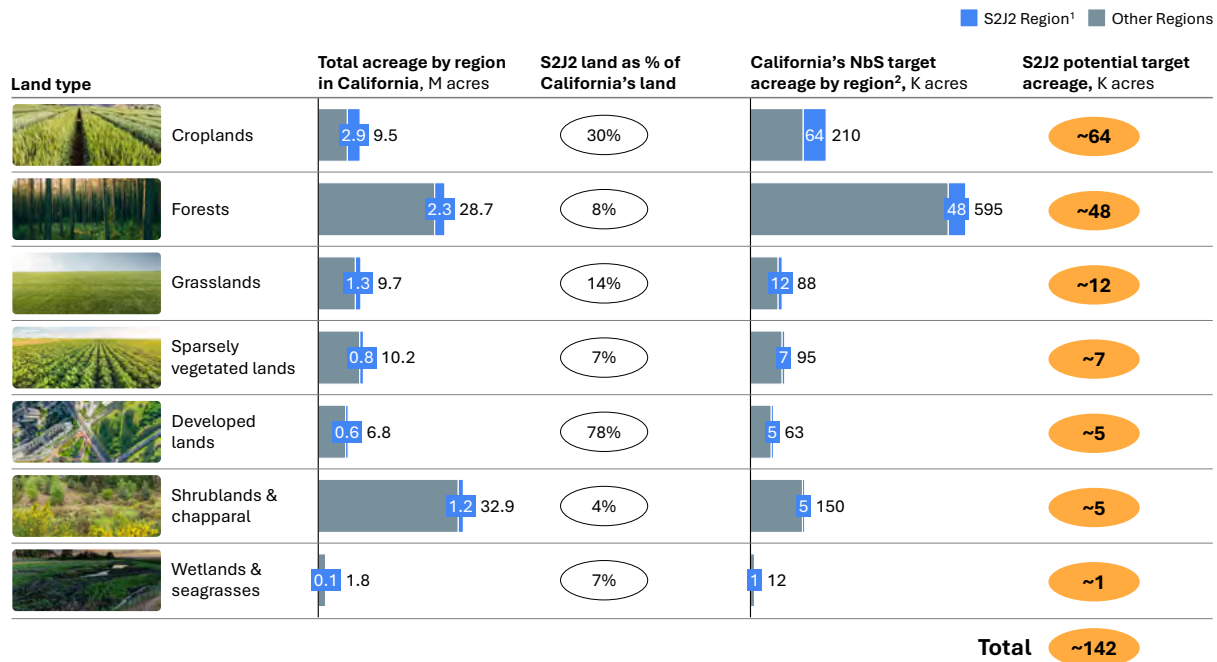
Table 1. Description of Example Nature-Based Solutions

Nature-based Solution	Description
Hedgerows	Rows of shrubs or trees planted along the boundaries of agricultural fields serving as natural fencing and supporting local wildlife and ecosystems.
Cover crops	Crops planted to protect soil and other crops rather than for harvesting.
Prescriptive grazing	Controlled harvest of vegetation with grazing or browsing animals to improve plant, water, and soil health.
Forestland treatment	Planned intervention in a forest ecosystem to improve forest health.
Cultural and prescriptive burning	Planned and controlled uses of fire to help reduce risk of wildfire and promote ecological diversity.
Urban greening	The incorporation of vegetation into urban areas.
Water conservation (e.g., greywater systems)	Water conservation techniques, including reusing water from showers, sinks, etc. for irrigation.
Urban wetlands remediation	The restoration of wetlands in urban areas to improve water quality, protect against floods, act as a carbon sink, and improve biodiversity.
Restoring function to watersheds	Restore native vegetation to improve health and quality of watershed.
On-farm recharge	Water management practice where surplus surface water is intentionally applied to agricultural fields to replenish underground aquifers.
Oak woodland restoration	Restoring oak woodlands.
Conservation easement protection	A voluntary agreement between a landowner and a qualified organization (such as a land trust or government agency) to permanently limit development on the land.

Vision and Opportunity: Figure 2 illustrates how the S2J2 region can significantly contribute to meeting California’s targeted acreage goals for nature-based solutions (NbS). *The region aims to enhance and steward ~142,000 acres across the region’s seven land types. The acreage represented here is one portion of the total acreage in the S2J2 region that can be designated for NbS conservation.* One Water’s comprehensive approach (e.g., returning marginal farmland to historic flood plain, recharging aquifers adjacent to DAC communities, and restoring land area with a high potential to generate improved biodiversity) captures key Nature-based Solutions with significant anticipated impact for land conservation and CO2 equivalent drawdown in the S2J2 region. See the ‘One Water’ investment plan for further details.

Figure 2. S2J2's Acreage Type and Potential to Meet California's NbS Targeted Acreage Goals

Disclaimer: Preliminary data from Department of Conservation. Additional verification and rounding required prior to publishing.



1. S2J2 region encompasses the four-county region of Fresno, Madera, Kings, and Tulare counties

2. By proportion of S2J2 region's land to California's land

Source: California Department of Conservation Mapping Tool (accessed 06/2024), [California's Nature-based solutions climate targets as required by Assembly Bill 1757 \(2022, C. Garcia\)](#)

The NbS workgroup recognizes that the S2J2 region faces additional climate-related challenges that may affect desired outcomes. These challenges include:

- Increased loss of wetlands and riparian (i.e., adjacent to wetlands) areas
- Declining biodiversity
- Insufficient groundwater recharge and water recycling
- Multiple urban heat islands (i.e., urban areas that experience higher temperatures due to heat trapping) and expansive urban sprawl⁶
- Poor air quality due to particulate matter (PM) and ozone nonattainment,⁷ nitrogen oxides (NOx), and methane emissions
- Depleted soil health
- High agricultural pollution
- Ineffective flood control
- Limited access to information and education

Although all these challenges cannot be addressed through this investment plan, the S2J2 region hopes to set the foundation for additional resources and investment to continue the important work of conservation and restoration to combat climate change.

⁶ <https://www.urban.org/research/publication/patterns-sprawl-fresno-and-central-san-joaquin-valley>

⁷ An area that does that meet or contributes to a nearby area that does not meet the national primary or secondary ambient air quality standard. Source: US EPA

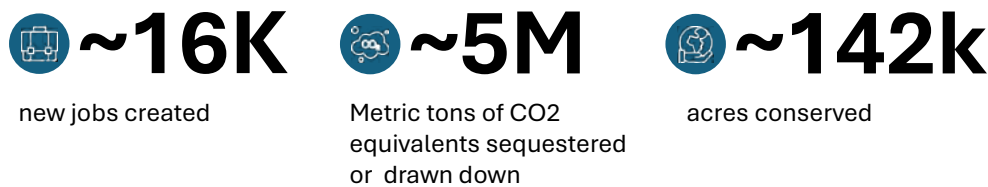
2 Investment Strategies

The S2J2 region has developed the following investment strategies to facilitate and leverage nature-based solutions in the region:

- A. Assess investment approaches based on various land cover types
- B. Implement integrated water management and sustainability programs
- C. Begin biomass utilization by using renewable organic material from plants and animals to produce biofuels, natural products, and other sustainable materials
- D. Promote sustainable tourism (including eco- and agri-tourism) to educate the public, support local economies, and enhance and steward land
- E. Encourage corporate social responsibility
- F. Integrate hazard- and disaster-planning and implementation into climate resiliency efforts

Through the six key investment strategies outlined above, the S2J2 region aims to bring a variety of benefits to the region, with key impacts highlighted in Figure 3.

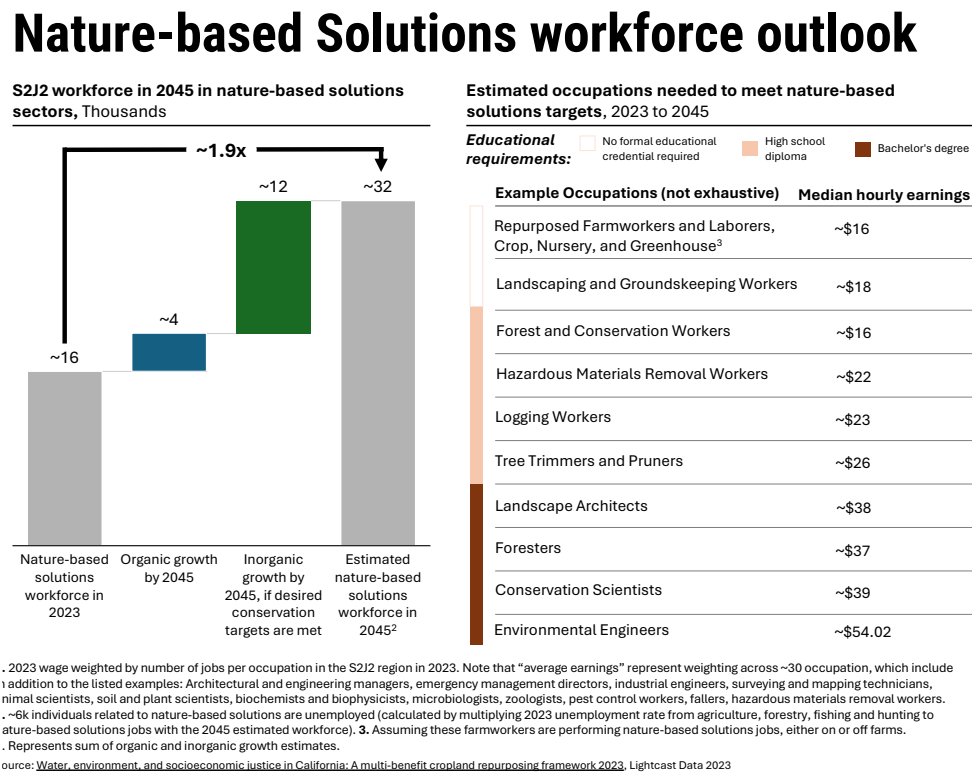
Figure 3. Key Nature-Based Solutions Impacts on the S2J2 Region



Source: [Water, environment, and socioeconomic justice in California: A multi-benefit cropland repurposing framework 2023](#), [California's Full Natural and Working Lands Climate Targets](#)

The implementation of nature-based solutions can create a substantial number of jobs. There may be an estimated increase of approximately 16,000 jobs across ~30 occupations with average earnings of \$21/hour in the S2J2 region's NbS sector by 2045 (Appendix E: Occupations Included in Nature-based Solutions Workforce). Harnessing this opportunity will require investment into and mobilization of workforce development. See the Education and Skill-Building Investment Plan for more detail.

Figure 4. Estimated Increase in S2J2 Nature-Based Solutions Workforce by 2045.



~16k⁴

Workers may be required for nature-based solutions in the 4-county region by 2045.

Note: Active participation likely required to ensure a significant portion of jobs remains in S2J2 community.

\$21¹

In average hourly earnings across ~30 occupations designated as nature-based solutions.

2.1 Strategy A: Assess Investment Approaches Based on Various Land Cover Types

The S2J2 region includes a suite of land-cover types, each with a distinct carbon sequestration capacity, biodiversity enhancement, and community well-being. Further, climate change is a priority for four-county residents; a regional survey conducted by Centro de Unidad Popular Benito Juarez found that 80% of respondents (n = 700) are worried about climate change and its impacts.⁸ Urban and rural communities, especially in disadvantaged areas, are particularly vulnerable to the adverse effects of climate change. Key issues include water scarcity, invasive species, lack of recreational spaces, limited funding for permanent conservation and restoration, and varying landowner willingness to repurpose. Implementing tailored solutions based on each land-cover type can promote ecological sustainability, enhance biodiversity, and improve overall quality of life for community members.

8 <https://s2j2initiative.org/>

Investment strategies are categorized based on land-cover type — forests and developed lands, croplands, wetlands, grasslands, shrublands, sparsely vegetated lands, water — and impact:

- **Promote urban forestry and greening.** S2J2 may plant trees at schools, churches, parks, and along roadways, as well as encourage green rooftops, living walls, and other vertical and high elevation greening to improve air quality, sequester carbon, mitigate the urban heat-island effect of higher temperatures on paved landscapes, and provide shade.
 - Invest in workforce training opportunities for forest management and in re-training workers in adjacent industries (e.g., agriculture, timber) for conservation jobs. This may include expanding programs like the Green Team Youth Ambassador Program, which provides disadvantaged community members with tree management skills and apprenticeships.⁹
- **Multi-Benefit Land Repurposing:** Transition land to new uses that recharge aquifers and benefit communities and ecosystems. This strategy can create restoration and stewardship jobs, enhance local employment opportunities in underserved communities (e.g., farmworkers), address farmland retirement due to groundwater scarcity, avoid the negative effects of fallowed land, and provide recreational and tourism opportunities.
 - Prioritize high risk areas for intervention, and keep pertinent stakeholders involved.
 - Enhance community engagement and education around the National Environmental Policy Act to build consensus and mitigate litigation risk.
 - Prioritize financial assistance for small farms to repurpose land and protect biodiversity when making the transition.
- **Construct and enhance existing wetlands for bioremediation** to improve water quality, flood control, water retention, and management of pollution from industrial and agricultural sources.
- **Implement grassland, shrublands, and sparsely vegetated land conservation** and restoration through actions such as restoring native plant communities, and implementing compost applications on grazed grasslands — a known and powerful carbon sequestration practice.

The S2J2 region may take the following immediate steps:

1. Continue to coordinate the community based organizations that participated in this analysis and facilitate the working group to develop more specific acreage figures and costs associated with treating these acres to establish a truly local, grassroots plan that will provide CBOs a collaborative multi-land cover type vision that spurs them to grow and achieve their collective missions and visions while supporting the state to meet its 1757 Natural and Working Lands Targets.
2. Create a **local data set** to track the status of S2J2 acreage treatments.

⁹ <https://fmbcc.com/green-team-youth-ambassadors-program/>

2.2 Strategy B: Implement Integrated Water Management and Sustainability Programs

The S2J2 region is currently contending with significant water constraints that include groundwater overdraft, and insufficient flood prevention measures. Existing floodplains require multi-faceted restoration to mitigate growing flood risks, improve water quality, support aquatic habitats, and enhance groundwater-recharge capabilities. This restoration will need to test the human health impacts of contaminated soil being used to recharge aquifers as part of a precursor measure that will define where recharge should and should not occur. Upper watershed areas also urgently need comprehensive stewardship to address the impact of climate change on forest and upland meadow health which defines water availability, timing, and quality for the Valley floor. Restoring hydrologic function in the four-county region occurs through restoring the upper watershed via forest stewardship, restoring flood plans along river systems, providing aquifer recharge buffer zones surrounding DACs, and increasing permeable surfaces and rain catchment in urban areas. In aggregate these measures will create critical greening impacts that will cool the landscape, provide recreation opportunities and solace for humans, habitat for all species, and long-term environmental health in the face of climate change. See the One Water Investment Plan for more information.

To enhance water management, the following may be implemented:

- **Improve water management to address groundwater overdraft and flood management.**
 - Invest in predictive monitoring to prevent groundwater overdraft.
 - Develop financing structures for disadvantaged communities to self-determine and acquire locations for local groundwater recharge (e.g., invest in Community Development Financial Institutions (CDFI) to develop a loan fund for land access).
 - Establish and promote sustainable water management practices in both urban and rural communities to ensure dependable water availability.
- Undertake **multi-benefit floodplain restoration** to reduce flood risk, restore endangered species, eradicate invasive species, sequester carbon, recharge groundwater, and provide recreational access.
 - Invest in soil testing practices to monitor and prevent soil degradation.
 - Discourage use of synthetic fertilizers, petrochemical herbicides, and pesticides to maintain soil quality.
 - Direct community-based organizations to lead technical assistance, including site surveying, and legal support such as crafting easements for disadvantaged communities.
- Enhance **upper watershed management** to build hydrologic health and function through cultural burning and thinning of underbrush and invasive plants.
 - Encourage expanded investment from the state in the existing integrated regional water management working group.

The S2J2 region may take the following immediate steps:

1. Implement a **unified coordination platform** to facilitate communication sharing and coordination across different “silos.”
2. Collaborate with local water agencies and community-based organizations to create a **repository of water-management-related funding sources** to expand water usage-reduction campaigns and progress toward a decrease in regional water demand.

2.3 Strategy C: Begin Biomass Utilization by Using Renewable Organic Material from Plants and Animals to Produce Sustainable and Innovative Materials

The S2J2 region faces damaging environmental and economic issues due to the underutilization of diverse streams of organic waste. Cost-effective solutions are needed to manage these waste streams and their negative side effects, as well as to support the growth and development of local businesses that can economically benefit from biomass. However, there are formidable challenges that must be addressed: the biomass industry is nascent; transport may result in more carbon emissions than are abated; biomethane facilities require a skilled workforce that is lacking; and communities surrounding them may be adversely affected. Supporting innovative biomass utilization methods in the region could address environmental concerns, bolster local economies, sequester carbon, replace fossil fuels, and provide high-road jobs.

To capture biomass’s potential for environmental sustainability and economic development in the S2J2 region, the following actions may be taken:

- **Select optimal industrial sites** near transport hubs and transmission lines for efficient biomass business operation. The region may consider repurposing suitable underutilized areas.
 - Incentivize fleets involved in biomass transportation to either use sustainable fuel or adopt electric vehicles (EV).
 - Develop siting and permitting guidelines to protect communities, in addition to a community benefits avenue, for communities to voice their needs that run parallel to permitting and siting during the planning and constructing process (see the Community Benefits Investment Plan).
 - Work with relevant California agencies (e.g., the Governor’s Office of Business and Economic Development, the California Energy Commission, and the California Workforce Development Board) to create a list of business development and siting incentives, as well as to obtain technical support.
- **Complete a biomass availability and feedstock analysis**, such as the Bioeconomy Development Opportunity Zone (BDO Zone) analysis.
 - Evaluate the gap in required workforce skills and existing training programs.
 - Work with academic institutions to create curriculum to develop the local workforce and build local expertise on bioenergy.

- **Support small businesses in composting** by developing more composting facilities and encouraging compost use on farms and croplands.
 - Encourage regulatory streamlining of barriers to entry for small businesses.
 - Lower access to capital for smaller farms and develop agro-ecological resources (i.e., publicly available documents, open office hours) to help navigate funding sources.
- **Collaborate with local governments** to encourage the use of regional waste for energy and to integrate biochar into municipal projects.

The S2J2 region may take the following immediate steps:

1. Identify and convene local educational institutions and business incubators that provide **seed funding and expert guidance to develop and grow composting, biochar, and other natural soil amendments and ground covers by local small businesses.**
2. Conduct a **comprehensive biomass availability and feedstock analysis** in the 4-county region to determine the potential market size for local biomass utilization and the subsequent opportunity size for potential market entrants, which will serve to attract and persuade S2J2 entrepreneurs to explore biomass utilization.

2.4 Strategy D: Promote Sustainable Tourism (including Eco- and Agri-Tourism) to Educate the Public, Support Local Economies, and Conserve Land

The S2J2 region's vision is to restore its hydrologic function, expand nature-based climate solutions broadly across land cover types while promoting responsible food systems (please see the Responsible Food Systems investment plan). The impact of this landscape level transformation further enhances the ability of the region to build a strong agri- and eco-tourism sector that supports local communities to have a highly improved quality of life while simultaneously creating a foundation that aligns with the goals of the State's new "Visit California" initiative.

To encourage sustainable tourism in the four-county region, the following may be undertaken:

- **Build greenbelts at the urban-rural nexus** of cities, and surrounding areas, by stabilizing urban-rural interfaces with urban forestry, agroecology, and natural habitats. This strategy would reduce emissions and support groundwater recharge.
 - Ensure funding covers project construction and maintenance through recurring funding streams.
- **Create outdoor education and natural resources programs** to educate youth about natural resources, and thus support career pathways in nature-based solutions.
- Encourage groups of working landowners to sustainably engage in agritourism via appropriate policy, infrastructure, and insurance, and **promote sustainable tourism** to educate the public, support local economies, and conserve land. This strategy will increase travel to farms or natural areas and encourage nature education.

The S2J2 region may take the following immediate steps:

1. Work with trusted community partners (e.g., local community leaders) to advocate for the **expansion of local government funding for youth-centered outdoor education and natural resource programs.**
2. **Quantify the need for local tree coverage within the 4-county region** and prioritize areas with high-population density, and a lack of existing coverage, to plant native tree species.

2.5 Strategy E: Encourage Corporate Social Responsibility and Voluntary Ecosystem Service

The ecological debts that exist within the region's soil and water have generated daily lived experience challenges for the human communities that are exposed to these indebted systems. However, these ecological conditions within the S2J2 region provide a significant opportunity for nature-based climate solutions investors who are committed to seeing their dollars returned in ecosystem service metrics, and/or delivered via a suite of new, successful regenerative micro-enterprises that prioritize land stewardship as the core of their business model. An example of how the community is experiencing the ecological conditions of the region: in a Tulare County survey, (n = 226) 74 people, accounting for 33% of respondents, reported that climate change is the biggest threat to their line of work.¹⁰ In a similar survey by Familias Empoderadas Del Valle Central, 69% of respondents (n = 104) answered similarly, saying that climate change is the biggest issue that will affect their work.

Work with Nature Based Solutions investments to undertake the following:

- Design green **infrastructure projects** to meet conservation goals and support regional development. Projects involving homes, high-speed rail, renewable energy, and more could incorporate nature-based solutions. These projects can include private-public partnerships facilitated through Requests for Proposals (RFPs).
 - Enforce business transparency through mandated reporting processes for businesses producing over a target level of emissions.
- **Commit capital to conservation investments** that promote long-term planning for mitigating developers' impact on habitats and farmland.
 - Disincentivize extractive business activities (e.g., empower advocacy of local CBOs to modify county wide plans, housing elements, and other county planning documents to ensure projects that externalize environmental costs cannot be implemented).
 - Encourage community members to advocate for large companies to adopt practices that benefit the region's natural resources and environment.
- **Engage with voluntary carbon markets and ecosystem service credit developers** to connect emission-reduction and removal credit buyers to sellers who can economically benefit.
- **Offer support and long-term capital to microenterprises and small businesses** that are exploring entrepreneurial avenues to restore land-cover types that produce cultural material (natural medicine, scents, natural dyes, etc.).
 - Build incentives (e.g., tax credits, rebates) for businesses that adopt or implement nature-based solutions.

¹⁰ <https://s2j2initiative.org/>

The S2J2 region may take the following immediate steps:

1. Work with the S2J2 region at the county jurisdictional level to ensure inclusion of nature-based climate solutions within infrastructure development projects
2. Develop a qualitative and quantitative inventory of nature-based solutions projects from CBOs in the community to provide to the new NbS investment pools.
3. **Measure the potential economic impact** (e.g., on employment, number of new businesses) **of a statewide tax credit for businesses that implement nature-based solutions in the S2J2 region.**

2.6 Strategy F: Integrate Hazard- and Disaster-Planning and Implementation into Climate Resiliency Efforts

The S2J2 region faces an increasing threat from climate-induced hazards and disasters. These hazards pose an immediate risk to the lives of residents and the preservation of property, as well as a long-term risk to economic stability and quality of life. The lack of integrated hazard- and disaster-planning exacerbates the vulnerability of urban and rural areas, leaving communities unprepared for both immediate responses and long-term recovery. The absence of consistent community involvement in hazard or disaster planning aggravates the situation. By implementing proactive disaster planning and climate resiliency initiatives, S2J2's most vulnerable populations and critical infrastructure would be protected.

To enhance hazard-and-disaster-planning mitigation, the following may be implemented:

- **Implement reforestation and afforestation projects** to stabilize soil, reduce runoff, and create natural firebreaks to mitigate wildfire risks.
- **Restore wetlands and riparian zones** to enhance flood control.
- **Adopt regenerative agricultural practices** to improve soil health, enhance water retention, and reduce the risk of drought or erosion.
- **Establish green infrastructure**, such as urban green spaces and roofs, to absorb stormwater and reduce heat islands.

The S2J2 region may take the following immediate steps:

1. **Provide avenues** (e.g., regional tables) **for community input that are accessible** (e.g., language services, varied meeting times, technological assistance, dial-ins).
2. **Identify the areas** within the 4-county region **that are most at-risk for natural disasters and are most economically vulnerable** to hold town halls that bridge the communication gap between disadvantaged communities and local policymakers, and focus disaster-planning funding to disaster-prevention in those areas.

2.7 Additional Cross-Strategy Considerations

The NbS investment strategies offer opportunity to increase **economic diversification and resilience** through the following:

- Increase climate change mitigation knowledge through youth-led education on native, drought-tolerant gardens and tree planting.
- Transform croplands to support habitat connectivity, groundwater recharge, and carbon sequestration.
- Utilize upper watershed areas for biomass, lumber, biofuels, and carbon markets.
- Deploy water reclamation and gray water systems on farms to enable multi-use landscapes and improve water efficiency.
- Convert floodplains into revenue-generating parks with conservation areas to enhance ecotourism.
- Increase stable jobs in sustainable fuel production for workers transitioning out of the fossil fuel industry.
- Leverage natural attractions and agriculture to increase visitor spending and generate a higher tax revenue base.
- Increase in infrastructure projects that incorporate nature-based solutions.
- Expand diversified cropping in the local agricultural sector.

Additionally, the NbS investment strategies align with other opportunities for **workforce development and alignment with job quality and access, equity, and climate priorities**, including:

- Invest in urban forestry programs to equip the local workforce with the right skills in climate change mitigation and biodiversity enhancement, ensuring job readiness in forestry.
- Fund scholarship programs focused on invasive species management, providing the education and hand-on-experience to advance ecological restoration efforts.
- Expand access to disaster planning and mitigation training in underserved communities to enhance local employment opportunities.
- Implement training and certification programs in water management and conservation to increase familiarity with water-efficient practices and technologies.
- Incorporate data-based planning into educational curricula to build on workforce technical skills.
- Promote multibenefit cropland restoration projects that include vocational training opportunities to create a pipeline for local employment in habitat restoration.
- Support access to and preparation for the ISA Arborist exam.
- Designate multiple Urban Forester positions within local government to retain a local knowledge base.

Lastly, NbS **aligns with state strategies** through the following:

California's climate goals under SB 1383 for the diversion of food waste into healthy compost are made accessible to low-income communities of color.¹¹

- California's Climate Catalyst Fund offers a range of financial instruments to help bridge the financing gap currently preventing advanced technologies from scaling into the marketplace. They have prioritized forest and ag waste biomass utilization, clean energy, and new agricultural technologies to support climate resilience in our food system.¹²
- California's Urban and Community Forestry Grant Program supports urban communities in ensuring equitable access to trees.¹³
- California Natural Resources Agency's Outdoors for All¹⁴ aims to expand parks and outdoor spaces in communities that need them most.
- California Natural Resources Agency's recreation-based programs,¹⁵ including the Division of Boating and Waterways, Off-Highway Motor Vehicle Recreation division (OHMVR), Office of Historic Preservation.
- California Department of Food and Agriculture's Healthy Soils Block Grant Program promotes the development of healthy soils on California's farmlands and ranchlands.¹⁶
- The Department of Conservation runs several grant programs focused on natural and working lands:
 - The California Farmland Conservancy Program¹⁷ protects agricultural lands under threat of conversion to nonagricultural uses through the acquisition of voluntary, permanent agricultural conservation easements.
 - The Agricultural Land Mitigation Program¹⁸ provides grant funding for the purchase of agricultural conservation easements on farmland within Fresno, Madera, Merced, Kern, Kings, or Tulare counties.
 - The Sustainable Agricultural Lands Conservation Program¹⁹ funds awardees to develop plans to protect agricultural lands or to conserve such lands directly by acquiring agricultural conservation easements or purchasing land outright for conservation.
 - The Multibenefit Land Repurposing Program²⁰ identifies shared resilient landscape solutions for California's uncertain groundwater future.
 - The Forest Biomass to Carbon Negative Biofuels Program²¹ funded 8 pilot projects using biomass byproducts from forest health management activities to make carbon-negative biofuels.
- California's 30x30 Initiative established a state goal of conserving 30 percent of California's lands and coastal waters by 2030.²²

11 <https://www.caclimateinvestments.ca.gov/sb-1383-grants>

12 <https://www.ibank.ca.gov/climate-financing/climate-catalyst-program/>

13 <https://www.fire.ca.gov/what-we-do/grants/urban-and-community-forestry-grants>

14 <https://resources.ca.gov/Initiatives/Access-for-All>

15 https://www.parks.ca.gov/?page_id=30068

16 <https://www.cdfa.ca.gov/oefi/healthysouls/BlockGrantProgram.html>

17 <https://www.conservation.ca.gov/dlrp/grant-programs/cfcp>

18 <https://www.conservation.ca.gov/dlrp/grant-programs/mitigation/Pages/AgLandMitigationHSR4.aspx>

19 <https://www.conservation.ca.gov/dlrp/grant-programs/SALCP>

20 <https://www.conservation.ca.gov/dlrp/grant-programs/Pages/Multibenefit-Land-Repurposing-Program.aspx>

21 <https://www.conservation.ca.gov/cgs/fbp>

22 <https://www.californianature.ca.gov/>

- The California Climate Change Scoping Plan includes a collection of “technologically feasible and cost effective” policies to set California on a path to achieve carbon neutrality by 2045.²³
- The California Public Utilities Program (CPUC) established biomethane targets in 2022 for investor-owned gas purveyors.²⁴ The short-term 2025 biomethane procurement target is 17.6B cubic feet of biomethane, and the medium-term 2030 target is 72.8B cubic feet per year, reflecting approximately 12 percent of current residential and small business gas usage in 2020.
- California’s Priority Climate Action Plan,²⁵ submitted to the USEPA in early 2024, identifies bioenergy as a core strategy for moving the state toward climate resilience.
- The California Climate Adaptation Strategy is updated by the California Natural Resources Agency and Strategic Growth Council every three years under Assembly Bill 1482, enacted in 2015. New versions build on California’s first Climate Adaptation Strategy published in 2009.²⁶
- California Department of Food and Agriculture’s Farm to Fork Program supports growers to find markets within CA’s \$1.2B school lunch procurement program.²⁷
- California Department of Food and Agriculture’s State Water Efficiency and Enhancement Program (SWEEP) provides financial assistance, in the form of grants, to implement irrigation systems that reduce greenhouse gasses and save water on California agricultural operations.²⁸
- The Sustainable Groundwater Management Act (SGMA) was passed to protect and restore groundwater resources throughout California.²⁹

3 Potential Investment Required and Funding Sources

Deploying nature-based solutions in the S2J2 region could require a **total investment of ~\$2.1B by 2045**, composed of ~\$0.5B initial start-up funding, ~\$0.7B public capital investments, and ~\$0.9B of additional private investment required to achieve the region’s vision. See the Clean Energy and Fuels Investment Plan for more information on funding types. To implement the investment strategies for nature-based solutions, the S2J2 region must apply for and secure public and private funding (e.g., government programs, formal financing, informal financing, entrepreneurial financing, and philanthropic contributions). Further details are outlined in Appendix B: Potential Funding Sources.

Table 2 details potential funding sources, sample activities, and costs for each investment strategy. Note that the list of potential funding sources is not exhaustive; for a more complete list, see Appendix B. Please note that the list of funding sources may not be exhaustive.

23 <https://ww2.arb.ca.gov/our-work/programs/ab-32-climate-change-scoping-plan>

24 <https://www.cpuc.ca.gov/news-and-updates/all-news/cpuc-sets-biomethane-targets-for-utilities>

25 https://ww2.arb.ca.gov/sites/default/files/2024-03/California%20CPRG%20Priority%20Climate%20Action%20Plan%202024%20March%201_0.pdf

26 <https://climateresilience.ca.gov/>

27 <https://cafarmtofork.cdfa.ca.gov/CaFarmtoSchoolProgram.htm>

28 <https://www.cdfa.ca.gov/oefi/sweep/>

29 <https://water.ca.gov/programs/groundwater-management/sgma-groundwater-management>

Table 2. Potential Funding Sources by Strategy

Strategy	Potential Funding Sources	Total Investment Required	Rationale
Strategy A Assess investment approaches based on various land cover types	1. Infrastructure State Revolving Fund (ISRF) Program	~\$657M (~\$100M start-up costs, \$257M public capital investments, ~\$300M additional private capital)	Costs include urban green spaces development, land acquisition, planting materials, labor for installation and maintenance, drought-tolerant crops, sustainable farming practices, ecosystem restoration and maintenance, natural agent procurement, invasive species control, intervention impact monitoring/evaluations, wetland restoration, biofiltration species, water management infrastructure, partnership development, prescribed burning, grassland restoration, and fuel reduction efforts to reduce wildfire risks.
Strategy B Integrated water management and sustainability	1. Conservation Innovation Grants (CIG) 2. California Conservation Corps Grants 3. California Small Agricultural Business Drought and Flood Relief Grant Program (Governor's Office of Business and Economic Development [GO-Biz])	See One Water Chapter for details	
Strategy C Begin biomass utilization by using renewable organic material from plants and animals to produce biofuels, natural products, and other sustainable materials	1. Climate Catalyst Fund 2. California Farmland Conservancy Program (CA Dept. of Food and AG)	~\$1.4B (~\$357M start-up costs, \$500M public capital investments, ~\$570M additional private capital)	Costs include scaling of small business operations in sustainable waste management, utilizing available biofuel feedstock, aligning with biofuel technologies, infrastructure to process and transport compost, application of feedstock inputs, establishing a collaborative group to advance the regional bioeconomy, and offering support to businesses to navigate regulations, markets, sourcing, and networking in the bioeconomy.
Strategy D Promote sustainable tourism (include eco and agritourism) to educate the public, support local economies, and conserve land	1. Outdoors For All (California Natural Resources Agency) 2. Sustainable Ag Lands Conservation Program (Strategic Growth Council, CA Dept. of Conservation [DOC])	~\$39M (~\$6M start-up costs, \$18M public capital investments, ~\$15M additional private capital)	Costs include green space development, educational programs that promote natural resource stewardship, landowner assistance for sustainable agritourism, enhanced visitor experiences, sustainable tourism practices in national parks and forest areas, and green roofs to aid in urban cooling, support local gardening, and enhance urban greening.

Table 2. Potential Funding Sources by Strategy Cont'd

Strategy	Potential Funding Sources	Total Investment Required	Rationale
Strategy E Encourage corporate social responsibility and investments in voluntary ecosystem service	1. Symbiosis – Google, Meta, Microsoft, Salesforce 2. Community and Economic Enhancement Grant Program – Proposition 68 (Sacramento-San Joaquin Delta Conservancy)	~\$1M (~\$200K start-up costs, \$450K public capital investments, ~\$350K additional private capital)	Costs include research, pilot projects, diversified cropping systems on repurposed agricultural land, conservation projects, market analysis, certification, and setup to trade carbon credits and ecosystem services, business technical assistance, zero-interest loans, and disaster mitigation strategies such as floodplain restoration and forest management.
Strategy F Integrate hazard- and disaster-planning and implementation into climate resiliency efforts	1. Hazard Mitigation Grant Program (HMGP) (Federal Emergency Management Agency (FEMA))	<i>Initiatives included in Strategy A</i>	

4 Stakeholder Map

Realizing the potential of nature-based solutions in the S2J2 region requires coordinated collaboration among key stakeholders – such as the government, industry partners, utilities, educational institutions, workforce development organizations, nonprofits, and unions. Government entities and tribes develop regulatory frameworks that support the establishment of carbon sinks and the improvement of air quality. Industry partners drive sustainable initiatives such as biomass utilization and embrace corporate responsibility standards to advance a green market. Utilities are essential to effectively managing water resources and facilitate the development of wetlands for bioremediation. Educational institutions and workforce development organizations equip the workforce with the necessary skills to run sustainable initiatives, while nonprofits promote eco- and agri-tourism. Unions ensure fair wages and safe working conditions in addition to advocating for labor rights in green jobs. Collectively, all key stakeholders are integral to achieving the region's objectives for nature-based solutions. Available and committed stakeholders for nature-based solutions in the four-county region are outlined in Appendix C. Please note that the list of stakeholders may not be exhaustive.

As the S2J2 region progresses with nature-based solutions, gaps in stakeholder engagement and resource allocation must be addressed for effective implementation. A significant issue in coordinating NbS efforts across the region is the lack of an oversight organization. **Establishing a dedicated NbS coordinating body could streamline project management and enhance stakeholder collaboration.** This coordinating body would require skilled staff and reliable funding, possibly secured through green financing options or environmental grants.

Current engagement with the private sector is insufficient to obtain the necessary investments for these initiatives. Developing a framework that clearly defines roles, responsibilities, and benefits for all parties can improve private-sector participation and ensure that NbS projects align with both environmental objectives and community needs. Transparent processes for funding allocation and project monitoring are also needed for optimal use of resources and to achieve the intended outcomes of NbS strategies in the S2J2 region. See the Clean Energy Investment Plan for insights from prior community engagements.

5 Path Forward

While the plan to advance nature-based solutions (NbS) in the region provides a foundational framework for addressing key barriers — awareness, funding, and the regulatory environment —the path to fully implementing these solutions requires sustained commitment and collaboration from local and regional stakeholders. Facilitation of collaborative efforts between local/regional stakeholders (e.g., industry partners, environmental agencies, environmental nonprofits, community members, and tribes) would serve as a crucial step in this direction. Ultimately, this investment plan aims not just to accelerate nature-based solutions that address climate change, but to create solutions that bring environmental and economic benefits to the community.

Appendix A: Overview of the Area

This plan aims to implement nature-based solutions that are effective in local land restoration and conservation, and that meaningfully contribute to California's Natural and Working Lands Climate Targets.³⁰ Solving the four-county region's environmental equity concerns will not only provide the workforce with new opportunities in NbS-focused work, but also enable new biomass-utilization supply networks, which produce climate-beneficial fuels, fiber, agricultural inputs, and much more.

To achieve desired NbS targets and regional economic growth, the S2J2 coalition must identify and prioritize the land available for NbS, consider how to update local policies and guidance to simplify the implementation of NbS, train or retrain the local workforce to support the implementation of NbS, and partner with relevant regional stakeholders (e.g., conservation agencies and farms) to ensure that efforts are ongoing, enduring, and bring long-lasting health benefits to the community.

Clear Local Market Signals

Tailwinds

- Public financing for NbS is increasing globally – by 11%, or \$20B (in 2022 relative to 2021 levels) – as is private financing, which increased by 10%, or \$3B, over the same period.³¹ California has funding programs such as California Climate Investments, the Multi-Benefit Land Repurposing Program, California State Parks grants, the Urban and Community Forestry Grant Program, California's Community Resilience Center Program, and more.
- Regulations at the county, state, and federal levels (e.g., 30x30, the national policy to conserve 30% of U.S. lands and 30% of U.S. ocean areas by 2030, and the Sustainable Groundwater Management Act) have raised awareness, increased funding, and fostered the implementation of NbS.

Headwinds

- Nature-based solutions require dedicated land, a resource that often has competing uses. These include industrial and commercial uses, as well as environmental uses, such as carbon capture and storage and direct air capture.
- Many decision-makers and communities are unaware of the ways in which NbS can help to address social, economic, and environmental challenges, and thus NbS are often overlooked.
- Current cost-benefit analyses of climate solutions are often inherently biased toward conventional solutions (e.g., discounting factors that reward short-term rather than long-term solutions), making it difficult to advocate for NbS. Consequently, many funding and regulatory guidelines (for example, permitting and accelerated and/or prioritized CEQA reviews and approvals) require updating to facilitate NbS as viable investment options. Additionally, some funding sources do not currently support implementation of NbS but can and should. For example, hazard mitigation strategies primarily support conventional solutions, such as elevating buildings in flood zones, and do not include options such as floodplain restoration.³²

30 <https://ww2.arb.ca.gov/our-work/programs/natural-and-working-lands/about>

31 State of Finance for Nature 2023, United Nations Environment Programme (UNPE)

32 The White House Report to the National Climate Task Force

Value Chain and Infrastructure

NbS can be an important safeguard against climate risks for businesses and communities across their value chains. For instance, restoring wetlands around key infrastructure and manufacturing sites can reduce flood risks. Each ecotype within the S2J2 region has a specific flora and fauna productivity level that could be enhanced and developed for long-term economic development. Examples include culturally appropriate and place-based fire fuel-load reduction that enhances forest, chaparral, and grassland health while providing interconnected trail systems for the region. Developing recreation opportunities for the region enhances access to green spaces and spurs economic opportunities for businesses that serve visitors.

To answer another of the region's greatest needs, a growing forest-stewardship effort is simultaneously supporting wood-product development, compost creation, and other high-value products.

Biomass management in the S2J2 region's valley floor could include using existing feedstocks to produce inputs (compost) for natural cropland and grassland restoration. This innovation could transform those land-cover types into carbon sinks while using materials that are currently creating volatile organic compounds, particulate matter-based air pollution, and nitrate contamination of groundwater. Improved biomass management and nutrient cycling on the valley floor could provide economic opportunities, improve air, and water quality, and significantly increase organic carbon levels in soil.

Native plant nurseries that expand the availability of local genotype genetics for site-specific native seeds and plants answer a great need for restoration efforts in the S2J2 region. These could be scaled to provide many year-round jobs for valley residents with a background in farm work.

Infrastructure

Nature-based infrastructure solutions – also referred to as green or ecological infrastructure – focus on sustainable practices, as well as protecting and restoring natural ecosystems.³³ The infrastructure required to implement NbS may include supporting fire management (e.g., management facilities, control locations for fuel breaks, and equipment for early wildfire detection and real-time monitoring), land and forest stewardship (e.g., monitoring systems, access roads, and equipment for sustainable harvesting and reforestation), watershed management systems (e.g., beaver analog dams and equipment for retention basins and riparian buffers), native plant nurseries for revegetation projects, and compost production for urban greening, grassland, and cropland restoration.³⁴

Innovation Ecosystem

The S2J2 region has a strong local system of NbS-oriented efforts, including conservation agencies, local grassroots organizations, community green banks, and more. Additional support is needed to connect these organizations to the resources, people, knowledge, and funding they need to continue and scale their work, which will be necessary to implement solutions that have significant impact.

33 UNOPS - Nature-based Infrastructure.

34 U.S. Department of the Interior - Bipartisan Infrastructure Law

Regional Assets

Lands

S2J2 has a higher proportion of croplands relative to other land-types, both within the region and as a percentage of the state’s croplands. Figure 1 indicates the regional acreage of each land-type and shows its proportion relative to the state’s total acreage for those land types.

Organizations

See Appendix C: Potential Stakeholders by Investment Strategy.

Workforce

The existing NbS workforce is a passionate niche of experts. Raising community awareness of available jobs and training in NbS (e.g., land management and stewardship, vegetation management and utility, conservation education and training, the retraining of farmers/workers, and environmental justice) can increase local talent.

Data and tools

The Department of Conservation (DOC)’s land-use tool builds on local data collection efforts (e.g., the San Joaquin Valley Greenprint, the Southern Sierra Partnership, and the Nature Conservancy) to provide local leaders with a spatial mapping of S2J2’s agricultural, water, and economic land-use data.^{35,36,37}

Appendix B: Potential Funding Sources

Please note that this list may not be exhaustive.

Table 3. Government Programs – Federal

Program	Estimated Amount Available (nationwide)	Avail. Until	Eligibility
Conservation Innovation Grants (CIG), Natural Resources Conservation Service (NRCS)	~\$37.5 million/year	Ongoing	Eligible recipients include state/local governments, U.S. territories, tribal governments, individuals, nonprofit/for-profit businesses, and academic institutions. ³⁸
Hazard Mitigation Grant Program (HMGP) (Federal Emergency Management Agency (FEMA))	~\$3.5B	Ongoing, available after presidentially declared disaster	Grant eligibility extends to state, local, tribal, and territorial

35 <https://sjvp.databasin.org/pages/greenprint/>
36 <http://www.southernsierrapartnership.org/>
37 <https://www.scienceforconservation.org/products/rewilding-ag-landscapes>
38 Natural Resources Conservation Service – Conservation Innovation Grants Factsheet

Table 4. Government Programs - State

Program	Estimated Amount Available (statewide)	Avail. until	Eligibility
Climate Catalyst Fund	Variable	Ongoing	Both private and public-sector applicants are eligible for the loan program. ³⁹
California Farmland Conservancy Program (CA Dept. of Food and AG)	~\$4.9M	Ongoing	Nonprofits, public agencies, and tribal governments are eligible. ⁴⁰
Sustainable Ag Lands Conservation Program (Strategic Growth Council, CA Dept. of Conservation [DOC])	Amount to be determined	07/03/2025	Nonprofits, public agencies, and tribal governments are eligible. ⁴¹
Outdoors For All (California Natural Resources Agency)	~\$1B	Until expended	Determined by individual request for proposals. ⁴²
California Small Agricultural Business Drought and Flood Relief Grant Program (Governor's Office of Business and Economic Development [GO-Biz])	~\$6.8M	7/29/24	Small agricultural businesses financially impacted by the severe drought and/or flood conditions are eligible. ⁴³
Hazard Mitigation Grant Program (Governor's Office of Emergency Services)	~\$210M	Ongoing	Eligible applicants include nonprofits, public agencies, and tribal governments ⁴⁴
California Conservation Corps Grants	~\$50M + \$6M/ annually	Ongoing	Local conservation corps (LCC) that are non-profit or local government entities are eligible. ⁴⁵
Infrastructure State Revolving Fund (ISRF) Program	~\$100M	Ongoing	Public agencies and subdivisions of local governments, JPAs, and non-profit corporations are eligible for loans. ⁴⁶

Table 5. Government Programs - Local

Program	Estimated Amount Available (regional)	Avail. Until	Eligibility
Community and Economic Enhancement Grant Program – Proposition 68 (Sacramento-San Joaquin Delta Conservancy)	~\$8.7M	Ongoing	Nonprofits and public agencies are eligible. ⁴⁷

Table 6. Private Funding Sources

Program	Est. Amt. Avail.	Avail. Until	Eligibility
Symbiosis – Google, Meta, Microsoft, Salesforce	Amount to be determined	2030	Determined by individual requests for proposals. ⁴⁸

39 IBank – Climate Catalyst Program

40 California DOC - California Farmland Conservancy Program

41 California DOC – SALC Program

42 Outdoors For All

43 GO-Biz - California Small Agricultural Business Drought and Flood Relief Grant Program

44 California Grants – Hazard Mitigation Grant Program

45 California Conservation Corps Funding Opportunities

46 California Grants – Infrastructure State Revolving Fund Program

47 California Grants – Community and Economic Enhancement Grant Program

48 Symbiosis Coalition

Appendix C: Potential Stakeholders by Investment Strategy

For reference: NbS Investment Strategies

1. Assess investment approaches based on various land cover types
2. Implement integrated water management and sustainability programs
3. Begin biomass utilization by using renewable organic material from plants and animals to produce biofuels, natural products, and other sustainable materials
4. Promote sustainable tourism (include eco- and agri-tourism) to educate the public, support local economies, and conserve land
5. Encourage corporate social responsibility and investments in voluntary ecosystem service
6. Integrate hazard- and disaster-planning and implementation into climate resiliency efforts

Table 7. Stakeholder Overview

Stakeholder Group	Organizational Partner / Human Resource	Strategy					
		1	2	3	4	5	6
Local Government	All Cities in the 4-county region	✓	✓	✓	✓	✓	✓
	All Resource Conservation Districts in the 4-county region	✓		✓			✓
	All Counties in the 4-county region: Fresno, Madera, Tulare, Kings	✓	✓	✓	✓	✓	✓
	Sierra Nevada Conservancy	✓		✓			✓
	All Regional Water Management Groups in the 4-county region	✓	✓				✓
	Pleasant Valley Groundwater Sustainability Agency	✓	✓				✓
	Safe and Affordable Funding for Equity and Resilience (SAFER) program					✓	✓
	Yosemite / Sequoia Resource Conservation and Dev. Council	✓		✓			✓
	Association of California Water Agencies		✓			✓	✓
Tribes	Big Pine Paiute Tribe of the Owens Valley	✓		✓			
	Northfork Rancheria of Mono Indians of California	✓		✓			
	Big Sandy Rancheria of Western Mono Indians of California	✓		✓			
	Bishop Paiute Tribe	✓		✓			
	Fort Independence Indian Community of Paiute Indians	✓		✓			
	Lone Pine Paiute-Shoshone Tribe	✓		✓			
	Santa Rosa Indian Community of the Santa Rosa Rancheria	✓		✓			
	Timbisha Shoshone Tribe	✓		✓			
	Cold Springs Rancheria of Mono Indians of California	✓		✓			
	Tule River Indian Tribe of the Tule River Reservation, California	✓		✓			
	Picayune Rancheria of Chukchansi Indians of California	✓		✓			
	Table Mountain Rancheria	✓		✓			

Table 7. Stakeholder Overview Cont'd

Stakeholder Group	Organizational Partner / Human Resource	Strategy					
		1	2	3	4	5	6
Industry Partners	All Chambers of Commerce and their members in the 4-county region				✓	✓	
	All Economic Development organizations and corporations in the 4-county region						
	Fresno Native American Business Development Center	✓				✓	
Utilities	All Water Authorities in the 4-county region		✓				✓
Education/ Workforce Dev. Organizations	California State University, Fresno	✓			✓		
	All Offices of Education in the 4-county region				✓		
	All School Districts in the 4-county region				✓		
	All Community Colleges in the 4-county region	✓	✓				
	All Workforce Development Boards in the 4-county region	✓			✓		
	Lyles Center for Innovation and Entrepreneurship	✓			✓		
	Wastewater Treatment Operator Certificate Program and Transmission Tech		✓			✓	
Nonprofits	Binational of Central California - Farmworker Org.					✓	✓
	California Association of Agricultural Labor			✓			
	California Environmental Voters	✓				✓	✓
	California Farm Worker Foundation					✓	✓
	Central Valley Community Foundation (CVCF)	✓				✓	✓
	Fresno American Indian Health Project	✓				✓	✓
	Jakara Movement					✓	✓
	Sequoia Riverlands Trust	✓	✓		✓		✓
	Kings River Conservancy	✓	✓				
	Madera Coalition for Community Justice				✓	✓	✓
	San Joaquin River Parkway and Conservation Trust	✓			✓		✓
	Career Nexus				✓		
	AgTEC Innovation Center		✓			✓	
	Asociación de Gente Unida por el Agua (the Association of People United for Water)					✓	✓
	BEAM Circular		✓			✓	
	Central Valley Opportunity Center	✓				✓	✓
	Community Alliance with Family Farmers		✓	✓			
	Community Water Center		✓			✓	✓
	Community Water Leaders Network		✓			✓	✓
	Fresno BIPOC Produce					✓	
	Fresno Food Security Network			✓	✓		
	Opportunity to Advance Sustainability, Innovation, and Social Inclusion (OASIS)	✓					
	Regenerative Agriculture Technical Assistance Provider Certification			✓			
	The Roundtable of Regions	✓			✓		
Unions	National Latino Farmers and Ranchers				✓		
	Fresno, Madera, Tulare, & Kings Central Labor Council				✓		
	Fresno, Madera, Kings, & Tulare Counties Building and Construction Trade Council				✓		

Appendix D: Strategy-Specific Barriers

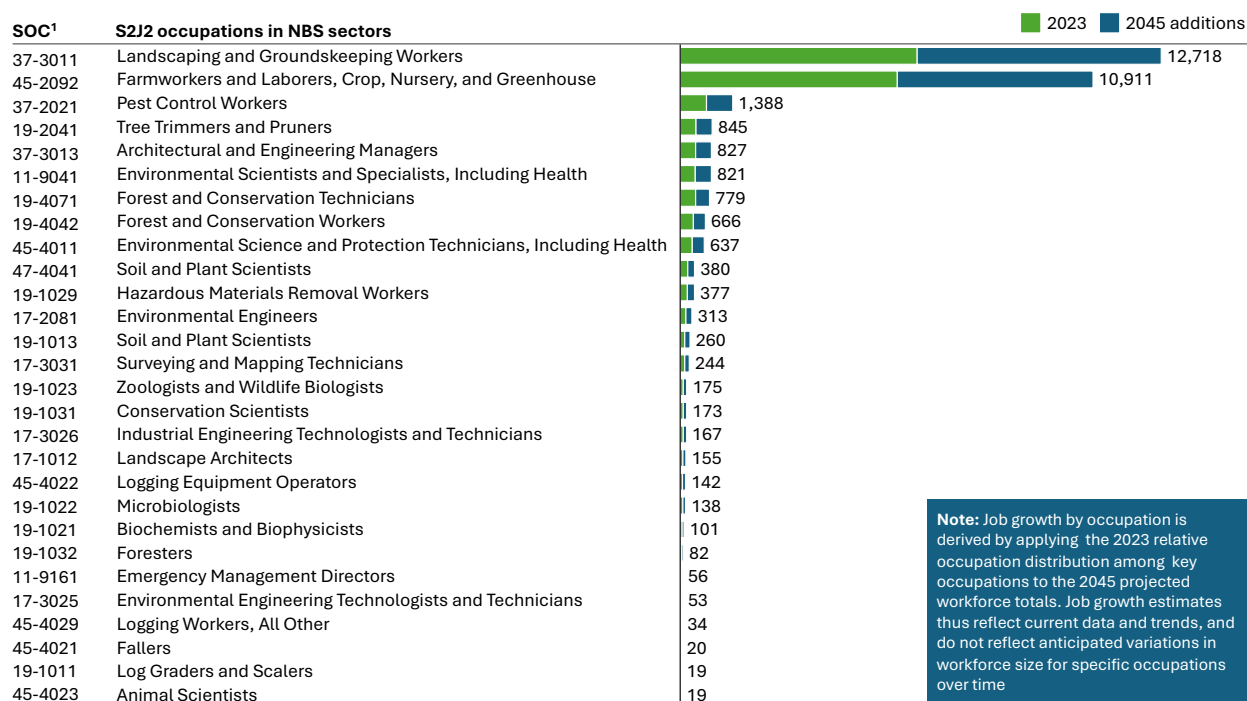
As discussed above, the strategies outlined in Section 2 have been developed to address the following barriers the region could face in efforts to deliver on the vision for Nature-based Solutions. As outlined below, the S2J2 region will continue efforts to mitigate these barriers.

Table 8. Strategy-Specific Barriers

Strategies	Barriers
Strategy A Consider the proposed approaches' effects on various land-cover types	• Tribes sometimes lack the human resources to engage in nature-based solutions more broadly, and not all have a land base for such initiatives. • There is a loss of logging knowledge and human resources due to the decline of the lumber industry. • There is limited funding available for permanent conservation and restoration, coupled with varying landowner willingness and capacity to repurpose. • Forest fire and fuel control projects are expensive and may lead to unintended consequences. • Judicial decisions, rather than community or land managers, dictate project outcomes due to prioritization of special interest environmental litigation under the NEPA.
Strategy B Integrated water management and sustainability	• Monitoring groundwater and wells with both accuracy and cost efficiency presents challenges. • Soil quality issues that prevent effective recharge. • Groundwater recharge zones stretch across private and public land; there is a lack of technical capacity to execute easement⁴⁹ or land trust agreements to ensure groundwater recharge work can be done. • Challenges in fostering inter-organizational collaboration across different sectors and funders. • Inconsistent water for habitat maintenance.
Strategy C Begin biomass utilization by using renewable organic material from plants and animals to produce biofuels, natural products, and other sustainable materials	• The industry and technologies are nascent. • Permitting is expensive and time-consuming. • Biomass transport may result in more carbon emissions than is eliminated through biofuel. • Existing workforce may not be adequately trained to construct infrastructure, operate biomethane facilities, or integrate facilities with farms. • Communities surrounding biomethane facilities may be adversely impacted (e.g., due to smell, infrastructure installation). • Biomass utilization may be cost-prohibitive.
Strategy D Promote sustainable tourism (include eco- and agri-tourism) to educate the public, support local economies, and conserve land	• Maintenance of greenbelts, public parks, and urban greenery can be costly. • Outdoor education programs may get phased out of the curriculum without sufficient support.
Strategy E Encourage corporate social responsibility and investments in voluntary ecosystem services	• Businesses may be hesitant to adopt nature-based practices due to lack of understanding or funding.
Strategy F Integrate hazard- and disaster-planning and implementation into climate resiliency efforts	• The community is often not involved in hazard and disaster planning.

49 A right to cross or otherwise use someone else's land for a specified purpose.

Appendix E: Occupations Included in Nature-Based Solutions Workforce



1. Standard occupation classification

Source: [Water, environment, and socioeconomic justice in California: A multi-benefit cropland repurposing framework 2023](#), Lightcast Data 2023



Exploring Carbon Capture

Industry Clusters



Industry Clusters

Exploring Carbon Capture

1 Problem Statement, Opportunity, and Area Overview

1.1 Problem Being Addressed

California is poised to achieve carbon neutrality by 2045.¹ While the Sierra San Joaquin Jobs (S2J2) region faces challenges in state guidance, funding frameworks, and lack of public awareness for effective carbon management, these obstacles also present economic opportunities. An expansion of carbon capture solutions in the region would align with the national objective of removing 1 billion tons of CO₂ annually by 2050 and may catalyze local economic development and job creation.² The current level of carbon emissions in the S2J2 region has posed a critical risk to environmental, health, and economic stability.³

The S2J2 region is well-recognized for its robust agricultural sector, which ranges from dairy farming to produce and livestock to poultry.⁴ However, agricultural food processing is known to be a significant source of greenhouse gas emissions (GHG) (Figures 1 and 2). Further, the S2J2 region is an important freight corridor for transporting goods throughout the state, which is another substantial source of carbon emissions.⁵ Diverse carbon management strategies are urgently needed to help safeguard the region's agriculture, local economies, and environment, while advancing environmental justice efforts.

The Department of Energy (DOE) is investing in multiple carbon capture projects in the S2J2 region, including CalDAC, a collaborative effort to actively engage communities and deploy community-centered models. The S2J2 initiative expects to employ different approaches to support the advancement of carbon capture solutions in order to contribute to the state and federal decarbonization goals. The region plans to prioritize a carbon transition that leverages nature-based solutions, strengthens the region's economy, and retains community benefits locally.

1 California Office of the Governor, <https://www.gov.ca.gov/2022/11/16/california-releases-worlds-first-plan-to-achieve-net-zero-carbon-pollution/>

2 The White House, <https://www.whitehouse.gov/wp-content/uploads/2021/10/us-long-term-strategy.pdf>

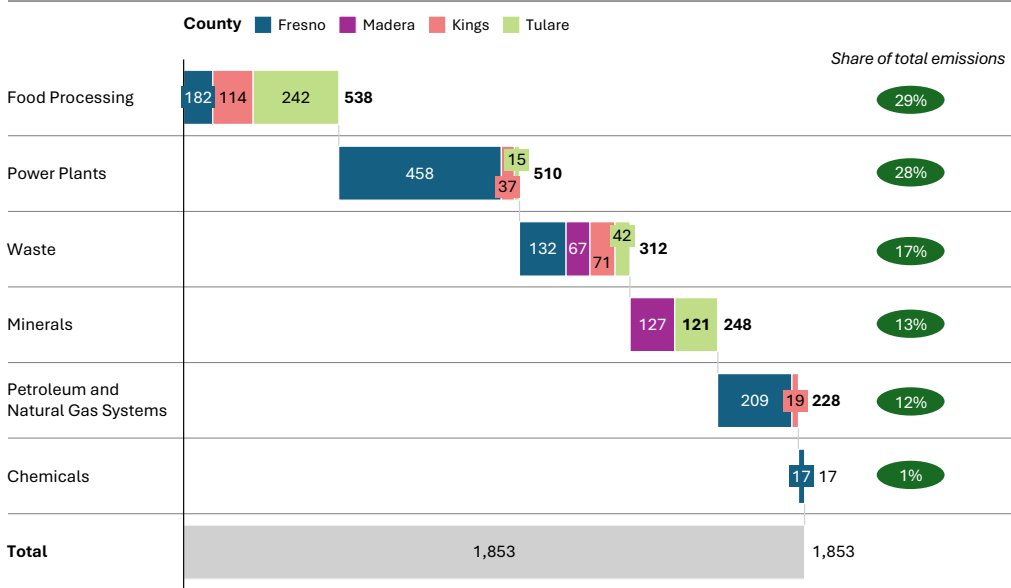
3 California Air Resources Board, https://resources.ca.gov/-/media/CNRA-Website/Files/Initiatives/Expanding-Nature-Based-Solutions/SB27_FAQ_PDFv2.pdf

4 California Department of Food and Agriculture, <https://www.cdffa.ca.gov/Statistics/>

5 California Transportation Commission, <https://catc.ca.gov/-/media/ctc-media/documents/programs/sb671/20230517-sb671-top-6-freight-corridors-a11y.pdf>

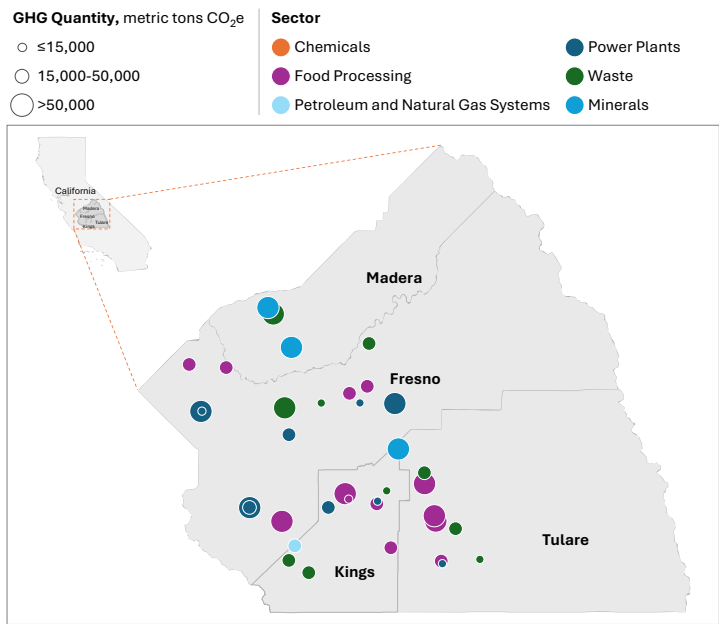
Figure 1. Greenhouse Gas (GHG) Emissions by Sector and County in S2J2 in 2023

Greenhouse Gas (GHG) emissions by sector and county in S2J2 in 2023, Thousand Metric Tons CO₂e



Source: [U.S. EPA FLIGHT Database](#), [CARB](#)

Figure 2. Map of Greenhouse Gas (GHG) Emissions by Sector and County in S2J2 in 2023



Source: [U.S. EPA FLIGHT Database](#), [CARB](#)

2 Potential Path Forward

The Department of Energy (DOE) has funded four Direct Air Capture hubs in California, representing projects at different development stages. One of those is The Community Alliance for Direct Air Capture (CalDAC) project, a partnership between Berkeley Law's Center for Law, Energy and the Environment (CLEE) and the Lawrence Berkeley National Laboratory. CalDAC will conduct a comprehensive, two-element feasibility assessment: 1) technical feasibility of a Direct Air Capture (DAC) hub, complete with technology partners, location, business model, ownership, and CO₂ utilization options; and 2) social and governance feasibility of an innovative, community-led DAC hub design and ownership model that works with local stakeholders as partners.⁶

By engaging and leveraging regional collaborative efforts such as CalDAC (e.g., local government coordinating body), the S2J2 initiative aims to support the expansion of economic development and climate solution pathways for carbon capture by:

1. Further engaging the community and coordinating local stakeholders with state and federal efforts in building out projects as a collaborative effort from inception.
2. Identifying suitable economic development opportunities in carbon management. (Please see Clean Energy Investment Plan - Strategy C: Build a clean energy economic development ecosystem.)
3. Actively leverage nature-based solutions into carbon capture strategies by advancing regenerative agricultural practices, improving site-specific management of wetlands and forests, and exploring bio-based energy sources to enhance climate resilience. (Please see Nature-based Climate Solutions Plan.)
4. Promote environmental health and equity while mitigating unintended negative consequences. (Please see Community Benefits Plan.)

Appendix A. Overview of the Area

Clear Local Market Signals

Tailwinds

- **The regulatory push for decarbonization at the state and national levels has created funding opportunities.** For example, the Inflation Reduction Act increased the 45Q tax credit to \$85 per ton for CCS and \$180 per ton for DAC, potentially generating around \$3 billion annually in tax credits.⁷ Furthermore, Congress has allocated significant funding to the U.S. Department of Energy for carbon storage and transportation infrastructure development, with \$2.5 billion for the Carbon Storage Validation and Testing program and \$2.1 billion for the Carbon Dioxide Transportation Infrastructure Finance and Innovation program.⁸
- **The creation and growth of carbon cap and trade markets is an opportunity** for corporations and organizations to meet their carbon neutrality goals through carbon credits. As credit demand grows, technological carbon dioxide removal (CDR) projects, with about 40 pilot-scale projects and a capacity of approximately 100,000 tons per year, are poised to benefit from high credit prices in the voluntary carbon markets.⁹

⁶ <https://www.law.berkeley.edu/research/clee/research/other-research-initiatives/caldac/>

⁷ https://liftoff.energy.gov/wp-content/uploads/2024/02/20230424-Liftoff-Carbon-Management-vPUB_update4.pdf

⁸ https://netl.doe.gov/sites/default/files/netl-file/23CM_CTS31_Smith.pdf

⁹ https://liftoff.energy.gov/wp-content/uploads/2024/02/20230424-Liftoff-Carbon-Management-vPUB_update4.pdf

- **Investments in research and development are expected to increase the efficacy of DAC and other CDR technologies.** Over the past five years, advancements in CCS technology have reduced costs by approximately 30%. By 2030, DAC is expected to see a tenfold increase in removal capacities.¹⁰

Headwinds

- The market for carbon credits is hampered by a **lack of standardization**, leading to substantial price volatility. In the past two years alone, the price per ton of carbon has fluctuated by over 50%.¹¹
- Current carbon removal costs are high and additional R&D, piloting, and demonstration is required. Hence, there are **cost reduction uncertainties**. Industry sources project that DAC costs could see overall reductions of 20 – 50% with scale-up to 0.25 billion annual tons.¹²
- **Fossil-electricity production** significantly impacts the net quantity of CO₂ removed by DACs. If a DACS facility in California required 8 GJ of electricity to capture 1 ton of CO₂ today, the net CO₂ removed would be only 0.46 tons.¹³

Value Chain

To integrate new carbon capture technologies, storage facilities may need to expand to include injection wells and retrofit oil and gas wells for CO₂ storage. Moreover, existing industrial sites may have an increased demand for technology and infrastructural upgrades.¹⁴

Innovation Ecosystem

The S2J2 initiative has access to potential educational partnerships and resources that can support the development of Carbon Capture initiatives:

- **Lawrence Livermore National Laboratory (LLNL):** The LLNL conducts research on carbon capture and sequestration (CCS) technologies and collaborates with industry partners to develop scalable solutions. LLNL launched a campaign to promote carbon capture in California in 2022 that received \$1 million from a front group run by executives of DTE Energy. This Michigan-based utility, whose subsidiary owns biomass power plants in California, could benefit from policies promoting carbon capture.
- **Climeworks:** This global leader designs, builds, and operates DAC and storage facilities for CO₂ removal. Climeworks has partnered with several California-based companies (such as Microsoft, Stripe, and Shopify) to deploy its DAC technology. The U.S. Department of Energy selected Climeworks to develop three of these hubs in Louisiana, California, and North Dakota, making the company eligible for more than \$600 million in government funding.
- **Silicon Valley Clean Energy (SVCE):** SVCE has launched initiatives to fund and support CCS projects to reduce greenhouse gas emissions in Silicon Valley.
- **Breakthrough Energy Ventures (BEV):** Backed by Bill Gates and other prominent investors, BEV invests in innovative companies around the globe, including California-based startups focusing on CCT.
- **CarbonCapture Inc.:** This California-based startup develops new materials and processes to enhance the efficiency and reduce the costs of carbon capture.

10 <https://www.globalccsinstitute.com/wp-content/uploads/2021/03/Technology-Readiness-and-Costs-for-CCS-2021-1.pdf>

11 <https://www.csis.org/analysis/voluntary-carbon-markets-review-global-initiatives-and-evolving-models>

12 https://liftonn.energy.gov/wp-content/uploads/2024/02/20230424-Liftoff-Carbon-Management-vPUB_update4.pdf

13 https://roads2removal.org/wp-content/uploads/07_RtR_Direct-Air-Capture.pdf

14 https://liftonn.energy.gov/wp-content/uploads/2024/02/20230424-Liftoff-Carbon-Management-vPUB_update4.pdf

- **Community Alliance for Direct Air Capture (CalDAC):** A DOE-funded collaborative project between Center for Law, Energy, and the Environment (CLEE) at the University of California, Berkeley and Lawrence Berkeley National Laboratory, CalDAC aims to investigate the feasibility of creating a community-focused Direct Air Capture (DAC) hub in the southern San Joaquin Valley of California that reflects and advances community goals and values and delivers meaningful community-defined benefits.

Regional Assets

Natural Resources

The region's robust **transportation network** (e.g., major highways and railroads) may support the efficient movement of captured CO₂.¹⁵ Additionally, agriculture, in the S2J2 region, produces about 8.3 million tons of annual residues, a viable organic material source for bioenergy processes.¹⁶ The agricultural sector is primarily composed of immigrant labor and workers with limited formal education. This is a labor pool that could transition to CCS-related roles with targeted training.¹⁷

Alignment with State and Federal Objectives

- The **federal executive order** to scale registered apprenticeships in relevant industries and in the federal government may help to fill the region's workforce skill gaps.
- The **California Climate Scoping Plan (AB 32)** includes a set of "technologically feasible and cost-effective" policies to set California up to achieve carbon neutrality by 2045.¹⁸
- The **CA Employment Training Panel** can provide funding for employers to assist in upgrading workers' skills, and high road training partnerships can supply industry leaders with the blueprint to develop needed skills in the workforce.¹⁹

How the Vision Aligns with S2J2's Principles

- **Equity:** Prioritizes initiatives that benefit communities traditionally affected by carbon pollution – specifically disadvantaged racial minorities. This approach advances diversity, equity, inclusion, and accessibility (DEIA) and ensures environmental justice.
- **Environmental stewardship:** Protects the region's natural resources to improve their carbon sequestration potential and preserve these assets for future generations.
- **Good jobs and resilient economy:** Refer to Section 1.2 in Climate Solutions, Chapter 1.
- **Data-based planning:** Uses emissions data to identify sectors and areas for carbon sequestration and removal efforts. Considers implications for air quality, employment prospects, and the conservation of valuable regional assets (e.g., habitat corridors).
- **Community benefits:** Implements a regional framework that guides local jurisdictions and sets expectations for carbon projects.
- **Climate:** Reduces carbon emissions to mitigate the adverse effects of climate change.

15 https://roads2removal.org/wp-content/uploads/05_RtR_CO2-Biomass-Transport.pdf

16 https://roads2removal.org/wp-content/uploads/06_RtR_BiomassCarbonRemovalStorage.pdf

17 https://roads2removal.org/wp-content/uploads/10_RtR_Regional-Opportunities.pdf

18 <https://ww2.arb.ca.gov/our-work/programs/ab-32-climate-change-scoping-plan>

19 <https://etp.ca.gov/>

Appendix B. Current Landscape

Table 1. Description of Ongoing Carbon Management Projects in and Surrounding S2J2 in 2024

Project	Description	Funding (if available)
California Direct Air Capture Hub Front-End Engineering Design and Planning ²⁰	The Electric Power Research Institute and partners are planning CalHub, a regional Direct Air Capture hub in California . This project aims to design and implement CO ₂ capture from air – along with storage and transportation infrastructure – using low-carbon energy sources.	DOE Funding: \$11,829,634 Non-DOE Funding: \$11,829,634 Total Value: \$23,659,268
Aera Project ²²	Aera Federal, LLC plans a feasibility study for a DAC hub at Aera Energy's Belridge oil field in Kern County, California . The project aims to capture atmospheric carbon, transport it, and store it in Aera's Carbon Frontier site.	DOE Funding: \$2,785,578 Non-DOE Funding: \$1,777,761 Total Value: \$4,563,339
CarbonFrontier ²¹	Aera Energy is harnessing CCS at its Kern County Belridge oil fields. The project may be operational in the late 2020s and to capture up to 1.6 million metric tons of CO ₂ per year.	N/A
Chevron Eastridge Project	Chevron New Energies plans a feasibility study of a DAC hub in Kern County and surrounding areas. The project would use Chevron's existing low-carbon technology pilots and proposed projects in the San Joaquin Valley. Up to 150 new jobs are expected.	DOE Funding: \$3,000,000 Non-DOE Funding: \$1,995,904 Total Value: \$4,995,904
Community Alliance for Direct Air Capture	The Regents of the University of California will undertake an assessment of the technical, social, and governance feasibility of establishing a Community Alliance for DAC in the Southern San Joaquin Valley in California . The project includes a diverse group of technology companies, research organizations, and community partners.	DOE Funding: \$2,999,999 Non-DOE Funding: \$1,472,941 Total Value: \$4,472,940
Tulare County Carbon Storage Project (TCCSP)	Advanced Resources International, Inc. is establishing a commercial-scale CO₂ sequestration hub capable of storing and injecting at least 50 million metric tons of CO ₂ over the course of 30 years in the California Central Valley.	DOE Funding: \$9,312,293 Non-DOE Funding: \$2,776,227 Total Value: \$12,088,520
Pelican Renewables ²²	Pelican Renewables, LLC applied for a Class VI Permit to construct deep injection wells for CO ₂ sequestration. The project captures CO ₂ from a corn-based ethanol plant at the Port of Stockton, transports it by barge, and injects it into wells on Rindge Tract.	DOE Funding for CO ₂ transportation / storage (ZuCO ₂ Transport, LLC)
Clean Energy Systems ²³	Clean Energy Systems (CES) is developing carbon-reducing energy systems focused on biomass power plants in California. Their Mendota Biomass Carbon Removal and Storage project aims to revitalize a 25 megawatt plant using waste biomass to generate electricity while capturing CO ₂ . The project is forecasted to remove 300,000 tons of CO ₂ per year and 6 million tons of CO ₂ over 20 years.	N/A

20 California Department of Energy - Project Selections for FOA 2735

21 Aera Energy – CarbonFrontier

22 Pelican Renewables, <https://netl.doe.gov/node/13630>

23 Clean Energy Systems

Table 1. Description of Ongoing Carbon Management Projects in and Surrounding S2J2 in 2024 Cont'd

Project	Description	Funding (if available)
ElkHill 26R ²⁴	Carbon TerraVault 1 LLC (CTV), a wholly owned subsidiary of California Resources Corporation (CRC), constructed and operates four CO ₂ geologic sequestration wells at the Elk Hills Oil Field (EHOF) 26R reservoir in Kern County, California. CTV expects the 26R Monterey Formation reservoir to store 1.46 million tons of CO ₂ annually for 26 years, with injection starting in 2025.	N/A
CalCapture	CalCapture is a CCS project led by Carbon TerraVault LLC. Its goal is to capture CO ₂ from the Elk Hills Power Plant, a 550-megawatt (MW) natural gas, combined-cycle power plant in Kern County, California. The captured CO ₂ will be injected deep underground for permanent sequestration in depleted underground reservoirs. CalCapture plans to capture and permanently store 1.5MMT of CO ₂ every year.	N/A
California DAC Hub	Carbon TerraVault Holdings, LLC (CTV) assembled a consortium of representatives representing industries, technology, academia, national labs, communities, government, and labor to pursue funding from the U.S. Department of Energy under its Regional DAC Hubs Initiative. The funding will be used to create the California DAC Hub, the state's first full-scale DAC-plus-storage (DAC+S) network of regional DAC+S hubs, including one in Kern County.	DOE Funding: \$11.8 million
INENTEC INC. CDMA	InEnTec will build a renewable dimethyl ether production facility in Kern County, California. CTV will sequester a minimum of 100,000 metric tons per annum (MTPA) of CO ₂ from InEnTec's facility in the CTV I carbon storage vault.	N/A
NLC Energy Project	Carbon TerraVault JV HoldCo, LLC (CTV JV) has entered into a storage-only CO ₂ management agreement (CDMA) with NLC Energy, a company that designs, builds, owns, and operates renewable natural gas facilities that convert organic waste into useful commodities – like clean energy, organic nutrients, clean water, organic liquid carbon dioxide, and dry ice – to sequester a minimum of 150,000 MTPA of CO ₂ at the CTV I reservoir at Elk Hills Field.	N/A
VERDE CDMA	Verde will build a renewable gasoline production facility at the proposed CTV Clean Energy Park at Elk Hills in Kern County, California. CTV JV initially plans to sequester a minimum of 100,000 MT per year of CO ₂ from Verde's facility at the CTV I carbon storage vault. This new facility is expected to produce about 21,000 gallons per day of renewable gasoline from biomass and other agricultural waste feedstock.	N/A
Pastoria Energy Facility NGCC Carbon Capture System FEED Study	Calpine California CCUS Holdings, LLC plans to conduct a front-end engineering design (FEED) study for a post-combustion carbon capture (PCCC) system at the Pastoria Energy Facility (PEF). The project will study the application of Honeywell UOP's Generation Two, amine-solvent-based PCCC system, Advanced Solvent Carbon Capture. The PEF complex includes highly efficient NGCC facilities near Bakersfield, California.	DOE Funding: \$7,000,000 Non-DOE Funding: \$1,750,000 Total Value: \$8,750,000



Responsible Food Systems

Industry Clusters



Industry Clusters

Responsible Food Systems

1 Problem Statement, Opportunity, and Vision for the Future

1.1 Problem Statement

California's Central Valley, a major agricultural hub, faces significant challenges that threaten its future sustainability. The Fresno-Merced Region is the unrivaled food production region of the country, producing 25% of the nation's food,¹ 60% of its fruits and nuts, and 30% of its vegetables,² with an annual agricultural economy output of \$70B.³ This size and scale highlight the region's critical role in national food production.

Despite its productivity, the region struggles to spur, adopt, and commercialize innovations that are vital to the future of California agriculture. It experiences the third worst food hardship in the U.S., with 22% of residents living below the federal poverty line, and faces severe environmental degradation, increased agricultural regulation and rising input costs that threatens the stability and resiliency of the Central Valley and the nation's independent food supply.⁴

The range of challenges faced by the region include:

- **Climate Change:** Increased pest pressures, extreme heat stress, and unpredictable weather patterns due to climate change affect crop yields and farm productivity.
- **Soil Degradation:** Intensive farming practices have resulted in soil erosion, loss of fertility, and reduced organic matter, compromising long-term agricultural productivity.
- **Water Scarcity:** Prolonged droughts, lack of water storage infrastructure, and heavy reliance on groundwater have led to critical water shortages. The depletion of aquifers and reduced surface water availability impact crop irrigation and farm viability.
- **Environmental Pollution:** The use of pesticides and fertilizers contributes to air and water pollution, affecting local ecosystems and human health. Runoff from agricultural fields and livestock operations contaminates waterways, leading to issues like nitrate contamination in domestic water systems, and loss of aquatic biodiversity.

1 Fresno-Merced Future of Food (F3) | U.S. Economic Development Administration

2 F3 - Central Valley Community Foundation

3 Fresno-Merced Future of Food (F3) Innovation

4 Fresno-Merced Future of Food (F3) Innovation

- **Biodiversity Loss:** Habitat conversion, large scale development, and monoculture practices have led to significant biodiversity loss in the region, impacting ecosystem services and resilience.
- **Food Hardship:** Limited access to affordable, nutritious food and high rates of food insecurity due to economic disparities and inadequate food distribution infrastructure.
- **Farmworker Conditions:** Historically, farmworkers have faced poor working conditions (e.g. heat, physical stress, seasonal fluctuations), low wages, and limited access to healthcare and labor rights. Despite baseline wages in CA being among the highest, there remain many residual social inequities and health issues within this critical workforce and their communities.
- **Economic Pressures on Farmers:** Farms of all sizes struggle with market consolidation, competition from imports, and speculative/competing investments in agricultural land, threatening their viability.
- **Public Health Concerns:** Exposure to harmful chemicals, poor air quality, and poor dietary options contribute to public health issues among farmworkers and local communities, including respiratory problems and diet-related diseases.

1.2 Opportunity

Responsible food systems represent a comprehensive approach to transforming the food industry by integrating sustainability, equity, and economic resilience into every stage of the food supply chain. Current trends and projected growth indicate a strong movement towards adopting these practices globally,⁵ nationally,⁶ and regionally, particularly in regions like California's Central Valley. Responsible food systems can play a pivotal role in creating a sustainable, profitable, and equitable food future by supporting effective collaboration across the agricultural industry; leveraging local, state, and federal resources; addressing environmental challenges; and meeting consumer demand.⁷

Prioritizing investment into responsible food systems in California's Central Valley is justified by the region's critical role as a major agricultural hub that supplies a significant portion of the nation's produce. Food security in California's Central Valley is a US national security issue. Investments focused on innovation, infrastructure, enablement, policy changes, and sustainable practices can help address environmental challenges such as water scarcity and soil degradation,⁸ ensuring long-term agricultural productivity and ecological health.

These targeted investments will promote economic equity and job creation, creating wealth in local communities and supporting the livelihoods of farmers and farm workers. According to 2021 data from the Employment Development Department and 2021 data from the US Census Bureau,⁹ the food industry cluster in the Central Valley supports an estimated 215,000 jobs across more than 6,000 establishments. Agriculture in particular is a key driver of the regional economy and an important contributor to the nation's food supply. Still, it faces an uncertain future in light of increasing imports, climate change and related water shortages,¹⁰ which will have an impact on the rest of the region and the nation's food-related economy.

The opportunity for the agricultural sector extends beyond regional sustainability, presenting a chance to develop robust regional, state, and national markets. By investing in innovative and responsible food systems, the Central Valley can enhance its market reach, positioning itself as a leader in sustainable agriculture and influencing broader market development.

5 Food Systems Summit | United Nations

6 Fact Sheet: Biden-Harris Administration Commit to End Hunger and Malnutrition and Build Sustainable Resilient Food Systems | The White House

7 Consumers want sustainable options. What food producers, suppliers, and retailers can do now | World Economic Forum

8 Water Scarcity: Soil Health

9 California LaborMarketInfo, Data Library

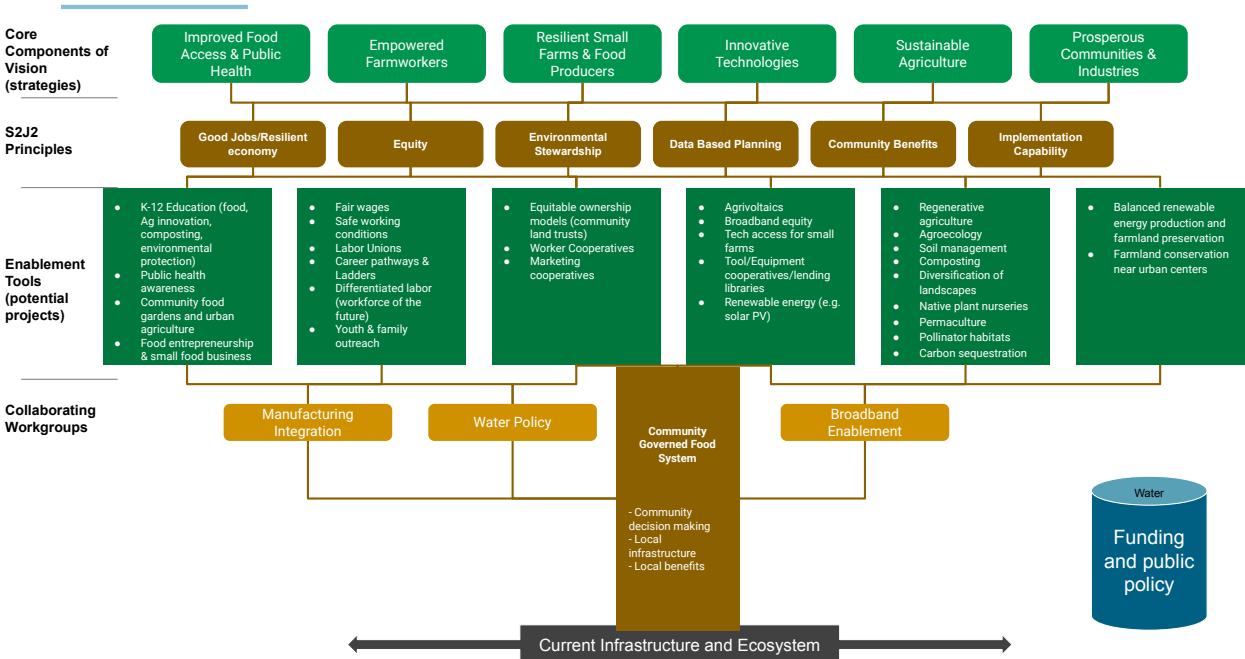
10 Irrigation Water Use | U.S. Geological Survey

1.3 Vision

The Responsible Food Systems workgroup vision is centered around a prosperous agricultural sector that serves as the foundation for thriving communities and healthy ecosystems. We envision an agricultural landscape where long term economic growth, public health outcomes, and improved food access are facilitated by innovative and sustainable farming practices.

These efforts include initiatives that empower farmworkers and promote resilient large and small farms and food production operations. Through investment in these initiatives and the adoption of innovative technologies we aim to create a food system that is resilient, economically prosperous, equitable, and environmentally sustainable.

Responsible Food Systems: Vision Tree



By aligning with the Sierra San Joaquin Jobs (S2J2) principles of equity, environmental stewardship, community benefits, and economic diversification and resilience, this vision aims to create a sustainable and inclusive agricultural future for the Central Valley.

2 Investment Strategies

2.4 Investment Strategy Overview

Implementing six key strategies will support the achievement of the responsible food systems vision across the four-county S2J2 region:

1. Create pathways for improved food access and public health outcomes for the local community.
2. Develop an ecosystem that enhances the use of innovative technologies.
3. Support opportunities to increase the adoption of sustainable agriculture practices.
4. Launch programs to empower farmworkers and support their career advancement opportunities.
5. Provide access to resources and systems that support resilient small farms and food producers.
6. Stimulate investments in infrastructure and policy changes that balance both prosperous communities and local industries.

These investment strategies collectively call for approximately \$360M of investment spanning the agricultural industry and local communities. When successfully executed, the investment plan will deliver the following outcomes¹¹ across four counties (Fresno, Madera, Tulare, and Kings):

- 3,500 to 7,600 in direct and indirect jobs created
- 8,000 to 15,000 graduates from education and skill development programs
- \$16.5M to \$31.5M in healthcare cost savings and productivity gains
- \$32M to \$96M in community and economic revitalization benefits

2.4.1 Improved Food Access and Public Health

The strategy to improve food access and public health is built on four main projects: establishing food hubs, expanding community gardens, supporting agritourism, and launching public education campaigns. These projects aim to enhance local food systems by providing spaces for small-scale producers to sell their products to larger commercial markets, promoting social connections through community gardening, leveraging agritourism to foster local economic growth, and educating the public on health and food safety.

At the core of this strategy are the food hub and agritourism programs designed to provide food access to the local community and nurture food entrepreneurship. The hub will act both as a farmers market and an aggregator/processor for larger commercial access and be paired with resources and connections to grow new ventures. A local food hub acts as a central node, connecting urban agriculture projects with consumers, restaurants, and other markets. It provides essential services such as aggregation, storage, and distribution, which are critical for scaling up production and reaching more customers.¹² Agritourism drives additional job and economic opportunities for farmers and food producers and acts as an economic multiplier which cascades benefits to other local businesses.

¹¹ Detailed impact projection model

¹² Assembly Committee on Agriculture

In addition to these concepts, this strategy includes an investment in community food gardens and urban agriculture.^{13,14} These solutions offer multifaceted benefits that extend across economic, social, and environmental dimensions.

Finally, educational resources, such as training programs and workshops, are integral to this ecosystem. They can teach community members and aspiring farmers about sustainable agricultural practices, business management, and food safety. Schools, community centers, and the co-manufacturing center with training facilities can offer hands-on learning experiences, fostering a knowledgeable and skilled workforce.¹⁵

Strategy investment cost: \$16.8M to \$34.3M

2.4.2 Innovative Technologies Ecosystem

Embracing innovative technologies is essential for transitioning to sustainable agriculture and supporting efficiency, resilience, resource conservation, economic viability, and global food security. Despite these benefits, several barriers hinder farmers' adoption of innovative technologies when transitioning to more efficient and sustainable practices.

First, there is a lack of awareness about the benefits and functionalities of these technologies, compounded by limited access to information and training. Furthermore, the value proposition and return on investment of new technologies is not clear. Additionally, the high upfront costs associated with acquiring and implementing innovative solutions present a significant financial barrier, especially for small-scale farmers with limited resources.¹⁶ Risk aversion and uncertainty about the effectiveness and reliability of new technologies deter some farmers from taking the leap.¹⁷ Regulatory constraints and policy gaps may also hinder innovation adoption by creating barriers to market entry or imposing restrictions on certain practices.

An innovation hub can act as a catalyst to address a number of these challenges by fostering collaboration and partnership between stakeholders, including researchers, entrepreneurs, policymakers, and farmers, to co-create and evaluate innovative solutions tailored to the needs of the agricultural community. It can help de-risk these technologies through demonstration, support, and even funding adoption of these new technologies by providing incentives to farmers for proven solutions.

Secondly, it can act as a platform for knowledge exchange and capacity building, offering training programs, workshops, and demonstrations to increase awareness and understanding among farmers about the benefits and functionalities of new technologies.

Developing an ecosystem that enhances the use of innovative technologies involves creating a support system for engineering and entrepreneurial solutions. This strategy focuses on leveraging AI, automation, climate adaptation technologies, and more to address key challenges in the food system. The goal is to bridge the gap between research and practical applications, fostering job creation and economic growth in the Central Valley. Ultimately, the integration of innovative technologies into agricultural systems is indispensable for building a more resilient, efficient, and sustainable food system capable of meeting the needs of a growing population while preserving the planet for future generations.

13 Urban Agriculture Grant Program Track 1

14 Urban Agriculture Grant Program Track 2

15 Bill Text: CA AB408 | 2023-2024 | Regular Session | Amended | LegiScan

16 Agtech: Breaking down the farmer adoption dilemma | McKinsey

17 Behavioral Factors in the Adoption and Diffusion of USDA Innovations

S2J2 coalition members established an innovation hub in the region with \$20M+ in state and federal funding by launching and funding the non-profit organization Farms Food Futures (F3) Innovate. In order to grow and scale this investment there are two key elements of investment needed to create exponential job growth and further attract outside investment: a flagship headquarters in the region and an innovation catalyst fund that will provide project funding for farmers to adopt new technologies. By funding a headquarters location for F3 Innovate and a catalyst fund alongside the existing programmatic funding, F3 Innovative will be a job-creating, revenue-generating economic powerhouse in the S2J2 region.

Strategy investment cost: \$106,548,000

2.4.3 Sustainable Agriculture Practices

To support large and small farm operations in transitioning to more sustainable practices, a comprehensive strategy addressing their primary challenges is essential. First, financial assistance and incentives can mitigate the high initial costs and financial risks, particularly to smaller producers. Public-private partnerships can also play a vital role in funding these transitions, providing shared risk and ensuring that all farms have the necessary capital to make substantial changes.¹⁸

Second, to manage the complexity of adopting sustainable practices, robust education and technical support are crucial. This includes developing comprehensive training programs for farm managers and workers focusing on sustainable farming techniques, soil health management, and integrated pest management. Extension services¹⁹ and agricultural consultants can provide ongoing support to help large farms navigate the transition, troubleshoot issues, and optimize their operations. By providing a new category of “Agroecology Cooperative Extension Advisors,” University of California Agriculture and Natural Resources (UC ANR) can support this transition to more sustainable practices profitably with practical solutions based on good science.

Furthermore, creating a collaborative network where large farms share best practices and innovations can facilitate peer learning and collective problem-solving. Lastly, to address regulatory and market uncertainty, clear and consistent policy frameworks are needed. Governments should work towards harmonizing regulations and providing long-term policy commitments that encourage sustainable practices. By offering certification programs and marketing support, governments and industry groups can help build consumer trust and demand for sustainably produced goods, ensuring a stable market for large farms adopting these practices.

Supporting the adoption of sustainable agriculture practices includes several projects such as establishing composting infrastructure, creating a pool of agroecology advisers, and promoting the use of protected agriculture. These initiatives aim to enhance soil health, promote regenerative farming techniques, and support market expansion for sustainable produce. By focusing on education, advisory services, and financial incentives, this strategy seeks to build resilience and sustainability in agriculture.

Strategy investment cost: \$48M to \$91M

18 2023 Farm Bill Recommendations

19 2023 Farm Bill Recommendations

2.4.4 Empowered Farmworkers

Launching programs to empower farmworkers and support their career advancement includes developing industry-aligned workforce training programs and supporting labor unions and career pathways. These initiatives focus on improving working conditions, providing skill development opportunities, and fostering long-term career growth in the agricultural sector. This strategy aims to create a more empowered and resilient workforce that can contribute to a sustainable food system.

Strategy investment cost: \$22M to \$24M

2.4.5 Resilient Small Farms and Food Producers

A comprehensive strategy to support resilient small farms and food producers includes a series of infrastructure investments and enablement efforts. This strategy will prioritize both smallholders who grow individual crops or varieties and those with integrated, diverse operations that incorporate a range of crops and livestock.

In terms of infrastructure, the development of regional food hubs, which aggregate, store, process, and distribute products from multiple small farms, can facilitate access to larger markets and institutional buyers. When these investments are complemented by robust digital platforms for direct marketing and online sales they can significantly expand the market reach and customer base of smaller producers.

Beyond infrastructure investments, the enablement of marketing and farmer cooperative models can help small producers collectively manage production, processing, and distribution, boosting market control and profitability. Supporting vertical integration models allows small producers to control more of their supply chain, enhancing economic resilience and market stability. Providing access to capital for infrastructure investments, along with training and technical assistance in processing and marketing, is crucial. Additionally, initiating consumer cooperatives can aggregate demand and provide a direct market for locally produced goods, ensuring fair prices and stable sales channels.

Providing access to resources and systems that support resilient small farms and food producers involves initiatives such as developing equipment-sharing cooperatives and supporting market access for protected agriculture. These projects aim to reduce financial burdens on small-scale farmers, enhance their economic opportunities, and improve their ability to adapt to changing environmental conditions. This strategy focuses on building a supportive infrastructure that fosters collaboration and resilience among small farms.

Strategy investment cost: \$15.3M to \$25.7M

2.4.6 Prosperous Communities and Local Industries

To address the challenge of developing a prosperous agriculture sector while fostering thriving communities, a multifaceted strategy is essential. This strategy should include land conservation near urban centers to protect natural resources and enhance urban-rural connections. Succession planning is crucial to ensure the continuity of agricultural enterprises, focusing on educating the incumbent workforce about ownership and management transitions. Non-traditional access to capital, such as microloans and community investment funds, can support new and existing farmers, particularly those from marginalized backgrounds. Additionally, balanced renewable energy production and farmland preservation must be integrated to ensure sustainable energy use without compromising valuable agricultural land. Two key projects being considered are a collective land ownership pilot, which aims to provide equitable land access and foster cooperative management, and investments in increased food processing/manufacturing capacity for the region to enhance local value chains and market opportunities. By combining these elements, the strategy can promote economic growth in agriculture while enhancing environmental stewardship and community resilience.

Stimulating investments in infrastructure and policy changes that balance both prosperous communities and local industries also includes initiatives such as developing agritourism programs. These projects aim to foster local economic growth, promote sustainable land use, and support agricultural businesses. This strategy seeks to create a thriving local economy that benefits both communities and industries through strategic investments and policy support.

Strategy investment cost: \$47.7M to \$75.4M

2.5 Strategy Alignment with S2J2 Principles of Equity, Environmental Stewardship, Community Benefits, and Economic Diversification and Resilience

2.5.1 Improved Food Access and Public Health

Establishing local food markets, urban farms, and healthier food retail options creates job opportunities and supports local entrepreneurs, boosting the community's economic base and keeping money circulating locally. Local food hubs enhance distribution and marketing, increasing revenue streams and community resilience against supply chain disruptions. Integrating community gardens, educational resources, and sustainable practices promotes workforce development, environmental sustainability, and public health, reducing healthcare costs and fostering a robust, adaptable local economy. These initiatives ensure equitable access to nutritious food, attract new businesses, and support environmental stewardship.

2.5.2 Innovative Technologies

Sustainable agriculture technologies enhance equity by empowering local farmers and providing equal access to innovative tools. Economically, these technologies attract investment, create jobs, and diversify income sources within the community. Environmentally, they reduce resource consumption, mitigate climate risks, and decrease the overall environmental impact of farming practices. Community benefits include fostering collaboration, extending market access, and promoting long-term economic stability and resilience, contributing to a more sustainable and prosperous future for all members.

2.5.3 Sustainable Agriculture

Transitioning to sustainable agriculture practices supports economic diversification and resilience by promoting the adoption of diverse crop rotations, integrated pest management, and regenerative soil health techniques that reduce dependency on single-crop systems and synthetic inputs. This diversification of agricultural activities helps stabilize income by spreading risk across multiple revenue streams and enhancing the farm's ability to withstand market fluctuations and environmental challenges.

Sustainable agriculture directly benefits the climate by reducing greenhouse gas emissions, enhancing biodiversity, and improving soil and water health. Practices such as crop rotation, organic fertilization, and agroforestry contribute to carbon sequestration and a reduction in environmental degradation.

Thus, investment in sustainable agriculture not only strengthens the economic viability and social equity of agricultural communities but also contributes to broader climate resilience and environmental sustainability.

2.5.4 Empowered Farmworkers

Empowering farmworkers requires a multifaceted strategy addressing their immediate needs and long-term opportunities for advancement. Establishing clear career pathways and ladders offers farmworkers opportunities for professional growth, making agriculture a more attractive long-term career option. Differentiated labor approaches, which include training for the workforce of the future, can help farmworkers adapt to new technologies and practices, increasing their competitiveness in the evolving agricultural landscape. Youth and family outreach programs can engage the next generation and support farmworker families, fostering community resilience and continuity.

Additionally, the strategy must encompass broader social and economic dimensions. Ensuring workers fully understand their options in terms of accessing and navigating the healthcare system can significantly improve farmworkers' overall well-being. Similarly, improving housing and living conditions ensures that farmworkers and their families live in safe, dignified environments, reducing stress, and increasing productivity. Strengthening legal protections and rights, including robust labor laws and anti-discrimination policies, and the use of labor unions can empower farmworkers to assert their rights and address grievances.

2.5.5 Resilient Small Farms

A comprehensive strategy to support resilient small farms and food producers enhances equity by providing equal access to infrastructure and resources, empowering smallholders. Economically, it boosts profitability and market stability through regional food hubs, digital marketing platforms, and cooperative models. Environmentally, it supports diverse, sustainable farming practices and reduces the financial burden on small-scale farmers, improving their adaptability to changing conditions. Community benefits include fostering collaboration, expanding market access, and ensuring fair prices, contributing to a resilient and prosperous local food system.

2.5.6 Prosperous Communities and Local Industries

Farmland conservation near urban centers²⁰ fosters ecological health and recreational spaces that benefit both urban and rural communities. Succession planning ensures that agricultural businesses remain viable and adapt to generational changes, while educating the incumbent workforce about ownership empowers them to take active roles in sustaining these enterprises.

20 California Farmland Conservancy Program

Non-traditional access to capital opens financial avenues for a broader range of farmers, encouraging innovation and inclusivity. Incorporating renewable energy production alongside farmland preservation ensures a sustainable approach to resource use, reducing costs, and environmental impact.

Collectively, these efforts diversify income streams, enhance sustainability, and build a more resilient agricultural economy capable of withstanding economic and environmental challenges.

3 Funding Models and Sources

3.6 Potential Funding Models and Sources

To support a comprehensive suite of strategies aimed at developing responsible food and agriculture systems in California's Central Valley, a diverse array of funding models can be leveraged. These models include federal grants from agencies such as the USDA, NRCS, Department of Energy, the U.S. Economic Development Administration (EDA), and the National Science Foundation (NSF), which support innovative technologies, sustainable agriculture, and resilient small farms. State funding sources, such as the California Department of Food and Agriculture (CDFA) grants, California Strategic Growth Council, California Department of Water Resources, and the California Energy Commission, also play a crucial role in promoting sustainable practices and technological advancements.

Philanthropic foundations, including the California Endowment, Kellogg Foundation, Sierra Health Foundation, and 11th Hour Foundation offer grants for public health, workforce development, and farmworker empowerment. Additionally, venture capital funds and corporate sponsorships from companies like John Deere, Bayer, Netafim, and local agricultural technology firms can provide essential financial backing for technological innovations and sustainable practices.

Local and regional funding sources, such as community colleges, nonprofit organizations, and Community Development Financial Institutions (CDFIs), can support education, technical assistance, and cooperative models. Public-private partnerships and municipal bonds further enhance the funding landscape, promoting economic resilience and community prosperity. Furthermore, specific programs like the Specialty Crop Block Grant Program (SCBGP) and Rural Energy for America Program (REAP) offer targeted support for diverse agricultural initiatives. By utilizing this multifaceted funding approach, the Central Valley can foster a thriving agricultural sector, improve public health, empower farmworkers, and ensure sustainable and equitable community development.

3.6.1 Self Funding

Many of these projects have the potential to be at least partially self-funded through various revenue streams and cost-saving mechanisms. For example, a composting facility can generate income by charging tipping fees for organic waste disposal and selling high-quality compost to local farmers and gardeners. Similarly, agritourism initiatives can create self-funding opportunities by offering paid tours, workshops, and farm-to-table experiences that attract visitors and generate direct revenue for participating farms.

3.6.2 Government Funding

There are a variety of federal and state grants as well as the potential for local government support (low-interest loans, municipal bonds, and tax credits) which could be used to help fund these initiatives. These options can supplement other funding sources, incentivize adoption, and spearhead infrastructure investments that will catalyze growth opportunities.

3.6.3 Corporate Sponsors and Investors

Corporate sponsors and private investors can provide essential financial backing for these initiatives by funding startup costs, infrastructure development, and ongoing operations. In return, they may benefit from tax incentives, enhanced corporate social responsibility profiles, and potential profit-sharing arrangements. Additionally, their involvement can foster stronger community relationships and brand loyalty by aligning with sustainable and socially responsible practices that resonate with consumers.

3.6.4 Philanthropic Funding Sources

Philanthropists can support these initiatives by providing grants and donations to cover initial capital expenses, operational costs, and community outreach programs. In the case of the collective land ownership pilot, this type of funding can help de-risk the transition to land ownership for individuals and groups who may otherwise not have access to traditional capital sources. By investing in these projects, philanthropists can advance their goals of promoting environmental stewardship, sustainable agriculture, and economic resilience in local communities.

3.6.5 Public-Private Partnerships

Public-private partnerships can support the funding of these initiatives by combining government and academic resources with private sector investment to share the costs and risks associated with development. These collaborations can leverage public funds to attract private capital, creating a sustainable financial model for long-term projects. Additionally, they can facilitate access to expertise, technology, and infrastructure, enhancing the overall effectiveness and impact of the initiatives.

3.6.6 Nonprofits and Community-Based Organizations

Nonprofits and community-based organizations (CBOs) can support the funding of these initiatives by applying for grants, attracting donations from individuals and foundations, and organizing community fundraising events. They can also provide crucial financial oversight and management to ensure that funds are used efficiently and transparently. Furthermore, these organizations can leverage their extensive networks and local knowledge to build partnerships and secure additional resources, enhancing the sustainability and reach of the initiatives.

4 Stakeholder Map

4.1 Stakeholders in the Area

The following set of stakeholder groups is key to the successful deployment of the identified strategies.

Note: These are examples of entities that would be helpful in deploying strategies. This list is not meant to declare prior engagement and/or advisory capacity related to the identified projects.

4.1.1 Local Farmers, Farmworkers, Farm Industry Groups, Farm Bureaus, and Farm Cooperatives

Local farmers and farmworkers are primary stakeholders in the region's agricultural sector. Their involvement and buy-in are crucial for the success of sustainable agricultural initiatives. Engaging farmers and farmworkers in decision-making processes ensures that investments address their needs and priorities.

For example: Community Alliance with Family Farmers (CAFF), Fresno County Farm Bureau, Wonderful Company, Sun-Maid Growers, Blue Diamond Growers, Del Bosque Farms, Woolf-Harris, Commodity Boards and industry associations, such as CA Fresh Fruit Association, CA Stone Fruit Association, Citrus Research Board

4.1.2 Government Agencies

Local government bodies and larger government entities can offer economic development incentives, streamline permitting processes, and invest in infrastructure to support responsible food system development.

For example: CDFA, USDA, Local Water Management Authorities, California Office of Tourism, Governor’s Office of Business and Economic Development (GO-Biz), CA Forward, Regional Water Boards, City of Visalia, City of Kerman

4.1.3 Educational Institutions

Educational institutions, including community colleges and universities, are key stakeholders in workforce development and research efforts. Educational institutions can support the deployment of strategies, help expand knowledge through research and education, support workforce skillbuilding, and act as ecosystem conveners to drive growth opportunities. In addition, providing extension services can offer farmers access to research, expertise, and best practices.

For example: UCANR, California State University, Fresno, community colleges such as Reedley College and West Hills College, public school districts such as Fresno Unified School District

4.1.4 Private Sector Partners

Private sector partners, including agribusiness companies, investors, and technology providers, are critical stakeholders in scaling sustainable agricultural practices. Entrepreneurs and corporate sponsors can support the deployment of strategies and benefit from the new technologies, sustainable practices, and workforce development opportunities that materialize through the strategies.

Their involvement can provide:

- **Funding:** Investment capital for infrastructure development, technology adoption, and workforce training.
- **Expertise:** Technical expertise and support for implementing advanced agricultural technologies and sustainable practices.
- **Market Access:** Opportunities for farmers to access new markets and value-added processing facilities.

For example: A Greener World, Bluewhite, RegenScore, local entrepreneurs and small business owners, for example Alchemist Kitchen, and local large employers

4.1.5 Nonprofits and Foundations

Nonprofits and foundations can provide funding, advocacy, and implementation support as strategies are deployed.

For example: Zero Foodprint, Foundation for Food & Ag Research, California Farmworker Foundation, California FarmLink, Fresno BIPOC Produce

4.1.6 Community Organizations

Community organizations play a vital role in supporting local food systems, advocating for farmworker rights, and promoting public health. Community based organizations and local community members can help implement investment strategies and advocate for sustainable and equitable approaches.

For example: Centro de Unidad Popular Benito Juarez, Inc. (CUPBJ), Central Valley Mother Lode Regional Consortium, Central Valley Partnership, Fresno Interdenominational Refugee Ministries (FIRM), Tule Basin Land & Water Conservation Trust, The LEAP Institute

4.2 Highly Committed Stakeholders

Organizational Partner / Human Resource	Role
Community Alliance with Family Farmers (CAFF)	Support for small farmers, sustainable practices, and improved food access
UC Agriculture and Natural Resources (UCANR)	Support for research and development, sustainable agriculture, and innovative technology deployment
F3 Innovate (Central Valley Community Foundation, VCF, UCANR, Fresno State, University of California - Merced, CDFA, GO-Biz)	Support for sustainable practices and community health.
Other Educational Institutions, e.g. Merced College, Madera Community College, Fresno City, Reedley College, Clovis Community College, Lemoore College, Coalinga College	Committed to workforce development and community education opportunities
Community organizations, e.g. CUPBJ, Fresno Metro Ministries, Cultiva La Salud, California Farmworker Foundation, Binacional Central California	Committed to empowering farmworkers and small food producers and developing access to resources and education
Cities of Visalia and Kerman	Committed to investment in food processing/manufacturing capacity locally
Fresno BIPOC Produce	Committed to establishing a food hub in the region

4.3 Stakeholder Gaps

Ongoing stakeholder engagement will be critical to navigate the priorities of each key stakeholder group. Potential tensions may arise between large farmers and other community voices stemming from differing priorities, awareness levels, and perspectives on agricultural practices and sustainability. Addressing these differing views requires fostering open dialogue, finding common ground, and developing collaborative solutions that balance economic viability with environmental stewardship and equity goals. Additionally, there remain several opportunities to generate additional interest, buy-in, and commitment from a variety of listed stakeholders noted below.

4.3.1 Addressing Stakeholder Gaps

- **Healthcare Providers:** Engage local healthcare providers to support public health initiatives.
- **Banking Institutions and other Funding Sources:** Collaborate with financial institutions to expand support for funding models and consider alternate funding approaches.
- **Insurance Companies:** Collaborate with insurance companies to develop and source insurance products tailored for small farmers and other Responsible Food Systems strategies.
- **Retail and Entrepreneur Partnerships:** Form partnerships with local retailers, entrepreneurs, and markets to ensure distribution channels and other implementation support pathways.
- **Food Banks:** Collaborate with food banks and other partners to develop alternate channels of food distribution/recovery and paths to mitigate food waste.
- **Waste Management Companies:** Explore partnerships and key channels to operationalize composting infrastructure and logistics strategies.
- **Large Grower Organizations:** Catalyze buy-in for major operators such as Fresno County Farm Bureau, Sun-Maid Growers, Blue Diamond Growers, Woolf-Harris.

5 Potential Barriers

5.4 Area Barriers

5.4.1 Funding Constraints

Funding limitations can hinder the implementation of sustainable agriculture projects. It will be critical to securing adequate funding for comprehensive projects across all strategies, including initial investments and ongoing operational costs.

Mitigation Approach:

- **Diversified Funding:** Diversify funding sources through public-private partnerships, grants, and impact investing. Engage with financial institutions, foundations, and corporate sponsors committed to sustainable community development.
- **Financial Incentives for Private Investments:** Offering financial incentives, such as grants, low-interest loans, and tax credits, to encourage private sector investments in sustainable agriculture.
- **Enhancing Access to Grants and Loans:** Simplifying the application processes for grants and loans to make it easier for farmers and agribusinesses to access financial assistance.

5.4.2 Stakeholder Engagement

Ensuring effective coordination and collaboration among diverse stakeholders, including farmers, government agencies, non-governmental organizations (NGOs), and community groups.

Mitigation Approach:

- **Collaboration:** Establish multi-stakeholder task forces and collaborative platforms for regular communication and knowledge sharing. Facilitate partnerships and alliances that leverage collective expertise and resources.

5.4.3 Public Awareness and Support

Overcoming limited public awareness and support for local food systems and sustainable agriculture initiatives.

Mitigation Approach:

- **Communication Campaigns:** Launch targeted public awareness campaigns, educational programs, and community events that highlight the benefits of supporting local food producers and sustainable practices. Mobilize influencers, media outlets, and community leaders as advocates.

5.4.4 Regulatory Hurdles

Obtaining permits and navigating bureaucratic procedures can be complex and time-consuming. For issues like on farm composting, this can involve the need for environmental impact assessments, air quality permits, and compliance with state and local regulations on waste management and water quality.

Mitigation Approach:

- **Synchronize Policies:** Coordinate synchronized efforts among regulatory agencies, agricultural stakeholders, and policymakers to streamline, provide clear guidance, and support sustainable agricultural practices while ensuring environmental protection and public health.
- **Streamlining Permitting Processes:** Simplifying and expediting the permitting processes for sustainable agriculture projects to reduce administrative burdens and delays.

- **Regulatory Incentives:** Providing regulatory incentives, such as tax credits or subsidies, for farmers and agribusinesses that adopt sustainable practices and technologies.
- **Adaptive Regulations:** Ensuring that regulations are adaptable to new technologies and methods, allowing for flexibility and innovation in sustainable agriculture.

5.4.5 Resistance to Change

Resistance to change among traditional agricultural practices can be a barrier to the adoption of sustainable methods.

Mitigation Approach:

- **Education and Outreach Programs:** Implementing education and outreach programs to raise awareness about the benefits of sustainable practices and technologies. These programs can include workshops, seminars, and demonstration projects.
- **Technical Assistance:** Providing technical assistance and support to farmers who are transitioning to sustainable practices. Extension services, advisory programs, and mentorship initiatives can offer personalized guidance and support.
- **Incentive Programs:** Offering incentives, such as cost-sharing programs or performance-based rewards, to encourage farmers to adopt sustainable practices and technologies.

5.5 Recommended Changes to Local, State, and Federal Policies and Laws

5.5.1 Facilitate Urban Agriculture

- **Policy Change:** Encourage mixed land use through zoning reforms and land use planning policies. Amend zoning laws to facilitate urban agriculture, including rooftop gardens and community gardens.
- **Implementation:** Provide tax incentives, grants, and streamlined permit processes for urban agriculture projects. Establish urban agriculture zones in city planning frameworks. Create incentives for mixed-use developments that incorporate agriculture, residential, and commercial activities. Develop model ordinances that promote sustainable land use practices.

5.5.2 Enhance K-12 Food Education

- **Policy Change:** Integrate nutrition, food production, and environmental stewardship into K-12 curriculum standards.
- **Implementation:** Increase funding for educational resources, teacher training, and school garden programs. Advocate for state-level curriculum updates to include these topics.

5.5.3 Clear Path for Agritourism

- **Policy Change:** Invest in centralized resources and guidelines for agritourism activities.
- **Implementation:** Offer legal protections and liability insurance incentives for agritourism operators. Leverage existing channels such as CFDA to ensure safety and quality standards.

5.5.4 Empower On-Farm Composting Practices

- **Policy Change:** Simplify regulatory processes and standards for on-farm composting.
- **Implementation:** Provide technical assistance and training on composting best practices. Establish composting infrastructure grants and exemptions from certain regulatory requirements for small-scale operations.

5.5.5 Advocate for Reduced Agricultural Chemical Inputs

- **Policy Change:** Implement stricter regulations and incentives to reduce chemical pesticide and fertilizer use.
- **Implementation:** Provide subsidies for transitioning to integrated pest management (IPM) and organic farming practices. Fund research and extension services on sustainable agriculture techniques.

5.5.6 Enable Organic Farming and Sustainable Practices

- **Policy Change:** Increase funding for organic certification and transition grants.
- **Implementation:** Expand subsidies for organic inputs and infrastructure development. Establish tax incentives for organic farming and sustainable agricultural practices.

5.5.7 Provide Guidance and Support for SGMA Regulations

- **Policy Change:** Enhance guidance and technical support for farmers navigating SGMA (Sustainable Groundwater Management Act) regulations.
- **Implementation:** Establish regional groundwater management assistance programs. Provide funding for water conservation and efficiency projects on agricultural lands.

5.5.8 Create Equitable Models of Land Access and Ownership

- **Policy Change:** Develop policies to support land trusts, cooperative ownership models, and land access programs for historically disadvantaged groups.
- **Implementation:** Provide tax incentives for land donations to trusts. Fund programs that assist with affordable land acquisition and succession planning for new farmers.

5.5.9 Bolster Water Infrastructure Subsidies

- **Policy Change:** Increase funding for water infrastructure projects, including irrigation systems and water storage facilities.
- **Implementation:** Offer grants and low-interest loans for water infrastructure upgrades. Advocate for federal and state investments in water conservation and reuse technologies.

5.5.10 Increase Farmland Conservation

- **Policy Change:** Expand conservation easement programs and incentives for farmland preservation.
- **Implementation:** Allocate funding for farmland protection grants and easement acquisitions. Develop statewide farmland conservation plans in collaboration with agricultural stakeholders.

5.5.11 Support Farm Succession Management Policies

- **Policy Change:** Implement policies that facilitate farm succession planning and intergenerational transfers.
- **Implementation:** Provide tax incentives for farm transfers to family members. Offer technical assistance and financial planning resources for retiring farmers.

5.5.12 Advocate for Balanced Renewable Energy Production and Farmland Preservation

- **Policy Change:** Develop guidelines and incentives for renewable energy projects that prioritize farmland preservation.
- **Implementation:** Require agricultural impact assessments for energy projects on agricultural land. Establish zoning overlays that protect prime agricultural soils from large-scale energy developments.

5.5.13 Establish State-Funded Climate Smart Agriculture Innovation Catalyst Fund

- **Policy Change:** Establish a climate smart innovation catalyst fund that augments and enhances programs like CDFA's AMMP and SWEEP funds that drive innovative technology adoption by growers and ranchers for a broader set of climate smart technologies.
- **Implementation:** Provide direct funding administered through CDFA.

6 The Path Forward

6.1 Key Objectives and Activities for the Next Six Months

The path forward involves a collaborative and multifaceted approach to addressing the challenges and opportunities in the Central Valley's agricultural sector. Key steps include:

Additional Feasibility/Needs Assessments: There are several proposed projects that will require additional diligence to determine the best path forward (see list below).

Technical Working Groups: The F3 Innovate project will need further technical working groups with specific stakeholders to further define operational requirements that will fine tune the business model and prepare for additional funding proposals.

Stakeholder Engagement: Continue to engage with key stakeholder groups to create alignment on priorities and path forward.

Building Partnerships: Establish strong partnerships between government agencies, private companies, community organizations, and educational institutions to leverage resources, expertise, and market opportunities for each of the proposed strategies.

Securing Funding: Identify and secure diverse funding sources, including federal and state grants, private investments, and public-private partnerships, to support sustainable proposed projects and initiatives.

Advocating for Policy Changes: Work with regulatory authorities to implement recommended policy changes and strategies including streamlining permitting processes, and providing regulatory incentives for sustainable practices.

Monitoring and Evaluation: Establish monitoring and evaluation frameworks to assess the impact of these initiatives, track progress, and identify areas for improvement. Using data and feedback to inform decision-making and ensure continuous improvement.

Additional Feasibility/Needs Assessments:

Focus Area	Description	Owner	Timeline
Project Owner Identification	Identify owners or project leads for feasibility/needs assessments	The Vine Institute	Aug. 2024 - Sept. 2024
Large Growers	Conduct needs assessment for innovation/technology priorities for large growers	UCANR	Aug. 2024 - Oct. 2024
Food Hub	Evaluate if other regions or communities, including unincorporated areas and communities that have historically seen less investment, could benefit from access to a food hub or similar food aggregation spaces.	TBD	TBD
Community Gardens	Investigate optimal models e.g. new developments, use of existing community space, etc.	TBD	TBD
Agritourism	Develop proposal/conduct feasibility assessment to determine potential next steps.	UCANR	TBD
Public Education Campaign	Develop funding and impact projections in partnership with education and skill building groups.	TBD	TBD
Composting	Develop a business model/conduct feasibility assessment to evaluate approach and next steps.	TBD	TBD
Protected Agriculture	Conduct market research and analysis to identify trends and demand as well as cost-benefit of different market expansion models.	The VINE Institute	Oct. 2024 - Jan. 2025
Farmer Co-Op	Conduct phase one analysis to establish needs/approach for Farmer Marketing Cooperative.	UCANR	TBD
Food Processing Needs Assessment	Perform an assessment of food processing/manufacturing capacity needs and requirements.	TBD	TBD

6.2 Additional Review and Prioritization

Significant review and prioritization will occur in the coming weeks as these strategies are shared for public comment. In case helpful, please see initial prioritization feedback from the RFS workgroup [here](#). By taking the steps recommended above, the Central Valley can achieve a sustainable and inclusive future for its agricultural sector, creating long-term benefits for the environment, economy, and communities.

7 Appendix

7.1 State Strategies that Align with Proposed Area Strategies

Proposed Strategies	State Strategies
Improved Food Access and Public Health	- Local Food Purchase Assistance Cooperative Agreement: LFPA is a federal program (we are trying to get funded again in the next farm bill) and operationalized at state level in CA thru Farms Together, a partnership between CAFF, Fresh Approach and the CA Association of Food Banks. - USDA section 32 - Visit CA (Go Biz) - Legislature, Assembly Bill No. 1009: Establishes the Farm to Community Food Hub Program to support local, sustainable agriculture and improve food access by creating public-serving food hubs, with initial planning grants followed by development grants for selected proposals, contingent on legislative appropriation, and includes a provision for annual reporting to the Legislature through 2028. - CDFA: (Track 1) Provides competitive grants to enhance urban agriculture viability by funding community-based organizations to increase staff capacity, administer subawards, and support urban agriculture projects with awards ranging from \$200,000 to \$800,000, focusing on underserved regions and priority populations. - CDFA: (Track 2) provides competitive grants of \$75,000 to \$300,000 to support urban agriculture projects led by or serving priority populations, targeting eligible for-profit businesses, non-profit organizations, Resource Conservation Districts, and Tribal entities. - Legislature, Bill 80741: \$320M will be allocated to the Department of General Services for aiding various educational and tribal organizations in improving kitchen and meal service infrastructure for school nutrition programs, with specific goals including increasing student participation and access to nutritious food.
Innovative Technologies	- California Senate, SB 688: Mandates the State Energy Commission to grant funding for agrivoltaic system projects, conducting research on their impact on agriculture, solar energy generation, and resilience against extreme heat, while developing guidelines and evaluating program outcomes. - CA.gov: The Accelerate CA Hubs program fosters statewide innovation ecosystems by providing technical assistance, mentorship, access to funding, and inclusive innovation programming aimed at supporting economic growth and job creation, particularly in underserved regions and communities across California. - U.S. Economic Development Association (U.S. Department of Commerce): The Biden-Harris administration announced the designation of 31 Tech Hubs across the U.S., marking the first phase of a program aimed at boosting regional innovation, job creation, and U.S. competitiveness in industries like quantum computing, biotechnology, and clean energy, as part of the Investing in America agenda.

Proposed Strategies	State Strategies
Sustainable Agriculture	2023 Farm Bill: Focuses on sustainable pest management and food production, as well as promoting agricultural trade. - State of California Priority Climate Action Plan: The GHG Reduction Measures include advancing zero-emission vehicles and infrastructure, industrial and energy decarbonization, healthy landscapes, renewable microgrids, reducing high global warming potential gasses, promoting sustainable agriculture, enhancing forest health and wetland restoration, and improving waste management. - Executive Order N-82-20: Mandates California agencies to protect and restore biodiversity, achieve 30% land and coastal water conservation by 2030, and implement nature-based solutions to combat climate change while ensuring economic sustainability and community engagement.²¹ - Biden Administration, Executive Order: The administration's policy is to mobilize all agencies to combat the climate crisis through a comprehensive approach that reduces pollution, enhances resilience, protects health, conserves resources, promotes environmental justice, and spurs economic growth with clean energy innovation and infrastructure.²² California's Nature-Based Solutions Climate Targets - Existing state programs at CDFA like Healthy Soils Program and Biologically Integrated Farming Systems (BIFS) that are helping DPR and CDFA realize their Sustainable Pest Management Roadmap.
Empowered Farmworkers	- Farmworkers Advancement Program Grant 2023²³: Awards up to \$9M to be awarded to research, design, and implement projects that focus exclusively on farmworker needs at a regional level by offering essential skills and upskilling training to either advance in the agricultural industry and/or prepare for advancement outside of the agricultural sector. - Employment Training Panel Announces \$10M in funding for farmworker education and training²⁴: Provides \$10M to ag businesses to provide additional education for farmworkers to increase their skills portfolio and gain access to higher paying jobs and secure careers.
Resilient Small Farms and Food Producers	- Senate Bill 1448: Farm to Community Food Hub Advisory Committee: CA Ag Land Equity Task Force²⁵: Increases small farm access to land and markets by requiring additional members on the Food Advisory Committee with diverse backgrounds and experience with small farms, creating a more inclusive environment that is friendly to and supportive of small farm owners. - Assembly Bill 2734: Improvements to Healthy Soil Program²⁶: Amends program to be accessible to all farmers, including e.g. on-farm demonstration projects for up to five years, CA organic products Advisory Committee consultation, and making shared equipment costs allowed on the Climate Smart Agriculture Technical Assistance Grants program.
Prosperous Communities and Industries	TBD

21 Executive Order N-82-20

22 Executive Order on Tackling the Climate Crisis at Home and Abroad | The White House

23 Farmworkers Advancement Program Grant SFP – PY 23-24

24 ETP Press Release - January 2024

25 CA AB2734

26 CA AB2734

7.2 Outline of Potential Funding Models by Strategy

Strategy	Potential Funding Models
Improved Funding Access and Public Health	See project catalog for more details. A sampling of models include: • California Wellness Foundation • California Health Care Foundation • USDA Community Facilities Programs • Sierra Health Foundation • The California Endowment • Department of Labor (DOL) • Kellogg Foundation
Innovative Technologies	See project catalog for more details. A sampling of models include: • USDA grants, EPA grants, CFDA grants • Agricultural Research Service (ARS) • National Science Foundation (NSF) • Department of Energy (DOE) grants • Corporate sponsorships (e.g., John Deere, Bayer) • Venture Capital Funds focused on AgTech • State and local innovation grants
Empowered Farmworkers	See project catalog for more details. A sampling of models include: • California Department of Education (CDE) grants • USDA farmworker programs • State Workforce Development Funds • Local community colleges and educational institutions • Nonprofit organizations (e.g., Proteus, Inc.) • Foundations supporting worker rights and education
Resilient Small Farms and Food Producers	See project catalog for more details. A sampling of models include: • Rural Cooperative Development Grant (RCDG) • Farm Service Agency (FSA) loans and grants • Nonprofit and foundation grants (e.g., W.K. Kellogg Foundation) • CoBank • Community Development Financial Institutions (CDFIs) • State Water Resources Control Board (for water infrastructure) • Corporate Sponsorships • USDA Value-Added Producer Grants (VAPG)
Sustainable Agriculture	See project catalog for more details. A sampling of models include: • USDA Sustainable Agriculture Research and Education (SARE) Program • Natural Resources Conservation Service (NRCS) grants • Philanthropic foundations (e.g., David and Lucile Packard Foundation) • State and federal agricultural grants • Community Reinvestment Act (CRA) funds • Agriculture capital funds • California Farmlink
Prosperous Communities and Industries	See project catalog for more details. A sampling of models include: • USDA Local Food Promotion Program (LFPP) • Rural Business Development Grants (RBDG) • Small Business Administration (SBA) loans • GoBiz California Competes Tax Credit • Local municipal bonds • Philanthropy (e.g., W.K. Kellogg Foundation) • Public-Private Investment (e.g., Public Benefit Investment District - PBID)

See detailed funding by strategy in the [Draft RFS Funding Model](#)

7.3 Strategy-Specific Stakeholders

Strategy	Organizational Partner / Human Resource	Role
Improved Food Access and Public Health	Local Health Departments	Public health campaigns and nutritional education
	Educational Institutions	K-12 education initiatives related to food and health
	Community Organizations	Community engagement and garden initiatives
	Local Farmers and Cooperatives	Implementation of food access programs
	Cultiva La Salud	Community engagement and health initiatives
	Agritourism Consultants (EY & JLL)	Implementation of Agritourism program
Innovative Technologies	Tech Companies and Startups	Development of innovative technological solutions
	Local Farmers	Adoption of new technologies
	UC ANR	Research and innovation in agricultural technology
	Educational Institutions	Training on the use of new technologies
	Investors e.g. Access Plus Capital	Financial support for technology adoption
Sustainable Agriculture	UC ANR	Research on sustainable practices
	Local Farmers	Implementation of sustainable practices
	Environmental Organizations	Advocacy and support for environmental initiatives
	Community Organizations	Engagement and education on sustainable practices
	Policy Makers	Advocate for policies supporting sustainable agriculture
	Consumers	Educate consumers on the benefits of sustainable agriculture
Empowered Farmworkers	Labor Unions	Labor rights and fair wage advocacy
	Community Organizations	Advocacy and support for farmworkers
	Local Government	Policy support and regulatory frameworks
	Educational Institutions	Training and career pathways for farmworkers
	California Center for Cooperative Development	Support for cooperative development
Resilient Small Farms and Food Producers	Local Farmers and Cooperatives	Implementation of resilience practices
	CAFF	Support for small farmers and sustainable practices
	UC ANR	Research and innovation for resilience
	Zero Foodprint	Support for infrastructure and sustainability
Prosperous Communities and Industries	Local Businesses	Partnerships for local economic development
	Educational Institutions	Training and workforce development
	Community Organizations	Community engagement and development initiatives
	Local Government	Policy support and local infrastructure development
	Economic Development Agencies	Collaborate with agencies focused on local economic growth
	Industry Associations	Engage industry associations to support local businesses
	Economic Development agencies	Collaborate with agencies focused on local economic growth
	Industry Associations	Engage industry associations to support local businesses
	ICA Fund	Engage philanthropists and manage implementation

7.4 Available Stakeholders

Stakeholder Group	Organizational Partner / Human Resource	Strategy					
		Improved Food Access	Innovative Tech.	Sustainable Ag.	Empowered Farm-workers	Resilient Small Farms	Prosperous Ind. & Communities
Government	Local Government Bodies e.g. City of Visalia Parks & Rec.	✓	✓	✓	✓	✓	✓
	Fresno Economic Opportunities Commission (EOC)	✓	✓	✓	✓	✓	✓
	CalFresh	✓				✓	
	Fresno DHP	✓					
	Regional Water Boards & California State Water Resources Control Board (SWRCB)	✓	✓	✓			✓
	California Department of Agriculture (CDFA)			✓			
	San Joaquin Valley Air Pollution Control District & Central Valley Air Quality Coalition			✓			✓
	Natural Resources Conservation Service (NRCS)			✓			
	Central California iHUB		✓				
	Central San Joaquin Valley K –16 Partnership						✓
	Fresno County Historical Society	✓					
	Central Valley Opportunity Center				✓		
	Central Valley Training Center						✓
	ExCITE Riverside						✓
	CalRecycle			✓			✓
	Local Chambers of Commerce	✓					
	Health Departments	✓					✓
	Regional Workforce Development Agencies		✓		✓		✓

Stakeholder Group	Organizational Partner / Human Resource	Strategy					
		Improved Food Access	Innovative Tech.	Sustainable Ag.	Empowered Farm-workers	Resilient Small Farms	Prosperous Ind. & Communities
Education	Local Community Colleges	✓		✓	✓		
	UC ANR	✓	✓	✓			
	Fresno State			✓	✓		
	CSET	✓					✓
	Regional Agricultural Extension Services		✓	✓			
	Fresno Unified School District			✓			
	UC Davis Horticulture			✓			
	Regenerative Agriculture Technical Assistance Provider Certification			✓			
Ag. Industry	CAFF	✓	✓	✓		✓	✓
	AAFC	✓					
	Fresno BIPOC Produce	✓					
	Local Farmers (in GSA's with minimal allocation)	✓					
	Local Cooperatives	✓					
	Network of Pest Control Advisers (PCA's)			✓			
	Agricultural Supply Companies	✓		✓		✓	
	Zero Foodprint			✓			
	Del Bosque Farms			✓			
	S&S Seeds			✓			
	Plantible Foods			✓			
	Sankofa Sky Farm (UC Santa Cruz: Sheyna)			✓			
	Blue Apron (meal kit providers, farm to table)			✓			
	Specialty grocers (Buy Rite/Luke's Local, etc)			✓			

Stakeholder Group	Organizational Partner / Human Resource	Strategy					
		Improved Food Access	Innovative Tech.	Sustainable Ag.	Empowered Farm-workers	Resilient Small Farms	Prosperous Ind. & Communities
Ag. Industry	Commodity Boards			✓			
	National Latino Farmers and Ranchers				✓		
	BEAM Circular			✓			
	Wukchumni Farms	✓					
	Carlos Lopez (Dragon Fruit Farmer)			✓			
	Donald Harris (former owner of Central Valley Mushrooms)			✓			
Nonprofits / Community Orgs	Cultiva La Salud	✓					
	Building Youth Tomorrow Today	✓					
	Homeowners Associations	✓					
	Saint Rest Food Entrepreneur Academy	✓					
	Promotores de la Comunidad	✓					
	Hatch	✓					
	Xerces Society	✓					
	Community Centers	✓					
	Food banks	✓					
	CUPBJ				✓		
	Environmental Organizations	✓					
	Fresno Metro Ministries	✓					✓
	FIRM	✓					✓
	Food Link for Tulare County / Daisy Magana / Genna Kules	✓					
	Rural Prosperity Center (Eduardo González)	✓					
	Fresno Barrios Unidos	✓					
	Community Gardens	✓					
	Regenerative Ag Alliance: Local chapters			✓			

Stakeholder Group	Organizational Partner / Human Resource	Strategy					
		Improved Food Access	Innovative Tech.	Sustainable Ag.	Empowered Farm-workers	Resilient Small Farms	Prosperous Ind. & Communities
Nonprofits / Community Orgs	Sierra Club			✓			
	A Greener World			✓			
	Allensworth Progressive Association (Jose Armando Mungia)	✓		✓			
	California Farmworker Foundation (CFF)				✓		
	Central California Environmental Justice Network (CCEJN)	✓			✓		
	Kings County Farm Bureau				✓		
	United Food and Commercial Workers				✓		
	Fresno Food Security Network	✓					
	Opportunity to Advance Sustainability, Innovation, and Social Inclusion (OASIS)		✓	✓			✓
	Farmer's Markets				✓	✓	✓
Other Industry	Alchemist Kitchen	✓					
	Entrepreneurs and small business owners	✓					
	Local Hotels	✓					
	Local Grocery Stores	✓					
	Farm to Fork Restaurants	✓					
	Local Restaurants	✓					
	Food Processing Equipment Suppliers: Cold Storage, Transportation, and Logistics						✓
	Research Equipment Suppliers & Laboratory Services			✓			

Stakeholder Group	Organizational Partner / Human Resource	Strategy					
		Improved Food Access	Innovative Tech.	Sustainable Ag.	Empowered Farm-workers	Resilient Small Farms	Prosperous Ind. & Communities
Other Industry	Local Waste Management Companies			✓			
	Landscaping Companies			✓			
	Composting Equipment Suppliers			✓			
	Construction Companies			✓			
	Fish Suppliers			✓			
	Juicers (Jamba Juice, etc.)			✓			
	Training & Education Equipment Providers				✓		
	Labor Unions/ Advocates				✓		
	Legal Aid Organizations				✓		
	Maintenance and Repair Services				✓		
Other	Community Members / Residents	✓					
	Tourists & Culinary Enthusiasts	✓					
	Central Valley Health Network	✓					
	Regional Food Distribution Networks	✓					
	New Refugees						
	Media Outlets	✓					
	SGMC			✓			
	Regen Score			✓			
	Training Providers				✓		

7.5 Strategy-Specific Barriers

Strategy: Increased Food Access and Public Health	
Food Hub Expansion Project: Potential Barriers	Funding and Capital Investment - Path: Secure funding through grants, loans, and private investors. Explore public-private partnerships to share costs. Supplier and Customer Coordination - Path: Establish strong communication channels and agreements with suppliers and customers to ensure smooth operations. Regulatory Compliance - Path: Work with regulatory bodies to ensure compliance with all regulations. Implement robust quality control measures.
Community Gardens Initiative: Potential Barriers	Land Availability, Site Selection, and Cost - Path: Collaborate with local governments and other community organizations, such as churches, to identify and secure underutilized land for community gardens. Explore leasing or donation options. Consider water and other utility access. Community Engagement, Governance, and Participation - Path: Organize community events and workshops to raise awareness and involve residents in the planning and development process. Funding for Infrastructure - Path: Apply for grants and seek donations from local businesses and community members. Consider a community-supported agriculture (CSA) model for financial support.
Agritourism Initiative: Potential Barriers	Regulatory Hurdles - Path: Work closely with local government bodies to understand and navigate regulatory requirements. Advocate for policy changes that support agritourism. Lack of Awareness and Participation - Path: Launch targeted marketing campaigns and community engagement events to raise awareness and encourage participation from local farmers and tourists. Infrastructure and Facility Costs - Path: Seek funding through grants and private investors. Consider public-private partnerships to share the cost burden. Seasonal Nature of Agritourism - Path: Develop year-round attractions and activities to ensure consistent visitor engagement and revenue streams.
Public Education Campaign: Potential Barriers	Public Apathy or Resistance - Path: Develop engaging and relatable content to capture public interest. Use social media and community events to increase engagement. Funding for Campaigns - Path: Seek grants and donations from private foundations and local businesses. Explore corporate sponsorships for additional funding. Misinformation - Path: Partner with trusted organizations and experts to ensure accurate information is disseminated. Address misinformation promptly.
Strategy: Innovative Technologies	
F3 Innovate: Potential Barriers	Securing Funding for Startups - Path: Partner with venture capital firms and angel investors. Provide grant writing support to startups. Attracting High-Quality Startups - Path: Promote the accelerator through various channels and offer competitive benefits and resources to attract top talent. Providing Adequate Mentorship and Support - Path: Establish a network of experienced mentors and industry experts to provide guidance and support to startups.

Strategy: Sustainable Agriculture	
Agroecology Hub: Potential Barriers	Funding for Research - Path: Apply for research grants and seek partnerships with private foundations and industry stakeholders. Promote the long-term benefits of research to attract investment. Collaboration Among Researchers - Path: Foster a collaborative environment through regular meetings and workshops. Use technology to facilitate communication and data sharing. Implementing Research Findings - Path: Develop extension programs to translate research findings into practical applications for farmers and stakeholders.
Composting Initiative: Potential Barriers	Initial Capital Investment - Path: Secure funding through environmental grants, private investors, and partnerships with local waste management companies. Community Resistance - Path: Conduct community outreach and education programs to inform residents about the benefits of composting and address any concerns. Operational Challenges - Path: Invest in training programs for workers and establish partnerships with experienced composting organizations to ensure smooth operations. Regulatory Compliance - Path: Work with regulatory bodies from the beginning to ensure compliance with all regulations. Implement robust quality control measures.
Protected Agriculture Initiative: Potential Barriers	High Infrastructure Costs - Path: Seek funding through grants, loans, and private investors. Promote the benefits of protected agriculture to attract investment. Technical Expertise and Training - Path: Partner with educational institutions to provide training programs for farmers and workers. Establish mentorship programs with experienced growers. Market Access - Path: Develop direct marketing channels and digital platforms to connect producers with consumers. Promote the benefits of locally grown produce. Climate Control and Resource Management - Path: Invest in advanced climate control systems and sustainable resource management practices. Educate farmers on best practices for efficiency.
AgroEcology Farm Adviser Program: Potential Barriers	Farmer Adoption and Engagement - Convincing farmers to adopt regenerative practices and participate in the adviser program may encounter resistance. - Possible Path: Provide evidence-based benefits of regenerative farming, offer financial incentives, and showcase successful case studies. Funding and Sustainability - Sustaining the program financially over the long term can be difficult without consistent funding sources. - Possible Path: Develop a mixed funding model that includes grants, private investments, and fees for advisory services. Training and Capacity Building - Ensuring that advisers have the necessary knowledge and skills to support farmers effectively. - Possible Path: Implement continuous professional development and certification programs for advisers to maintain high standards. Measuring and Demonstrating Impact - Quantifying the benefits and impact of regenerative practices can be complex. - Possible Path: Develop robust metrics, tools (such as Regen Score), and data collection methods to track and report on environmental, economic, and social outcomes.

Strategy: Empowered Farmworkers	
F3 AgTEC Workforce Project: Potential Barriers	Engaging and Retaining Participants - Path: Offer attractive incentives and clear career pathways. Partner with local businesses to provide job placement opportunities. Funding for Training Programs - Path: Seek grants and sponsorships from local businesses and industry stakeholders. Explore state and federal workforce development funds. Curriculum Development - Path: Collaborate with educational institutions and industry experts to develop relevant and up-to-date training programs.
Worker Empowerment Center: Potential Barriers	Securing Funding for Operations - Path: Apply for grants and seek donations from private foundations and local businesses. Explore government funding options. Engaging the Target Population - Path: Conduct outreach through community organizations and local events. Offer relatable and accessible services to encourage participation. Providing Comprehensive Services - Path: Partner with legal aid organizations, educational institutions, and other service providers to offer a wide range of support services.
Strategy: Resilient Small Farms	
Equipment Sharing Co-op: Potential Barriers	Funding for Initial Equipment Purchase - Path: Seek grants, loans, and private investment. Consider a membership model where members contribute to the cost. Coordination Among Members - Path: Establish clear guidelines and scheduling systems to ensure fair and efficient use of equipment. Use technology to facilitate coordination. Maintenance and Repair of Equipment - Path: Develop a maintenance schedule and fund. Partner with local repair services to ensure timely and cost-effective maintenance.
Farmers Cooperative: Potential Barriers	Organizational and Governance Challenges - Establishing effective governance structures to ensure equitable decision-making and management within the cooperative can be difficult. - Possible Path: Develop clear bylaws and governance policies, provide training on cooperative principles, and ensure transparency in decision-making processes. Member Engagement and Commitment - Ensuring that all members are engaged and committed to the cooperative's goals and activities can be challenging. - Possible Path: Foster a strong sense of community and ownership among members through regular communication, meetings, and involvement in decision-making processes. Market Access and Competition - Competing with established players in the market and securing reliable market access for cooperative members' products can be difficult. - Possible Path: Develop unique value propositions, such as organic or locally sourced products, and build strong relationships with buyers, including local retailers, restaurants, and direct-to-consumer sales channels.

Strategy: Prosperous Communities and Industries	
Collective Land Ownership Pilot: Potential Barriers	Legal and Regulatory Challenges - Collective land ownership can involve complex legal structures that must comply with state and federal regulations. - Possible Path: Engage legal experts to navigate the regulatory landscape and create compliant ownership structures. Funding and Capital Acquisition - Securing the necessary capital to purchase land collectively can be challenging. - Possible Path: Develop a robust business plan to attract investors, apply for grants, and explore innovative funding mechanisms such as community investment funds. Governance and Decision-Making - Managing collective ownership requires effective governance structures to ensure fair decision-making and conflict resolution. - Possible Path: Establish clear governance policies and provide training for all members in collaborative decision-making and conflict resolution.
Food Processing and Training Facility Including Mobile Abattoir: Potential Barriers	Regulatory Compliance - Food processing and mobile abattoirs must meet stringent health and safety regulations. - Possible Path: Work closely with regulatory agencies to ensure compliance and implement best practices in food safety and animal welfare. High Initial Capital Investment - Setting up a processing facility and mobile abattoir requires significant upfront investment in infrastructure and equipment. - Possible Path: Secure funding through grants, loans, and partnerships with private investors and government programs. Workforce Training and Development - Recruiting and training a skilled workforce to operate the facility and abattoir can be challenging. - Possible Path: Partner with local educational institutions and employers to develop targeted training programs and apprenticeships. Supply Chain and Market Access - Establishing reliable supply chains and accessing markets for processed products can be complex. - Possible Path: Build relationships with local farmers, distributors, and retailers to create a strong and integrated supply chain.

Responsible Food Systems Project Catalog

Project	Infrastructure	Enablement	Policy
Improved Food Access	- Food Hub (F3 Local) - Community gardens	- Agritourism program - Public education campaign	- K12 Education - Zoning to support urban agriculture - Legal/policy support for agritourism
Innovative Tech	TBD	- F3 Innovate	TBD
Sustainable Ag	- AgroEcology Hub - Compost & seed production (Zero Food print)	- AgroEcology Farm Advisors - Protected agriculture (+ aquaponics)	- Composting - Mixed land use - Reduce chemical inputs - Subsidies/grants (organic farming?) - Sustainable Groundwater Management Act
Empowered Farmworkers	- F3 AgTec workforce	- Centro para el Desarrollo y Empoderamiento del Trabajador Agrícola	TBD
Resilient Small Farms	- F3 Tech & Equipment Sharing Cooperative	- Farmer Cooperative	- Equitable models for land access & ownership - Water infrastructure subsidies
Prosperous Communities & Industries	- Collective land ownership pilot - Food processing & training facilities including mobile abattoir	TBD	- Farmland conservation - Succession management - Balanced renewable energy production and farmland preservation

Overview of Infrastructure Projects

Project	Description
Hub Food Expansion	Develop and scale “food hub” business (like a farmer’s market) that provides space and support for small-scale and underserved producers to sell their products and grow their businesses
Community Gardens	Consider partnerships with local developers / other approaches to develop community garden concept that builds social connection, provides access to local food, and preserves urban greenspace
AgroEcology Hub	Establish testing / research program to investigate climate resistant crop varieties, soil health, permaculture, agroforestry, and other innovative models
Compost & Seed Production	Develop compost and seed production infrastructure for growers that cannot access (cooperative model)
F3 Tech & Equipment Sharing Cooperative	Scale the F3 Tech & Equipment Sharing Cooperative enabling small-scale farmers to access costly machinery and tools, reducing individual financial burdens while fostering a sense of community collaboration and resilience
F3 AgTech Workforce	Support industry-aligned workforce training in partnership with 8 community colleges to deliver an industry-approved certificate program

Cooperative Land Ownership Pilot	Explore leveraging philanthropic model to create a land trust and sell plots of land to small farmers who are committed to sustainable/regenerative practices using alternate funding structures
Food Processing & Training Capacity	Perform an assessment of food processing/manufacturing capacity needs and requirements in the region.

Overview of Enablement Projects

Project	Description
Agritourism	Develop an agritourism program including the legal and financial structure to make farms accessible and safe (car parking, insurance, etc.)
Public Education Campaign	Develop and support an educational campaign focused on public health
F3 Innovate	Scale the F3 Innovate Accelerator to enable the transition to sustainable agricultural practices
Agroecology Farm Advisers	Create a pool of farm advisers/ crop consultants to engage on farm in supporting the transition to sustainable agriculture practices + case managers to walk through barriers (red tape, regulation, funding, etc.)
Protected Agriculture	Subsidies/other support to help farmers invest in protected agriculture infrastructure. Enables improved pest management, water conservation, and less traditional crop cultivation. Also reduces worker seasonality. Create a pilot program to explore container-based aquaponics solutions
Worker Empowerment Center	Stand up a center to support a holistic approach to developing and empowering farmworkers
Farmer/Marketing/Consumer Cooperatives	Support vertical integration models that allow small producers to collectively manage production, processing, and distribution, thereby enhancing their market control and profitability, and enabling small producers to control more aspects of their supply chain, from production to distribution, enhances their economic resilience and market stability

FOOD HUB	
Program Description	
The Del Valle Food Hub concept conceived by the F3 team is a food hub business (like a farmer’s market) that provides space and support for small-scale and underserved producers to sell their products and grow their businesses. This project proposes an assessment to evaluate if other regions or communities (including unincorporated areas and communities that have historically seen less investment) could benefit from access to a food hub or similar food aggregation spaces. The assessment should include a cost/benefit analysis of investment in a mobile kitchen unit to support food processing, training, food safety certifications and other efforts for more remote communities. The analysis should also include an evaluation of individual vs. collective ownership models for the food hub. The project should consider leveraging Nourish (AI platform) which enables small business owners in food deserts to target premium locations for providing convenient, affordable, fresh food for people in their communities. • Advances environmental stewardship through reduced food transportation emissions and reduced waste via the engagement and support of local farms • Bolsters economic resilience by fostering small business growth in underserved areas • Benefits community by improving access to fresh food, fostering social connections, and supporting the local economy • Projected to support new sales and capacity for significant numbers of farmers (Del Valle projects the facilitation of \$2.5M in new sales annually and the opportunity to build capacity for 300 farmers, 75% BIPOC)	
	
Impact Assessment & Funding Required	
Direct & Indirect Job Creation	124-360 Jobs
Funding Needed	\$6M - \$17M

COMMUNITY GARDEN	
Program Description	
Consider partnerships with local developers / other approaches to develop community garden concept that builds social connection, provides access to local food, and preserves urban greenspace • Secure land access and develop garden plan • Develop governance structure • Host workshops, events, and educational programs to engage the community, share gardening knowledge, and celebrate harvests. • Establish connections to Food Hub • Consider tie-in to affordable housing initiatives Promotes equity by ensuring diverse communities have access to nutritious food and encourages environmental stewardship by reducing urban heat islands and supporting biodiversity. Note City of Visalia Community Garden opportunity (need for long term operator).	
	
Impact Assessment & Funding Required	
Direct & Indirect Job Creation	40-80 Jobs
Increase in Property Values	\$32M - \$96M
Funding Needed	\$2M - \$4M

AGRITOURISM

Program Description

Develop Agritourism program proposal including an overview of the legal and financial structures needed to make farms accessible and safe (car parking, insurance, other utilities, etc.). Consider including multiple types of spaces including:

- Living Labs/spaces with educational emphasis, wedding venues, pumpkin patches, U-pick, alternate wine destinations, festivals

Program could include help for farmers with:

- Initial up front investments in on-farm infrastructure
- Investments in local community infrastructure to support program (roads, signage, restrooms)
- Insurance & liability coverage
- Support in complying with stringent health and safety regulations

Fosters local economic growth through tourism as an economic multiplier for the region. Could generate jobs in various sectors such as hospitality (tour guides, bed and breakfast staff), food service (restaurants, farm-to-table experiences), retail (farm stands, gift shops), and agricultural operations (farm tours, harvesting activities).

Consider Masumoto farms, Apple Hill farms, Sonoma County Farm Trails, City of Brentwood, and the California Agricultural Tourism directory¹ for reference.



Impact Assessment & Funding Required

Direct & Indirect Job Creation

181-264 Jobs

Funding Needed

\$9M - \$13M

¹ <https://calagtour.org/>

PUBLIC EDUCATION

Program Description

Develop and support a public education program with multiple components including:

- Campaign to promote available workforce development and training programs (consider close ties to food production facility and empowered farmworkers strategies)
- Public health awareness campaigns linked to chemical use in agriculture and healthy food habits (collaborate with California Farmworker Foundation and CalFresh)
- Education tied to the availability of resources linked to the Food Hub facilities including food safety certification, cooking classes, Entrepreneurship classes
- Education about chemical use risks and safety protocols on farm (consider close ties to empowered farmworkers strategy)
- Education about water conservation and water quality opportunities (consider close ties to AgroEcology Hub strategy)



Impact Assessment & Funding Required

Direct & Indirect Job Creation	TBD in partnership with education and skill building group
Campaign Reach	200,000 people reached; 5,000 to 10,000 people projected to take action as a result of engagement with content
Healthcare Cost Savings	\$7.5M - \$15M in healthcare cost savings
Productivity Gains	\$9M - \$16.5M in productivity gained
Funding Needed	TBD in partnership with education and skill building group

F3 INNOVATE

Program Description

Develop an innovation ecosystem to accelerate the development of engineering and entrepreneurial solutions that address key challenges in the food system. These solutions encompass AI, automation, mechanization, climate adaptation, carbon storage, water-energy efficiency, and irrigation technologies, ultimately enhancing food security nationwide.

- Leverage diverse expertise in specialty crops, food, and farming knowledge, along with university problem-solving to support agriculture's tech-transition
- Support and accelerate new ventures that commercialize inventions and create jobs in the Central Valley, bridging the gap between cutting-edge research and practical applications in agriculture.



Impact Assessment & Funding Required

Direct & Indirect Job Creation	~2,200 jobs
Skill Development a& Training	144 to 252 people
Funding Needed	\$106M

AGROECOLOGY HUB	
Program Description	
Support existing efforts led by the UC Coop Extension (or establish new programs where needed) which will advance research, innovation, and practices that promote sustainable agriculture. • Testing/research could focus on climate resistant crop varieties such as crops that require low water (SGMA) (okra, potatoes, beans, etc.); soil health management solutions; agroforestry and integrated farming systems using native plants; permaculture solutions; innovative models for pollinator habitats; sustainable water management practices; protected agriculture; and more • Align focus with regional needs (what are we importing now) and be sensitive to market saturation as operations move to climate suitable crops Consider supporting a hub for sustainable agriculture adopters that incorporates mentorship, networking, financial education, and information about incentive programs, etc. • Consider commodity and community specific mentor matching	
	
Impact Assessment & Funding Required	
Direct & Indirect Job Creation	458 – 561 jobs
Funding Needed	\$13M - \$16M

CENTRAL VALLEY COMPOSTING INITIATIVE (CVCI)

Program Description

This project aims to establish a comprehensive composting infrastructure to manage organic waste, produce high-quality compost for local agriculture, and promote sustainable farming practices.

Actions:

- Develop a business model that includes revenue streams from compost sales, tipping fees for waste disposal, and potential carbon credits
- Identify suitable locations for composting facilities in strategic areas within the 4-county region and develop state-of-the-art composting facilities capable of handling various organic wastes, including agricultural residues
- Develop transportation logistics for efficient collection and distribution of organic waste and compost

Consider the need for compost and seed production infrastructure for growers (possibly in a cooperative model) including the potential for seed banks and processing centers as well.

Note the close ties of this effort to policy barriers surrounding permitting, land use and zoning, and environmental compliance regulations.



Impact Assessment & Funding Required

Direct & Indirect Job Creation	397 - 931 jobs
Skill Development & Training	128 - 224 people
Funding Needed	\$19.3M - \$45.3M

AGROECOLOGY ADVISER**Program Description**

Create a pool of advisors/consultants to support transition to agroecology focused practices by providing practical solutions focused on deployment vs. research.

Develop Expertise: Train and certify a pool of consultants with expertise in agroecology practices (focused on sustainability, restorative practices, local knowledge, and economic and environmental resilience).

Support Transition: Provide customized on-farm advisory services to help growers transition to next generation agroecology practices including tailored plans and case management to address funding and regulatory challenges.

Promote Best Practices: Disseminate knowledge and promote the adoption of best practices in sustainable farming.

Measure Impact: Monitor and evaluate the impact of practices on farm productivity, soil health, and environmental sustainability. Consider the creation of a public ROI calculator for regen practice adoption.

Carbon credit tracking: Consider carbon credit monitoring to enhance relationships with buyers/consumers.

Notes:

- Consider funding an additional UC coop extension position as well as other advisor needs as part of this effort
- Consider getting buy-in from some larger growers to pilot on small pieces of land
- Consider focusing this more on education/training needs of existing PCA's and CCA's (existing funding being reduced in CA)
- Consultant profile should be the right blend of education mixed with hands on experience (not too academic/governmental), but highly knowledgeable.
- Consider exploring ForGround by Bayer² for additional learnings

**Impact Assessment & Funding Required**

Direct & Indirect Job Creation	413 -600 jobs
Skill Development & Training	96 - 168 people
Funding Needed	\$12.7M - \$10M

² https://bayerforground.com/carbon-initiative?utm_source=google&utm_medium=cpc&utm_campaign=fy24_brand&utm_content=carbon-initiative&utm_term=forground%20by%20bayer&gad_source=1&gbraid=0AAAAApjPTzuAA3a3Pg7sMnytxEp9PeamD&gclid=CjwKCAjwko21BhAPEiwAwfaQcJVvQc8CCifki8DBoQDAy1QmNbFRdPP9R8CXJJatwDQ0044BgSt8YBoCd20QAvD_BwE

PROTECTED AGRICULTURE

Program Description

Develop a project to support market expansion for protected agriculture produce including new sales channels for crops grown in protected agriculture environments and enhanced economic opportunities and resilience for farmers

- Conduct market research and analysis to identify trends and demand as well as cost-benefit of different models
- Develop and launch an online marketplace dedicated to connecting producers of protected agriculture crops with buyers, including retailers, restaurants, and consumers.
- Create brand identity, marketing materials, and campaign emphasizing sustainability, quality, etc.
- Consider the benefits of reduced worker seasonality, reduced water use, improved pest management, and less traditional crop cultivation as well as reduced reliance on imported produce which thereby strengthens local food systems.

Pair this effort with subsidies/other financial incentives and support to help farmers invest in protected agriculture infrastructure.

Note the detailed mockup for an aquaponics pilot as part of this initiative below.



Impact Assessment & Funding Required

Direct & Indirect Job Creation	63 -232 jobs
Skill Development & Training	88 - 154 people
Funding Needed	\$3.5M - \$11M

WORKFORCE OF THE FUTURE (F3 AGTEC WORKFORCE)

Program Description

The Ag Systems Certificate under the F3 Agrifood Technology and Engineering Collaborative (AgTEC) program is designed to provide farmworkers and people interested in pursuing a career in Agriculture with a comprehensive understanding of the agricultural value chain—from growers to shippers to packers. It will update their skills with current and emerging technology and software, which are increasingly critical in agriculture. The Program also emphasizes essential soft skills like communication and problem-solving, vital for navigating technologically advanced workplaces. By filling the skills gap, the Ag Systems Certificate opens up new growth opportunities within the agricultural industry.

Industry-Aligned Workforce Training Program Overview:

- Developed an industry approved Applied Ag Systems certificate program in partnership with 8 community colleges*
- This would be a 2-year degree program, and include matriculation agreements with 4-year universities (provides STEM pathways for 2-yr degree program with onramp to 4-yr university)

*Merced, Madera, Fresno City, Reedley, Clovis, West Hills-Lemore, West Hills-Coalinga, College of the Sequoias

In order to continue to sustain this program, there is a need for continued investment in non-resident students as well as placement coordinators to support job placement after graduation.



Impact Assessment & Funding Required

Direct & Indirect Job Creation	428 - 453 jobs
Skill Development & Training	TBD
Funding Needed	\$20M - \$22M

AGRICULTUREAL WORKGER DEVELOPMENT AND EMPOWERMENT CENTER

Program Description

Pilot a center to support a holistic approach to developing and empowering farmworkers: “Centro para el Desarrollo y Empoderamiento del Trabajador Agrícola” in Spanish or “Agricultural Worker Development and Empowerment Center.” Intent would be to expand to multiple locations after pilot completion.

Staff would provide Technical assistance, case management and support services for topics noted below at these holistic and one stop centers.

Focus Areas: Fair wages ● Safe working conditions ● Labor Unions ● Career pathways & Ladders ● Differentiated labor (workforce of the future) ● Youth & family outreach ● Access to Healthcare ● Housing and Living Conditions ● Legal Protections and Rights ● Language and Cultural Support ● Access to Education and Skills Training ● Gender Equality and Women's Empowerment ● Community Engagement and Organizing ● Family outreach to target younger workers joining the workforce ● Education of supervisors about realities of aging workforce

- Additional details [here](#).



Impact Assessment & Funding Required

Direct & Indirect Job Creation

30 - 35 jobs

Skill Development & Training

136 – 238 people

Funding Needed

\$1.4M - \$1.7M

F3 TECHNOLOGY AND EQUIPMENT SHARING COOP (LENDING LIBRARY)	
Program Description	
Scale the F3 Tech & Equipment Lending Library pilot to enable small-scale farmers to access costly machinery and tools, reducing individual financial burdens while fostering a sense of community collaboration and resilience • Program would include some workshops and training to drive education on new practices, and opportunities for exposure to new technologies • F3 has one site planned, but need expanded coverage to address the needs of all 4 counties, therefore an additional 1-2 sites per county should be considered • Example tools: bedmakers, weeders, grinders, drones, garden tractor, canning equipment • Consider subscription-based models of shared resources/services if geography permits • Explore shared software options	
	
Impact Assessment & Funding Required	
Direct & Indirect Job Creation	79 - 93 jobs
Funding Needed	\$12.8M - \$15M

FARMER COOPERATIVE

Program Description

Create a cooperative that enables producers to collectively enhance their market control. Conduct phase 1 analysis to establish needs/business model including:

- **Aggregate Supply Models:** Conduct assessment to evaluate use of models like the Harris Ranch/Sunkist model to aggregate supply and increase bargaining power.
- **Direct Marketing Channels:** Develop business plans to establish new marketing channels tailored to small farmers, including digital platforms.
- **Access to Capital:** Explore funding models that provide financial support for infrastructure investments and bridge funding.

Support vertical integration models that allow small producers to collectively manage production, processing, and distribution, thereby enhancing their market control and profitability; and enabling small producers to control more aspects of their supply chain, from production to distribution, enhances their economic resilience and market stability.

Note: California Endowment is looking to fund more of this collectivism work through their social impact bond. See reference coop impact statements here.



Impact Assessment & Funding Required

Direct & Indirect Job Creation	51 - 220 jobs
Funding Needed	\$2.5M - \$10.7M

FOOD PROCESSING CAPACITY NEEDS ASSESSMENT (INCLUDING MOBILE ABATTOIR)	
Program Description	
Perform an assessment of food processing/manufacturing capacity needs and requirements.	
This would include identification and evaluation of:	
• Geographic priority areas for processing facilities • Optimal processing infrastructure and equipment • Targeted crops for processing • Requirements to support existing processing demands that are being outsourced e.g. Fresno Unified and other local schools processing needs • Evaluation of two proposed centers (Visalia and Kerman) • Mobile processing requirements • Training and workforce development needs and required infrastructure	
	
Impact Assessment & Funding Required	
Direct & Indirect Job Creation	367 to 538 jobs
Skill Development & Training	70 to 196 people (Food processing and safety certification) 64 to 112 people (Mobile Abattoir)
Funding Needed	\$17.9M to \$26.2M

COLLECTIVE LAND OWNERSHIP	
Program Description	
Conduct proof of concept pilot to test collective land ownership models (legal and regulatory frameworks) and assess their applicability and financial feasibility for larger scale application. • Consider leveraging philanthropic model to create a land trust (50-100 acres) and sell/gift plots of land to 5-10 small farmers who are committed to sustainable/regenerative practices using alternate funding structures (Land trust owns 49% initially, farmers 51%, then overtime, ownership is transitioned) • Bring potential donors together and pitch idea (Kat Taylor’s office might be willing to support this and suggested Regenerative Capital and FarmLink as potential partners) • Combine this effort with a campaign focused around education and mentoring of incumbent workers around ownership and the development of an expectation of local ownership in the region. Curriculum to include accessing non-traditional capital sources, cooperative ownership structures, etc. (see Agricultural Worker Development and Empowerment Center under Empowered Farmworkers). • After POC, consider scaling to 100,000 acres over the next 5-10 years.	
	
Impact Assessment & Funding Required	
Direct & Indirect Job Creation	613 to 1,012 jobs
Funding Needed	\$29.8M to \$49.2M



Circular Manufacturing

Industry Clusters



Industry Clusters

Circular Manufacturing

1 Problem Statement, Opportunity, and Vision for the Future

Since 1990, manufacturing in the four-county region has grown by 12%—in stark contrast to a national decline of 27%.¹ The S2J2 region is now strategically positioned to significantly invest in the further expansion of this sector. Today there are more than 49,000 manufacturing jobs in the region, a number forecasted to grow to 53,000 by 2028.² Over half of these jobs are food-based, and more than half of food manufacturing purchases are made locally – reflecting the region’s most productive agricultural land in the world. Additionally, the region is already poised to serve as a state and national leader in clean energy production, presenting an opportunity to drive new manufacturing sectors, particularly clean energy and zero emission vehicle (ZEV) components. By building these components locally, the S2J2 region can foster a local ecosystem where clean energy production and the manufacturing of its essential tools are seamlessly integrated.

These existing and new ecosystems can be anchored in circular manufacturing – a specific approach that emphasizes sustainable processes and use of resources – aligning a portion of the manufacturing sector with the region’s economic and climate goals, and potentially creating ~2,000 manufacturing jobs, abating ~550 tons of waste, offering ~1,750 paid manufacturing internships, and supporting more than 2,000 manufacturers with low-cost capital and technical assistance.

This strategy is not without its challenges. Discussions with local manufacturers suggest more work needs to be done to make the “business case” for circular manufacturing, and differing views about what constitutes successful manufacturing growth exist. Moreover, driving new business attraction – even when the data suggests the region is well positioned for growth – requires investment, ongoing coordination, and relentless dedication over many years.

Opportunity: Multiple signals suggest that investing in circular manufacturing can yield outsized results for the region. For each manufacturing job, up to ~2.5 jobs are created in other industries.³ Wages are also relatively high across manufacturing (~\$24 per hour in California) compared to jobs in other industries such as agriculture (~\$19 per hour).⁴ And, manufacturing jobs often offer on-the-job training, providing employees with pathways for career

1 Lightcast, US Bureau of Labor Statistics (accessed June 2024)

2 Ibid.

3 Ibid.

4 Lightcast, US Bureau of Labor Statistics (Accessed June 2024)

advancement.⁵ Circular manufacturing presents even greater advantages. It is less energy and material intensive than traditional manufacturing methods, and could even reduce global greenhouse gas emissions by 40% over the next ~25 years, for example, if its practices were adopted in the use of cement, steel, plastics, and aluminum.⁶

Not all manufacturing sectors may be well-equipped to succeed in the S2J2 region, which seeks to build a manufacturing sector that utilizes sustainable processes to produce sustainable products; provides high-paying, accessible jobs with additional community benefits; and experiences regional comparative advantages, such as GRP (Gross Regional Product) that outpaces national rates and an aligned local supply chain.

Based on these factors, the S2J2 initiative envisions adopting the following approaches for particular manufacturing sectors:

- **Enhance** existing operations to move closer to circular manufacturing in **food manufacturing** (such as dairy products, beverages, fruit and vegetable preservation, animal foods, and tortillas).
- **Grow** regional circular manufacturers in **machinery manufacturing** (general-purpose machinery and agriculture machinery, for example) and **transportation equipment manufacturing** (such as motor vehicles and body trailers).
- **Attract** circular manufacturers in **computer and electronic product manufacturing** (such as communication, audio and video, and/or computer and peripheral equipment), **electrical equipment manufacturing** (electrical lighting and household appliances, for example), **machinery manufacturing** (such as HVAC equipment, metalworking, and industrial machinery), and **transportation equipment manufacturing** (such as bicycles and motorcycles).

Vision: In response to these economic and environmental benefits, the S2J2 region seeks to create quality jobs with competitive wages by enhancing, attracting, and growing circular manufacturers. To enable this vision, the S2J2 initiative will:

1. **Promote sustainability-centered products and processes.** Advance sustainable practices and innovative techniques, use sustainable materials to minimize waste and curtail the industry’s environmental impact, and deploy processes that reduce energy intensity and increase clean, renewable energy sourcing.
2. **Create high-paying, accessible jobs.** Offer competitive wages and benefits to bolster employees’ financial stability. Create jobs that do not require advanced degrees, potentially through skills-based hiring. Find ways to attract a diverse workforce, particularly from groups not traditionally represented in manufacturing. Offer workers financial and nonfinancial resources that enable stability, health, and upward mobility.
3. **Enable broader community benefits.** Provide on-the-job skills development to strengthen the workforce and manufacturing base, which will in turn build local economic resilience and create job multipliers.

This vision aligns with the core principles of California Jobs First by emphasizing equity, environmental stewardship, high-quality jobs, and a resilient economy grounded in data-based planning and community benefits.

- **Equity:** Provide opportunities for all, regardless of educational background, and recruit from groups that lack representation in manufacturing.

5 US Bureau of Labor Statistics, <https://www.bls.gov/careeroutlook/2023/data-on-display/manufacturing.htm> (Accessed June 2024)

6 United Nations Development Programme, <https://climatepromise.undp.org/news-and-stories/what-is-circular-economy-and-how-it-helps-fight-climate-change#:~:text=Studies%20show%20us%20that%2C%20through,by%2040%20percent%20by%202050>

- **Environmental stewardship:** Use sustainable materials, products, and processes to efficiently reduce waste and manufacturing's adverse ecological effects.
- **High-quality jobs:** Offer competitive wages and benefits to boost employees' financial stability. Enable upward mobility and foster a culture of growth and advancement.
- **Data-based planning:** Ensure that investment strategies are informed by accurate, relevant information. Analyze the current manufacturing landscape and identify opportunities for improvement.
- **Community benefits:** Advance workforce development through on-the-job education and skills development. Strengthen local economic resilience by building a robust manufacturing base that enables job multipliers.

2 Investment Strategies

Implementing six key strategies will catalyze the growth of circular manufacturing across the four-county region:

1. **Drive circular transformation:** Promote and research sustainable manufacturing practices to enhance efficiency and reduce environmental impact.
2. **Enhance infrastructure:** Enhance infrastructure to provide reliable and increased availability of water, electricity, and logistics networks.
3. **Leverage the local supply chain:** Develop local supply chains to reduce dependency on distant suppliers, which might decrease costs and increase efficiency.
4. **Expand workforce development:** Invest in capability-building and training programs to create a skilled workforce that meets the needs of manufacturers.
5. **Offer economic development incentives:** Apply for federal and state grants to potentially reduce operational cost and offer incentives for small businesses.
6. **Support streamlined permitting:** Streamline and harmonize local regulations zoning for clarity and consistency.

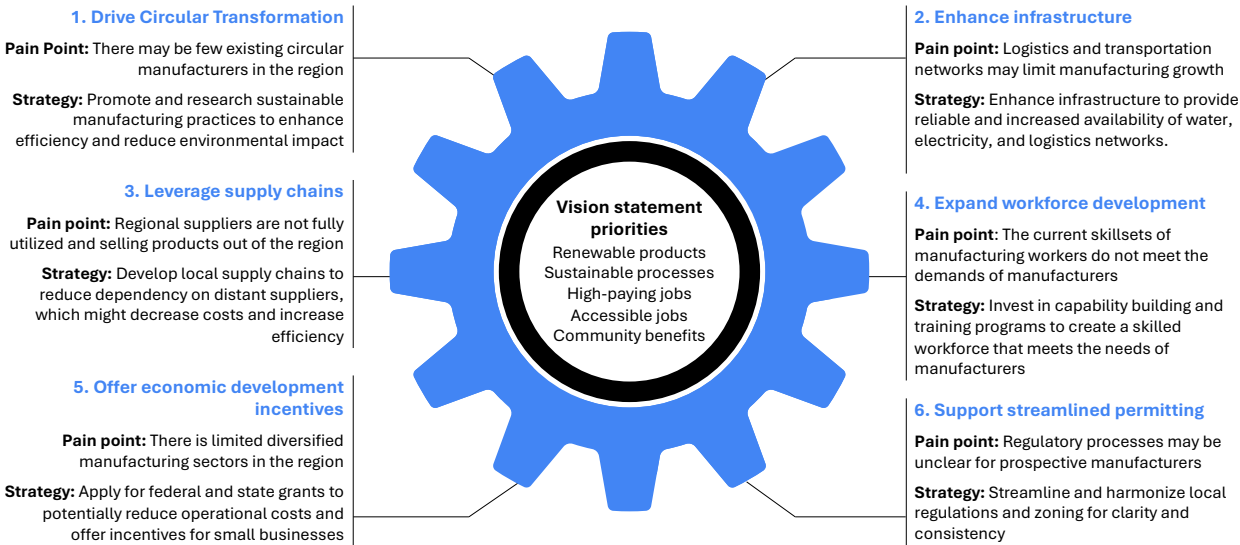
When successfully implemented, the combined effect of the six strategies could yield 2,000 jobs, 550 tons of waste abated, 2,000 manufacturers supported with low-cost capital and technical assistance, and 1,750 paid internships offered over a 10-year period.

Figure 1: Impact of Circular Manufacturing over 10 Years



During this analysis and through interviews with local stakeholders (e.g., manufacturers, economic development corporations, etc.), several “pain points” for manufacturers were uncovered. Investment strategies were drafted in response to pain points; Figure 2 details the pain points and the corresponding strategy.

Figure 2: Investment Strategies Drafted in Response to Pain Points



2.1 Strategy 1 – Drive Circular Transformation

Promote and research sustainable manufacturing practices to enhance efficiency and reduce environmental impact:

1. **Obtain buy-in from both circular and non-circular local manufacturers** to participate in circular manufacturing initiatives by demonstrating the business benefits of adopting circular manufacturing practices, including reduced costs, increased revenue, and improved competitiveness. Building awareness and sharing business benefits of adopting circular manufacturing practices through newsletters and trade organization convenings will be critical to achieving this end.
2. **Obtain buy-in from the broader four-county community** and diverse stakeholder groups by creating frequent communication channels among stakeholders to foster collaborative support of circular manufacturing's growth in the region.
3. Partner with circular manufacturers, both inside and outside the region, to build a **repository of circular manufacturing best practices**, such as water-efficient and waste disposal processes. **As an immediate next step**, hire staff to support building a local repository of knowledge about circular practices. Information can be validated with national organizations, such as the Ellen MacArthur Foundation. After refining, the compendium can be distributed to local manufacturers.
4. Partner with the US Green Building Council and the Tugboat Institute to **encourage manufacturing leaders to earn “TRUE Advisor” and “Evergreen” certification, respectively**. By completing the certification processes, manufacturers may develop expertise in sustainable resource management and waste reduction practices.
5. Build technological capabilities — such as new methods for reusing agriculture waste as an input — through **R&D initiatives in sustainable manufacturing innovation**. Partner with local businesses and regional innovation hubs to host and support R&D initiatives and build co-operative labs that can serve as incubators for start-ups. Attract venture capital to fund startups emerging from co-operative labs. **As an immediate next step**, raise funds to identify facility space at Fresno State for the Center for Engineering and Innovation Design (CENID). Subsequently interview and hire scientific researchers to research potential opportunities in fields such as AgTech to accelerate circular manufacturing in the region.

Support the **production of clean energy and fleet transition components** and technologies — such as battery components and components for zero emission vehicles (ZEVs) and associated charging infrastructure — to foster growth in the renewable energy sector (Table 2).

Electrical equipment manufacturing is particularly relevant to produce modules for clean energy (e.g., solar, wind, lithium batteries) and to enable fleet transition (e.g., EVs and EV charging infrastructure). Some sectors, such as semiconductor manufacturing, which produces photovoltaic cells, have relatively high capital investments and would be more difficult to attract given the high costs involved. The region could, however, consider attracting manufacturers that produce clean energy and ZEV components (Table 1). These may be particularly viable given the increasing amount of clean energy activity in the region. By 2045, solar capacity is estimated to increase by ~2,000% compared to the 2025 baseline, from ~1 GW to ~22 GW.⁷ Lithium Battery storage is forecasted to also significantly increase from <1 GW produced in 2025 to ~8 GW in 2045.⁸

⁷ Rand Corporation Toolkit, <https://www.rand.org/pubs/tools.html>

⁸ Ibid.

Wind energy will increase modestly from <0.1GW to ~0.5 GW over the same period.⁹ By 2045, ~710k fossil fuel vehicles in the region will be replaced by EVs, which will require ~120k EV chargers and hydrogen refueling stations.¹⁰

Table 1: Potential Clean Energy and Fleet Transition Components that Could Be Produced in the S2J2 Region

Potential components manufactured in S2J2 region	Clean Energy			Fleet Transition	
	Solar (2045 forecasted demand: ~22 GW)	Lithium Battery (~8 GW)	Wind (<1 GW)	EVs (~710k)	EV charging infrastructure (~120k)
Generators	✓		✓	✓	✓
Switchgears	✓		✓	✓	✓
Relays	✓		✓	✓	✓
Electric motors	✓		✓	✓	
Transformers	✓		✓	✓	✓
Battery cells	✓	✓	✓	✓	✓
Battery modules	✓	✓	✓	✓	✓
Inverters	✓	✓	✓	✓	✓

As an immediate next step, San Joaquin Valley Manufacturing Alliance (SJVMA) could survey members about existing clean energy and fleet transition component manufacturing to determine baseline capacity. Subsequently, an independent think-tank could be contracted to estimate the number of components needed to meet forecasted clean energy and fleet transition demand. After determining the potential opportunity, SJVMA could educate manufacturers about clean energy opportunities through outreach and create a database (e.g., show current regional component capacity and forecasted demand) to guide manufacturer planning. SJVMA can also share findings with Economic Development Corporations to attract new manufacturers to the region.

2.2 Strategy 2 – Enhance Infrastructure

Enhance infrastructure to provide reliable and increased availability of water, electricity, and logistics networks.

1. Invest in clean energy production and ensure that **renewable energy** produced in the region remains in the region to **support local activities, including manufacturing**, as described in the Clean Energy Investment Plan. **As an immediate next step**, develop an implementation plan for producing and using clean energy to support circular manufacturing. First, estimate the amount of power needed to support future circular manufacturing demand. Coordinate stakeholders to determine if the estimated increase in local clean energy will meet the energy demand of circular manufacturers. If the projected capacity increase does not meet demand, identify solutions (e.g., expanding transmission lines or creating micro-grids) to meet circular manufacturer energy needs.
2. **Upgrade transmission lines and implement smart grid technologies** to increase the region's electricity capacity and reliability. *See Clean Energy and Fuels Investment Plan for additional details.*

⁹ Ibid.

¹⁰ UCLA / CEC Workforce Impacts of Achieving Carbon-Neutral Transportation in California (2022), California DMV

3. Develop and **improve transportation infrastructure**, including adding more rail stops to reduce shipping times and improve supply chain efficiency. Ensure that community voices are heard and considered in planning transportation infrastructure and engage proactively with stakeholders.

2.3 Strategy 3 – Leverage Local Supply Chains

Develop local supply chains to reduce dependency on distant suppliers, which can decrease costs and increase efficiency.

1. **Leverage by-products and waste from other industries** in the region and cultivate industries that use waste in manufacturing processes. Encourage manufacturers to participate by showcasing the economic value of waste conversion and partner with agricultural associations to build trust and promote waste utilization in manufacturing.
2. Conduct assessments to **identify potential local suppliers**, then provide financial and technical support so they may scale up to meet manufacturing demands. Enable manufacturer participation by streamlining supplier assessments and emphasize potential growth benefits to encourage participation in local supply chain development initiatives.
3. Through industry organizations and events, **facilitate partnerships between suppliers** and manufacturers.

2.4 Strategy 4 – Expand Workforce Development

Refer to the Education and Skill-Building chapter for the S2J2 initiative’s comprehensive approach on workforce development.

Invest in capability-building and training programs to create a skilled workforce that meets the needs of manufacturers.

1. Work with local colleges, universities, and vocational schools to **create curricula focused on desired skills** and build a **manufacturing skills training center**. Ensure that curricula stay up to date with the latest innovations in manufacturing through hands-on, project-based learning experiences. **As an immediate next step**, collaborate with SJVMA and the Fresno County Economic Development Corporation to bring FAME, a 2-year training program managed by the Manufacturing Institute of Washington, D.C., to the region as an avenue for graduating high-school students and other young people to build skills in manufacturing. First, identify facility location and equipment requirements, and subsequently raise funds to build the facility and procure equipment. After hiring relevant instructors, partner with local manufacturers to collaborate on curriculum development and advertise programs to attract participants.
2. Establish **apprenticeships and internships** to provide hands-on experience for students; existing examples include Jumpstart and the College of the Sequoias Resource Training Center. Promote manufacturer participation by highlighting case studies of manufacturers that have benefited from apprenticeship and internship programs. **As an immediate next step**, establish the Fresno Unified School District Internship Center and scale across the four-county region. First, identify funding sources and create job descriptions for an internship center director and coordinator. After funding is identified, create a marketing campaign to publicize the center and encourage students to participate. Once the Internship Center is successfully launched, collaborate with other school districts to scale and replicate the internship center model across the four-county region.

3. Partner with exemplary circular manufacturers to **demonstrate best practices to community college instructors and workers**. To address potential concerns about safeguarding proprietary information, develop non-disclosure agreements and other legal frameworks to protect sensitive information and intellectual property.
4. **Provide comprehensive support services** – such as career counseling, childcare, and transportation assistance – that will help individuals participate in workforce development programs. To ensure that different entities responsible for providing wraparound services are working efficiently together, hold regular meetings and check-ins to align the entities responsible for implementation.

2.5 Strategy 5 – Offer Economic Development Incentives

Apply for federal and state grants to potentially reduce operational costs and offer incentives for small businesses.

1. Secure **federal and state grants to support infrastructure growth**. To disseminate information, offer workshops, webinars, and one-on-one assistance to help county and state governments identify and apply for relevant grants.
2. **Assist manufacturers in accessing capital for facility upgrades** by providing grant-writing assistance and toolkits, for example. To encourage manufacturers to apply for grants, distribute studies that highlight the benefits of government grants and provide user-friendly application toolkits to encourage manufacturer participation. **As an immediate next step**, implement a Manufacturer Grant Access Assistance Program. First, identify a network of grant writers with complementary expertise and contract the writers to develop a grant writing toolkit. After the toolkit and the network of grant writers is established, design and launch a website to list a database of grant writers. Subsequently, organize workshops and spread awareness through newsletters to introduce the program and educate manufacturers on available resources.

2.6 Strategy 6 – Support Streamlined Permitting

Streamline and harmonize local regulations zoning for clarity and consistency.

1. Work with **local agencies to support consistent, efficient, and clear communications** throughout permit approval processes. Identify other industries where industry, government, and stakeholders have collaborated to improve permitting processes (e.g., small business permits within local governments) and identify best and promising practices that could be adopted regionally. *See Clean Energy Investment Plan (specifically Strategy E – Establish regional coordination) for further discussion on streamlining local permitting.*
2. **Review existing zoning** and determine if land availability meets circular manufacturers' needs while balancing other land-use priorities, such as the environment. **As an immediate next step**, initiate a public-private, sustainable-zoning task force to identify vacant or under-used land that could be rezoned for light-industrial or circular manufacturing use. Start by recruiting volunteers to serve on the task force that represent different stakeholder groups (e.g., community voices, manufacturers, etc.) Subsequently, survey existing zoning to understand capacity and work in tandem with the California Jobs First Council and other relevant agencies for clarity and integration with the state around regulation and permitting. After surveying existing zoning, analyze current and forecasted demand to determine if existing zoning meets demand. If zoning does not meet demand, identify under-use land that can be potentially rezoned for circular manufacturing.

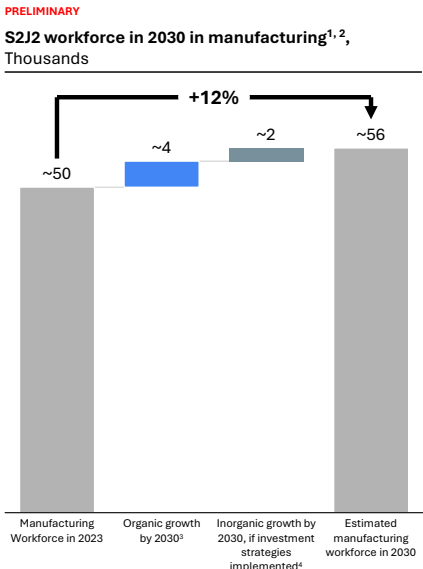
2.7 Additional Strategy Considerations

2.7.1 Increasing Economic Diversification and Resilience

A successful regional investment in circular manufacturing will result in approximately 2,000 new skilled jobs in a resilient and climate-forward industry, in addition to the 4,000 estimated to be created organically. (Figure 3)¹¹ Additionally, ~5,000 jobs may be created as a result of the investment strategies (inorganic growth) in other industries as a result of manufacturing’s ~2.5 job multiplier. As part of Strategy 4’s focus on workforce development, it will be critical to train new workers, with a particular emphasis on those residents from disinvested communities within the S2J2 region.

Figure 3: Circular Manufacturing Workforce Outlook

Circular Manufacturing Workforce Outlook



Source: Lightcast, US Bureau of Labor Statistics. Detailed methodology described in Appendix.

1. Represents sum of organic and inorganic growth estimate.

2. Job growth does not include manufacturing jobs induced by clean energy buildout.

3. Projected growth independent of investment strategies.

4. Projected growth because of investment strategies. Estimate assumes 10 new manufacturers relocate to region and create an average of 200 jobs each, for a total of 2,000 jobs.

5. Other includes food preparation and serving related; architecture and engineering; life, physical, and social science; farming, fishing, and forestry; building and grounds cleaning; construction and extraction; computer and mathematical; arts, design, entertainment, sports, and media; healthcare practitioners and technical; and protective service occupations.

6. Represents sum or organic and inorganic growth estimate.

7. Average hourly earnings calculated as a weighted average of median hourly earnings for the estimated number of manufacturing jobs created as a result of organic and inorganic growth.

Example jobs by occupation, median hourly earnings, and educational requirements in manufacturing

Occupation	Educational requirements:		
	No degree required	High school diploma	Bachelor's degree
Occupation	Organic growth	Inorganic growth	Median hourly Earnings
Transportation and material moving	~610	~300	~\$23
Other ⁵	~430	~210	~\$28
Sales	~120	~60	~\$26
Production	~2,050	~1,000	~\$23
Office and administrative support	~300	~140	~\$24
Installation, Maintenance, and Repair	~240	~120	~\$29
Management	~220	~110	~\$51
Business and Financial Operations	~120	~60	~\$40

~6k⁶
workers may need to be trained to achieve the desired manufacturing footprint in the 4-county region by 2030.

Note: Active participation likely required to ensure a significant portion of jobs remains in S2J2 community

~\$30
In average hourly earnings⁷ across newly created manufacturing jobs.

11 US Department of Energy, <https://www.energy.gov/eere/clean-energy-job-creation-and-growth>

2.7.2 Alignment with Job Quality & Access, Equity, and Climate

The region can enhance its economic resilience, sustainability, and equity through a multifaceted approach. By fostering environmental responsibility and innovation, manufacturers can meet evolving consumer demands while addressing climate concerns. Optimizing transportation infrastructure and developing diverse shipping channels could reduce supply chain vulnerabilities and improve access to job opportunities. Leveraging local supply chains, repurposing waste, and supporting local suppliers may drive growth and create quality jobs across various communities. Collaborating with educational institutions to develop targeted curricula and training programs can build a skilled, diverse workforce, ensuring equitable access to emerging opportunities. Financial assistance for manufacturers could support facility upgrades and technology adoption, potentially leading to better working conditions and more sustainable practices. Streamlining permitting processes while considering environmental impact could attract a range of circular manufacturers, fostering economic diversity and climate-friendly industry growth.

2.7.3 Alignment with State Strategies

Table 2 details how each strategy aligns with state strategies.

Table 2: Strategy Alignment with State Strategies

Strategy	Relevant State Strategies
Strategy #1: Drive circular transformation	1. California's AB 32¹² and SB 32 laws¹³: Establishes greenhouse gas (GHG) reduction targets. 2. Proposition 39 (California Clean Energy Jobs Act): Promotes job creation in sustainable industries.¹⁴ 3. Advanced Clean Cars Program and ZEV Mandate: Aims to decarbonize transportation.¹⁵
Strategy #2: Enhance infrastructure	1. California's Renewable Portfolio Standard (RPS): Prioritizes investments in clean energy production and upgrading transmission lines. 2. Sustainable Freight Action Plan and the California Sustainable Freight Action Plan: Aims to reduce greenhouse gas emissions from the transportation sector. 3. AB 617: Targets air pollution reductions in disproportionately affected communities.
Strategy #3: Leverage local supply chains	1. California's Sustainable Freight Action Plan: Aims to improve freight efficiency and reduce emissions. 2. California's Integrated Waste Management Act (AB 939): Sets waste diversion goals and promotes recycling and composting infrastructure. 3. California Inland Port Program: Aims to improve the efficiency and competitiveness of the state's goods movement system by investing in infrastructure projects that facilitate the movement of freight between inland ports and seaports.
Strategy #4: Expand workforce development	1. California Career Technical Education Incentive Grant (CTEIG): Aims to increase the number of students enrolled in high-quality CTE programs. 2. California Apprenticeship Initiative (CAI): Seeks to expand apprenticeship programs. 3. Employment Training Panel (ETP) program: Provides funding for job training and skill development to support California's businesses and workers.

¹² California Air Resources Board, <https://ww2.arb.ca.gov/resources/fact-sheets/ab-32-global-warming-solutions-act-2006>

¹³ California State Legislature, https://leginfo.ca.gov/faces/billNavClient.xhtml?bill_id=201520160SB32

¹⁴ California Energy Commission, <https://www.energy.ca.gov/programs-and-topics/programs/california-clean-energy-jobs-act-proposition-39-k-12-program-1>

¹⁵ California Air Resources Board, <https://ww2.arb.ca.gov/our-work/programs/zero-emission-vehicle-program>

Table 2: Strategy Alignment with State Strategies Cont'd

Strategy	Relevant State Strategies
Strategy #5: Offer economic development incentives	1. California Competes Tax Credit: Offers tax credits to firms creating California jobs. 2. California Capital Access Program (CalCAP): Encourages financial institutions to lend to small businesses. 3. California Sustainable Communities Planning Grant and Incentives Program: Supports sustainable community planning and resource conservation. 4. California Alternative Energy and Advanced Transportation Financing Authority (CAEATFA): Offers financial assistance for renewable energy projects.
Strategy #6: Support streamlined permitting	1. Sustainable Communities Environmental Protection Program: Encourages updating zoning codes and general plans to prioritize zones for green industries. 2. Jobs and Economic Improvement Through Environmental Leadership Act of 2021 (Senate Bill 7): Extends and expands provisions for streamlining CEQA review for qualifying sustainability projects.

3 Funding Models and Sources

3.1 Potential Funding Models and Sources

Total investment needed to implement strategies is approximately **~\$41 million** over ten years. Of the investment needed for strategy implementation, ~\$23 million is needed in the form of one-time investments and ~\$18 million is needed in cumulative recurring investment (spread over a ten-year period). About \$170k may be needed for initial research and planning; the remaining funds required for strategy implementation could be raised from public sources (~\$22 million) and private sources (~\$18 million). The potential private investment that would be generated as a result would be ~\$1.9 billion. Assumptions for the investment needed to implement strategies and action private sector investment are detailed in Section 3.2.

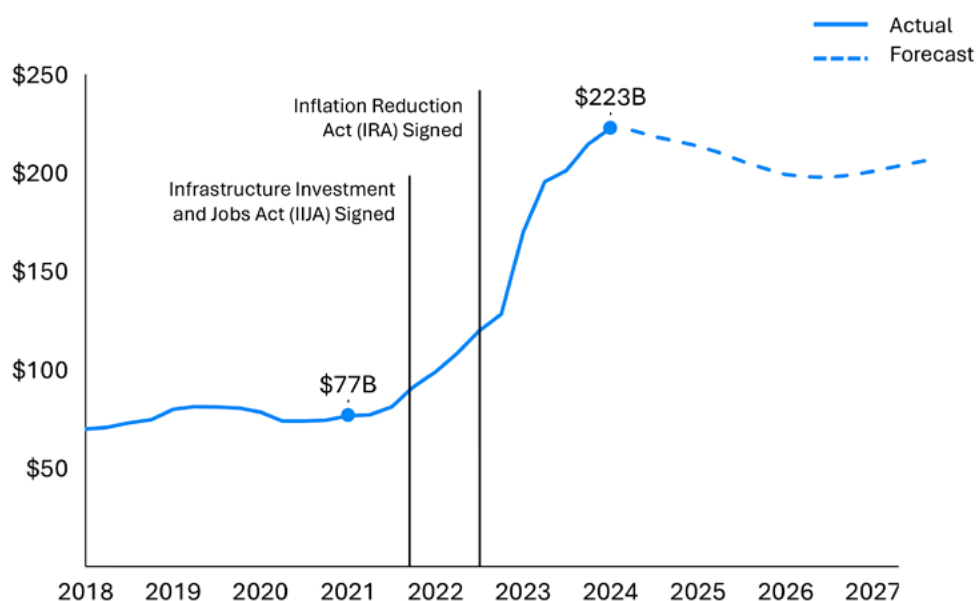
Several funding models can be deployed to implement investment strategies. These models, which could be deployed separately or together, include **federal, state, or local government** funding, such as grants, loans, municipal bonds, and tax credits; **private-sector** funding, such as company-centric internal investing and unrestricted private capital, **philanthropic** funding, such as grants and unrestricted donor capita, **and a combination of funding sources**, such as public-private partnerships.

The complexity of funding, eligibility, and restrictions varies by source:

1. **Public sector sources:** Includes federal, state, and local governments that can provide financial assistance for projects that reduce pollution and improve energy efficiency, finance the purchase of energy-efficient equipment or facility upgrades, fund infrastructure projects, and incentivize the adoption of clean-energy technologies. Recent funding bills (e.g., the Inflation Reduction Act (IRA), and the Infrastructure Investment and Jobs Act (IIJA)) could be contributing to growth in the manufacturing industry. (Figure 3)

Figure 4: Recent Government Funding May Potentially Be Spurring Investment in Manufacturing.

Quarterly value of manufacturing construction spending, billions of dollars



Source: US Census Bureau

2. **Private-sector sources:** Includes company-centric internal investing and private capital. Internal investing allows manufacturers to allocate resources toward sustainability initiatives that have a positive return on investment (ROI). Private capital, such as investments from venture capital firms or angel investors, can provide funds to develop and scale innovative sustainable technologies and processes.
3. **Philanthropic sources:** Includes grants—which may be restricted to specific activities—to fund research and development, pilot projects, or implementation of sustainable practices. Unrestricted donor capital is flexible enough to address sustainability challenges and opportunities.
4. **Public-private partnerships:** Combines resources from government and private-sector entities. These collaborations capitalize on each partner's strengths, such as the government's ability to provide incentives and the private sector's expertise in innovation and market-driven solutions. By pooling resources and sharing risks, public-private partnerships can hasten the adoption of sustainable practices in manufacturing.

Funding source list detailed in Appendix I: Funding Sources.

3.2 Potential Investment Required

Table 3 represents the estimated costs of sample activities in the six strategies for circular manufacturing.

Table 3: Potential Funding Requirements for Each Strategy

Strategy	Potential funding sources	Estimated investment required for the next 10 years	Rational for estimated investment required
Strategy #1: Drive circular transformation	Local government grants State government grants Federal government grants Philanthropic grants Private capital	~\$4.5M (~\$4.2M cumulative recurring; ~\$0.3M one-time)	One project manager may be needed to create a compendium of best circular manufacturing practices (~\$0.1M). Assumes 2 in 3 manufacturers will adopt circular practices that lead to 40% reduction in waste sent to landfill. Two chemical scientists may be needed, in addition to finding facility space, to research AgTech at CENID (~\$4.3M). One project manager may be needed to forecast the estimated clean energy and ZEV charging infrastructure needed in the region and determine the gap between existing manufacturing capabilities and demand (~\$0.1M).
Strategy #2: Enhance infrastructure	Local government grants State government grants Federal government grants Philanthropic grants Private capital	~\$0.3M (cumulative recurring)	Four technical writers may be needed for 2 years to help county governments apply for IRA and IJA funding that can be deployed to enhance infrastructure in the region (~\$0.3M).
Strategy #3: Leverage local supply chains	Philanthropic grants Private capital	~\$1.5M (cumulative recurring)	One project manager and one web developer may be needed to build a website that details existing regional suppliers serves as a connection point for regional buyers (~\$0.1M). One project manager may be needed to host in-person events to connect buyers and suppliers and potentially find outside investment to develop new technologies that leverage ag waste (~\$1.4M).
Strategy #4: Expand workforce development	Local government grants State government grants Federal government grants Philanthropic grants Private capital	~\$31.7M (~\$7.7M cumulative recurring; ~\$23M one-time)	Two teaching assistants may be needed for 2 years to develop curricula and assist with course implementation (~\$0.2M). Creating FAME may cost ~\$24.6M, which includes building a new facility, purchasing manufacturing equipment and classroom equipment and technology in addition to two full-time teachers. Career counselors specializing in manufacturing may need to be hired in each county and funding may be needed for 10 years (~\$3.4M). The Internship Center at the Fresno Unified School District may require ~\$3.5M in funding over 10 years for intern stipends, building expenses, and employer partner support.

Table 3: Potential Funding Requirements for Each Strategy Cont'd

Strategy	Potential funding sources	Estimated investment required for the next 10 years	Rational for estimated investment required
Strategy #5: Offer economic development incentives	Local government grants Private capital	~\$3.5M (cumulative recurring)	Four full-time writers plus a web developer and project manager may be needed to create a toolkit and offer grant writing assistance for manufacturers (~\$4.2M). Funding may be needed for 10 years before an alternative source is identified. Assume 1 grant application (i.e., access to low-cost capital) can be completed per week per writer.
Strategy #6: Support streamlined permitting	Local government grants Private capital	~\$2.3M (cumulative recurring)	One additional licensing clerk specializing in manufacturing and building permitting could be needed in each county to streamline the process for 10 years before additional funding sources are identified (~\$2.2M). One mapping technician could be needed to create a compendium of current and potential industrial-zoned plots for manufacturers (~\$0.1M).

There is an estimated \$1.9 billion that could be attracted in private capital investment in the region as a result of deploying the six investment strategies. The private capital investment assumes that approximately 10 manufacturers will come to the region because of the investment strategies, and that each manufacturer will build an approximately 200,000 sq ft facility¹⁶ in the four-county region and that manufacturing construction costs will be about ~\$500 per sqft.¹⁷ Equipment capital expenditures (CapEx) are typically 80% of building CapEx.¹⁸

4 Stakeholder Map

4.1 Stakeholders in the Area

Required stakeholders: Governments, industries, utilities, community-based organizations, educational entities, and nonprofits can all influence strategies to grow, enhance, and attract circular manufacturing in the region. The groups of stakeholders are visualized in Figure 5.

1. **Government entities** can offer economic development incentives, streamline permitting processes, and invest in infrastructure to support circular manufacturing growth.
2. **Industry** stakeholders, such as manufacturers and trade organizations, can drive circular transformation by adopting sustainable practices, sharing knowledge, and advocating for supportive policies.
3. **Utilities** can contribute by providing affordable, clean energy.

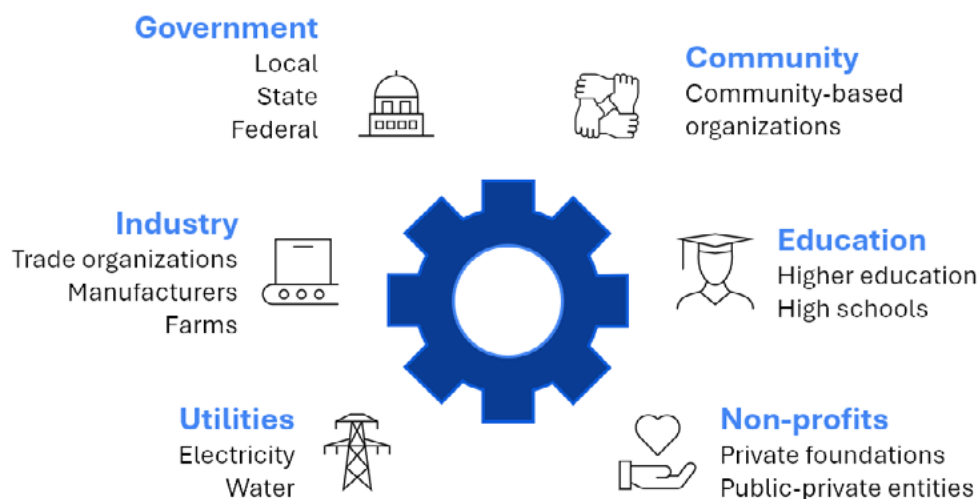
¹⁶ The mean industrial facility size is approximately 200,000 SqFt according to a SJVMA sample of manufacturers.

¹⁷ Home Guide, <https://homeguide.com/costs/commercial-construction-cost-per-square-foot#type>

¹⁸ US Census Bureau: Annual Capital Expenditure Survey

4. **Community-based organizations** can influence decisions through public input and advocacy and can help implement investment strategies.
5. **Educational institutions and labor and workforce training organizations** can develop the workforce by offering training programs and collaborating with the industry to develop relevant curricula.
6. **Non-profits**, like foundations, can fund initiatives and research to advance circular manufacturing in the region.

Figure 5: Visualization of stakeholder groups.



Available / committed stakeholders: List can be found in Appendix III: Stakeholder Map.

Stakeholder gaps: Maintaining a complete list of active community organizations may be challenging. Community voices may strongly affect infrastructure development, land use, environmental issues, and economic development incentives in the four-county region but are difficult to track. Keeping abreast of community perspectives about initiatives and projects may involve staying connected with known community organizations in all four counties; maintaining open communication; and actively seeking input.

4.2 Insights from Prior Community Engagements

In the past, engaging manufacturers in initiatives has sometimes been challenging, partly because the ROI for participating in sustainability initiatives was not immediately apparent. Businesses may seek tangible benefits before committing to new projects or initiatives.

5 Potential Barriers

As discussed above, the strategies outlined in Section 2 have been developed to address the barriers (detailed in Appendix IV: Potential Barriers) that the S2J2 region could face in efforts to deliver on the vision for Circular Manufacturing. As outlined above, the S2J2 region will continue efforts to mitigate these barriers.

6 The Path Forward

This section details a potential governance structure to implement the strategies.

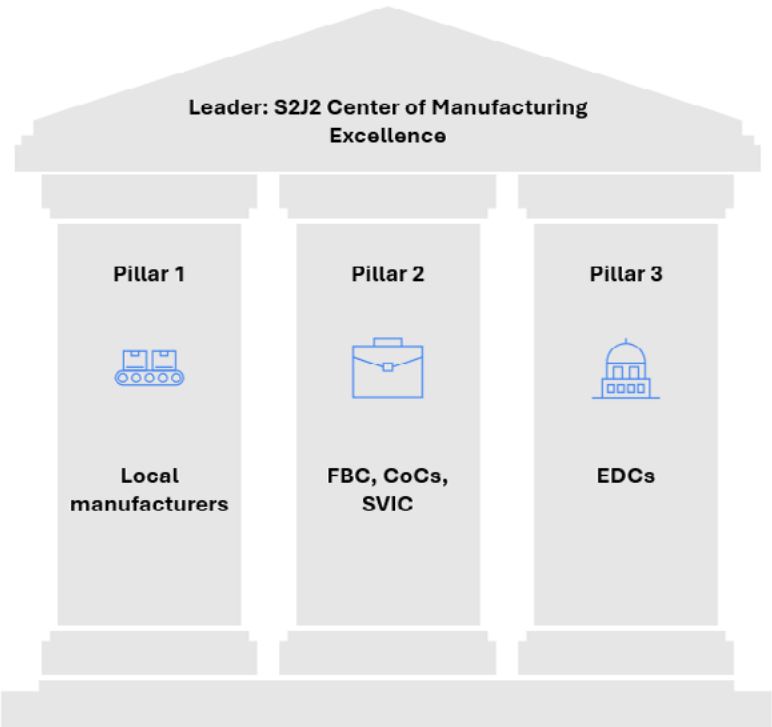
6.1 Governance Structure

A new S2J2 Center of Manufacturing Excellence can lead implementation of the investment strategies, with assistance from organizations that can be categorized into three pillars, as shown in Figure 6.

Leader: S2J2 Center of Manufacturing Excellence

- Support driven by San Joaquin Valley Manufacturing Alliance (SJVMA) and consulting the expertise of national organizations, such as the Manufacturing Leadership Council and the Manufacturing institute, where appropriate.
- Prioritize investment strategy deployment and coordinate efforts among entities in key pillars.
- Potentially hire additional resources, including a program director, to ensure organizational capacity to lead implementation efforts and a marketing manager to ensure that messaging is consistent and coordinated among organizations.

Figure 6: Potential governance structure for investment plan implementation (acronyms detailed below)



Pillar one: Local manufacturers

- Create awareness among manufacturers whenever new initiatives or programs are implemented to ensure informed participation.
- Periodically gather input from manufacturers to evaluate the success and effectiveness of implementing new initiatives.
- Raise funds for initiatives that cannot be covered through public sources to ensure continuous development and implementation.

Pillar two: Fresno Business Council (FBC), Chambers of Commerce (CoCs), South Valley Industrial Collaborative (SVIC)

- Partner with local schools to build educational curricula and develop research initiatives that address industry needs.
- Collaborate with other trade organizations to gain broader support for regional manufacturing initiatives.
- Engage community-based organizations to ensure that community voices are considered when implementing strategies.

Pillar three: Economic development corporations (EDCs)

- Communicate with policymakers to discuss policies and permitting that may facilitate circular manufacturing growth.
- Assist manufacturers in navigating government permitting processes, applying for grants, and accessing capital.
- Support efforts to attract investment capital for startups and entrepreneurial ventures within the manufacturing sector.

7 Appendix I: Positive Indicators for Regional Circular Manufacturing Growth

Table 4: Positive indicators for regional circular manufacturing growth

Category	Indicators
Local market signals	• Since 1990, manufacturing in the four-county region has grown by 12%—in stark contrast to national and state declines of 27% in the U.S. overall and 32% in California.¹⁹ • Manufacturing employed over 49,000 workers in the region in 2023, a number forecasted to grow to 53,000 by 2028.²⁰ • Manufacturing contributes \$8.8 billion to the regional economy, which has a total GRP of \$117 billion. By 2028, manufacturing is projected to contribute \$10.7 billion to the regional economy, which is expected to grow to \$144.6 billion.²¹ • Broken down by county, the 2023 manufacturing jobs estimate includes 27,000 jobs in Fresno County (56%), 14,000 in Tulare County (28%), 5,000 in Kings County (10%), and 3,000 in Madera County (6%).²²

19 Lightcast, US Bureau of Labor Statistics (accessed June 2024)
20 Ibid.
21 Lightcast, US Bureau of Economic Analysis (accessed June 2024)
22 Lightcast, US Bureau of Labor Statistics (accessed June 2024)

Table 4: Positive indicators for regional circular manufacturing growth Cont'd

Category	Indicators
Value chain and infrastructure	- Agriculture plays a significant role in the regional economy, with about 19% of jobs in the sector and approximately 49% of Fresno County's land dedicated to agriculture, which may provide opportunities to utilize agricultural by-products in manufacturing or create opportunities to manufacture agriculture machinery, as well. - About 56% of food manufacturing purchases are made within the region, and about \$6.7 billion of the \$11.9 billion spent on purchases goes to local suppliers. The value chain in the four-county region's food manufacturing sector could be further expanded. Enhancing local supply chains and increasing retention of value-added processes could strengthen the regional economic base. - By county, 52% of food manufacturing purchases remain in-county in Fresno County, 48% in Kings County, 37% in Madera County, and 54% in Tulare County. Food manufacturers sell approximately \$2.7 billion of their products within the region.²³ - Through Interstate 5 and State Route 99, the region is connected to consumer hubs such as Los Angeles, Silicon Valley, and Sacramento.²⁴
Innovation ecosystem	- Industry-specific educational resources could support the region's talent capabilities. Schools like Career Technical Education Charter High School (CTEC)²⁵ or The Center for Advanced Research and Technology (CART)²⁶ may help students prepare for manufacturing careers. - Organizations like F3 Innovate and the Fresno State Water, Energy, and Technology (WET) Center are also advancing manufacturing innovation by conducting agriculture research and development (R&D) that could spur innovation in the food manufacturing subsector.^{27,28} - Innovation supported by higher-education institutions can attract new industries and build talent. The four-county region has 2,100 students per institution, a lower ratio than California's 2,400 students per institution.²⁹ (For comparison, Santa Clara County which has approximately ~1.9M compared to the four-county population of ~1.8 million, there are 42 higher-education institutions in Santa Clara County compared to the 50 in the four-county region.) This high density of institutions per student may allow the region to provide manufacturing-focused educational opportunities and resources. - In another example, Tulare County offers an innovative "Fast-Track Your Project" process with streamlined permit application assessments, which could prove attractive to manufacturers.³⁰
Regional assets	- Industry-specific educational resources could support the region's talent capabilities. Schools like Career Technical Education Charter High School (CTEC)³¹ or The Center for Advanced Research and Technology (CART).³² - College of the Sequoias also offers training in manufacturing and serves as another example of an asset that may develop workforce capabilities.³³ - From an organizational perspective, SJVMA, with 1,450 members representing 450 manufacturers, could provide a strong support network for manufacturers looking to enter the four-county market.³⁴ - Central Valley Mother Lode Regional Consortium, representing eight community college districts and 15 colleges, develops training and educational programs to meet the needs of high-growth sectors.³⁵

23 Ibid.

24 Fresno Economic Development Corporation, <https://www.fresnoedc.com/fresno-county/>25 Career Technical Education Charter High School, <https://ctec.fcoe.org/>26 Center for Advanced Research and Technology, <https://cart.org/>27 F3 Innovate, <https://www.f3innovate.org/>28 Fresno State Water, Energy, and Technology Center, <https://www.wetcenter.org/>

29 Lightcast, US National Center for Education Statistics (accessed June 2024)

30 Tulare County Economic Development Organization, <https://www.growtularecounty.org/business-assistance/fast-track-your-project>31 Career Technical Education Charter High School, <https://ctec.fcoe.org/>32 Center for Advanced Research and Technology, <https://cart.org/>33 College of the Sequoias, <https://www.cos.edu/en-us/training-resource-center>34 San Joaquin Valley Manufacturing Alliance, <https://sjvma.org/about/>35 Central Valley Mother Lode Regional Consortium, <https://crconsortium.com/about/>

8 Appendix II: Funding Sources

Table 5: Local government-awarded funding

Program	Estimated amount available	Application timeline	Eligibility
San Joaquin Valley Air Pollution Control District Rebates and Grants	N/A (San Joaquin Valley Air Pollution Control District)	Accepted on rolling basis	Businesses can apply for grant funding for equipment replacement, battery charging installs, etc.³⁶
PG&E Economic Development Rate	N/A (regions in which PG&E is the provider)	Accepted on a rolling basis	- Businesses that may cease operations or that are seeking to operate within a PG&E service area. - Small businesses below 150 kW usage.³⁷
Fresno Green Incentives	N/A (county-wide)	Accepted on a rolling basis	Businesses that construct sustainable, environmentally responsible buildings and communities.³⁸

³⁶ San Joaquin Valley Air Pollution Control District, <https://www.valleyair.org/Home.htm>

³⁷ Pacific Gas & Electric, <https://www.pge.com/en/business-resources/economic-development/economic-development-rate.html>

³⁸ Fresno Economic Development Corporation, <https://www.fresnoedc.com/incentives/#:~:text=Fresno%20Green%20Incentives,are%20sustainable%20and%20environmentally%20responsible.>

Table 6: State government-awarded funding

Program	Estimated amount available	Application timeline	Eligibility
California Competes	~\$620M (statewide)	Typically has three application periods in August, January, and March ³⁹	Businesses seeking to come to, stay in, and/or grow in California and commit to meeting yearly milestones.⁴⁰
Infrastructure State Revolving Fund (IBank)	~\$926M (statewide)	Accepted on a rolling basis ⁴¹	Subdivisions of a local government and non-profit corporations can apply for infrastructure projects.⁴²
Alternative Energy and Advanced Transportation Financing Authority Sales and Use Tax Exclusion Program	~\$115M (statewide)	Currently authorized through 2025. Three application periods in January, July, and September 2024 ⁴³	Project sponsors may apply for bond financing or refinancing of a transportation project approved by CalTrans.
Manufacturing Equipment Sales Tax Exemption	N/A	Applied to businesses' tax returns	Manufacturers that purchase qualified machinery and equipment primarily used in manufacturing.
Recycling Market Development Zone	~\$12M (statewide)	Accepted on a rolling basis ⁴⁴	Recycling manufacturers that need loans to finance machinery or ancillary costs to expand.⁴⁵
Research and Development (R&D) Credit	~\$7,800M (statewide)	Applied to businesses' tax returns	Research must be conducted within California.
New Employment Credit	N/A (statewide)	Applied to businesses' tax returns	Employers that hire qualified employees (those who have been unemployed for six months, for example), pay at least 150% of minimum wage, and have a net increase in jobs.
PACE (Property Assessed Clean Energy) Financing	N/A (statewide)	Accepted on a rolling basis	- Programs located in PACE jurisdiction.⁴⁶ - Financing improvements can include energy efficiency upgrades, renewable energy installations, and water conservation measures.⁴⁷
Employer Training Panel	~\$103M (statewide)	Due by June 21, 2024. Upcoming application deadline not yet announced ⁴⁸	Employers (usually for-profit entities) that commit to retaining trainees for a certain period after training is completed ⁴⁹

39 Holthouse, Carlin, Van Trigt LLP, <https://www.hcvt.com/alert-california-competes-grant-program>

40 California Franchise Tax Board, <https://www.ftb.ca.gov/file/business/credits/california-competes-tax-credit.html>

41 California Infrastructure and Economic Development Bank, <https://ibank.ca.gov/loans/infrastructure-loans/>

42 California Infrastructure and Economic Development Bank, [https://www.ibank.ca.gov/loans/eligibility/#:~:text=ISRF%20Loan%20Eligibility,corporations%20\(as%20deemed%20eligible\).](https://www.ibank.ca.gov/loans/eligibility/#:~:text=ISRF%20Loan%20Eligibility,corporations%20(as%20deemed%20eligible).)

43 California State Treasurer, <https://www.treasurer.ca.gov/caeatfa/ste/amended.pdf>

44 California Department of Resources Recycling and Recovery, <https://calrecycle.ca.gov/rmdz/loans/>

45 Ibid.

46 California Energy Commission, <https://www.energy.gov/scep/slsc/property-assessed-clean-energy-programs>

47 US Department of Energy, <https://www.energy.gov/scep/slsc/property-assessed-clean-energy-programs>

48 California Employment Training Panel, <https://etp.ca.gov/>

49 California Employment Training Panel, <https://etp.ca.gov/program-overview/eligible-entities/>

Table 7: Federal government-awarded funding

Program	Estimated amount available	Application timeline	Eligibility
Inflation Reduction Act (IRA): Methane Emissions Reduction Program	~\$1,550M (nationwide)	Applications available later in 2024. (Initial grants awarded in 2023) ⁵⁰	Manufacturers seeking funds for reducing methane emissions.⁵¹
IRA: Biofuel Infrastructure and Agriculture Product Market Expansion	~\$500M (nationwide)	Application opens July 1, 2023 and closes September 30, 2024 ⁵²	Manufacturers seeking funds to expand or improve infrastructure to distribute and sell biofuels.⁵³
IRA: Wood Innovations Grant Program	~\$100M (nationwide)	Application period expected to open in October 2024 ⁵⁴	Manufacturers seeking funds to expand wood products markets, renewable wood energy, and forest restoration.⁵⁵
Infrastructure Investment and Jobs Act (IIJA): Advanced Energy Manufacturing and Recycling Grants ⁵⁶	~\$750M (nationwide)	Funds available until expended ⁵⁷	Manufacturer seeking funds to expand or establish recycling capabilities or to retrofit a facility to reduce greenhouse gas emissions.⁵⁸
IIJA: Solid Waste Infrastructure for Recycling Infrastructure Grants	~\$275M (nationwide)	Funds available until expended (expected to last through 2026) ⁵⁹	Manufacturers seeking funds for recycling infrastructure, solid waste management, technology and innovation, or education and outreach.⁶⁰
IIJA: Battery and Critical Mineral Recycling	~\$125M (nationwide)	Funds available until expended ⁶¹	Manufacturers seeking funds for battery recycling, critical mineral recycling, technology development, or supply chain improvements.⁶²
IIJA: Removal of Vegetation for Biochar and Innovation Wood Products	~\$100M (nationwide)	Next application deadline not announced	Manufacturers seeking funds for vegetation removal, biochar production, innovative wood products, or sustainable practices.⁶³

50 US Environmental Protection Agency, <https://www.epa.gov/newsreleases/biden-harris-administration-announces-350-million-14-states-reduce-methane-emissions>

51 Bipartisan Policy Center, https://bipartisanpolicy.org/download/?file=/wp-content/uploads/2022/08/Energy-IRA-Brief_R04-9.26.22.pdf

52 Interagency Working Group on Coal & Power Plant Communities & Economic Revitalization, <https://energycommunities.gov/funding-opportunity/biofuel-infrastructure-and-agriculture-product-market-expansion-higher-blend-infrastructure-incentive-program/>

53 Columbia Sabin Center for Climate Change Law, <https://iratracker.org/programs/ira-section-22003-biofuel-infrastructure-and-market-expansion-grants/>

54 US Department of Agriculture, <https://www.fs.usda.gov/science-technology/energy-forest-products/wood-innovation>

55 US Department of Agriculture, <https://www.usda.gov/media/press-releases/2023/01/31/usda-forest-service-accepting-grant-applications-wood-innovations>

56 Managed by the DOE – Office of Manufacturing and Energy Supply Chains

57 US Department of Energy, <https://www.energy.gov/mesc/advanced-energy-manufacturing-and-recycling-grants>

58 US Department of Energy, <https://www.energy.gov/mesc/advanced-energy-manufacturing-and-recycling-grants#:~:text=Recipients,%24100%2C000%20but%20less%20than%20%242%2C500%2C000.>

59 US Environmental Protection Agency, <https://www.epa.gov/infrastructure/solid-waste-infrastructure-recycling-grant-program#questions>

60 US Environmental Protection Agency, [https://www.epa.gov/infrastructure/solid-waste-infrastructure-recycling-grants-states-and-territories#:~:text=implementation%20of%20plans.-,Eligible%20Applicants,Commonwealth%20of%20Northern%20Mariana%20Islands\).](https://www.epa.gov/infrastructure/solid-waste-infrastructure-recycling-grants-states-and-territories#:~:text=implementation%20of%20plans.-,Eligible%20Applicants,Commonwealth%20of%20Northern%20Mariana%20Islands).)

61 US Department of Energy, <https://www.energy.gov/mesc/battery-and-critical-mineral-recycling>

62 US Department of Energy, <https://www.energy.gov/mesc/battery-and-critical-mineral-recycling>

63 Federal Grants Wire, https://www.federalgrantswire.com/bipartisan-infrastructure-law--removal-and-production-of-flammable-vegetation-to-produce-biochar-and-innovative-wood-products.html#google_vignette

Table 7: Federal government-awarded funding Cont'd

Program	Estimated amount available	Application timeline	Eligibility
IIJA: Reduce, Reuse, Recycling Education and Outreach Grants	~\$75M (nationwide)	Funding provided from FY 2022 to FY 2026 ⁶⁴	Manufacturers seeking funds for public education, outreach programs, behavior change, or innovative approaches.⁶⁵
IIJA: Manufacturing Leadership (Sec 40534)	~\$50M (nationwide)	Available until expended ⁶⁶	State governments only.⁶⁷
Historical Underutilized Business Zone	~\$14,000M (nationwide)	Accepted on a rolling basis ⁶⁸	Small businesses located within “Historically Underutilized Business Zones.”⁶⁹
New Market Tax Credit (NMTC)	~\$5,000M (nationwide)	Applied to businesses’ tax returns	Organizations certified as Community Development Entities by the Community Development Financial Institutions (CDFI) Fund.⁷⁰
Work Opportunity Tax Credit	N/A (nationwide)	Applied to businesses’ tax returns	Employers that hire qualified individuals (part of Section 51 group).⁷¹
Economic Development Administration (EDA) – Good Jobs Challenge	~\$23M (nationwide)	Available until expended ⁷²	Manufacturers seeking funds to create or expand workforce training programs that lead to higher-quality jobs.
EDA – Build Back Better	~\$65M (nationwide)	Available until expended ⁷³	Proposals outlining a path to significant economic impact, as well as strong regional partnerships and collaboration.

64 US Environmental Protection Agency, <https://www.epa.gov/infrastructure/consumer-recycling-education-and-outreach-grant-program#funding>

65 <https://www.epa.gov/infrastructure/consumer-recycling-education-and-outreach-grant-program#eligibleapplicants>

66 US Department of Energy, <https://www.energy.gov/mesc/state-manufacturing-leadership-sec-40534>

67 Ibid.

68 US Small Business Administration, <https://www.sba.gov/federal-contracting/contracting-assistance-programs/hubzone-program>

69 Association of Procurement Technical Assistance Centers, <https://www.aptac-us.org/hubzone/#:~:text=To%20qualify%20for%20the%20program,cooperative%2C%20or%20an%20Indian%20tribe.>

70 US Department of the Treasury Community Development Financial Institutions Fund, <https://www.cdfifund.gov/programs-training/programs/new-markets-tax-credit>

71 Internal Revenue Service, <https://www.irs.gov/businesses/small-businesses-self-employed/work-opportunity-tax-credit>

72 Fresno Economic Development Corporation, <https://www.fresnoedc.com/goodjobs/>

73 Fresno State News, <https://www.fresnostatenews.com/2023/03/01/ingredients-to-transform-the-economy/#:~:text=F3%20was%20the%20largest%20awarded,awarded%20to%20the%20Central%20Valley.>

9 Appendix III: Stakeholder Map

Table 8: Non-exhaustive list of stakeholders that potentially impact investment strategies.

Stakeholder group	Organizational partner/human resource	Strategy					
		Drive circular transformation	Enhance infrastructure	Leverage local supply chains	Expand workforce development	Offer economic development incentives	Support streamlined permitting
Government	City governments in the four-county region	✓	✓		✓	✓	✓
	Kings, Fresno, Madera, and Tulare Counties	✓	✓		✓	✓	✓
	Regional transportation councils/associations		✓				
	California Governor's Office of Business and Economic Development	✓	✓		✓	✓	✓
	California Energy Commission	✓	✓			✓	✓
	California Public Utilities Commission	✓	✓			✓	✓
	California Air Resources Board	✓	✓		✓	✓	✓
	California Environmental Protection Agency	✓	✓		✓	✓	✓
	US Department of Agriculture	✓	✓	✓		✓	
	US Department of Energy	✓	✓			✓	
	US Environmental Protection Agency	✓	✓			✓	
	US Department of Transportation	✓	✓			✓	

Table 8: Non-exhaustive list of stakeholders that potentially impact investment strategies. Cont'd

Stakeholder group	Organizational partner/human resource	Strategy					
		Drive circular transformation	Enhance infrastructure	Leverage local supply chains	Expand workforce development	Offer economic development incentives	Support streamlined permitting
Education	Community colleges in the four-county region	✓			✓		
	Four-year colleges in the four-county region	✓			✓		
	Central Valley Training Center	✓			✓		
	Lyles Center for Innovation and Entrepreneurship	✓			✓		
	The Water, Energy, and Technology (WET) Center	✓			✓		
	Career Technical Education Charter High School				✓		
	Regional unified school districts				✓		
	Fresno Madera Tulare Kings Building Trades Council	✓	✓		✓		✓
	Fresno, Madera, Tulare, and Kings County Central Labor Council	✓	✓		✓		
	Northern California Carpenters Union	✓	✓		✓		
	County workforce development boards	✓			✓		

Table 8: Non-exhaustive list of stakeholders that potentially impact investment strategies. Cont'd

Stakeholder group	Organizational partner/human resource	Strategy					
		Drive circular transformation	Enhance infrastructure	Leverage local supply chains	Expand workforce development	Offer economic development incentives	Support streamlined permitting
Industry	SJVMA	✓		✓	✓		
	South Valley Industrial Collaborative	✓		✓	✓		
	Food manufacturing	✓		✓	✓		
	Beverage manufacturing	✓		✓	✓		
	Machinery manufacturing	✓		✓	✓		
	Electrical equipment and component manufacturing	✓		✓	✓		
	Computer and electronic product manufacturing	✓		✓	✓		
	Transportation equipment manufacturing	✓		✓	✓		
	California Fresh Fruit Association	✓		✓	✓		
	California Farm Bureau	✓		✓	✓		
	Central Valley HHO, Inc.	✓		✓	✓		
	California Association of Realtors						✓
	California Business Properties Association						✓
	American Planning Association, California Chapter						✓
Non-profits	County EDCs	✓				✓	✓
	County Chambers of Commerce	✓		✓			✓
	Ellen MacArthur Foundation	✓		✓			
	Office of Kat Taylor	✓		✓			

Table 8: Non-exhaustive list of stakeholders that potentially impact investment strategies. Cont'd

Stakeholder group	Organizational partner/human resource	Strategy					
		Drive circular transformation	Enhance infrastructure	Leverage local supply chains	Expand workforce development	Offer economic development incentives	Support streamlined permitting
Utilities	Pacific Gas & Electric		✓				
	Southern California Edison		✓				
	Irrigation and water districts ⁷⁴		✓				
Community	Leadership Counsel for Justice and Accountability	✓	✓		✓		✓
	Asthma Coalition	✓	✓				✓
	Building Healthy Communities – Fresno	✓	✓				✓
	Central CA Environmental Justice Network	✓	✓				✓
	Central La Familia	✓	✓				✓
	Fresno Community and Economic Development Partnership	✓	✓		✓	✓	✓
	Transform Fresno	✓	✓		✓	✓	✓
	Big Pine Paiute Tribe of the Owens Valley	✓	✓	✓	✓		✓
	Northfork Rancheria of Mono Indians of California	✓	✓	✓	✓		✓
	Big Sandy Rancheria of Western Mono Indians of California	✓	✓	✓	✓		✓
	Bishop Paiute Tribe	✓	✓	✓	✓		✓
	Fort Independence Indian Community of Paiute Indians	✓	✓	✓	✓		✓

74 Complete list can be found in the Association of California Water Agencies (<https://www.acwa.com/about/directory/>).

Table 8: Non-exhaustive list of stakeholders that potentially impact investment strategies. Cont'd

Stakeholder group	Organizational partner/human resource	Strategy					
		Drive circular transformation	Enhance infrastructure	Leverage local supply chains	Expand workforce development	Offer economic development incentives	Support streamlined permitting
Community	Lone Pine Paiute-Shoshone Tribe	✓	✓	✓	✓		✓
	Santa Rosa Indian Community of the Santa Rosa Rancheria	✓	✓	✓	✓		✓
	Timbisha Shoshone Tribe	✓	✓	✓	✓		✓
	Cold Springs Rancheria of Mono Indians of California	✓	✓	✓	✓		✓
	Tule River Indian Tribe of the Tule River Reservation, California	✓	✓	✓	✓		✓
	Picayune Rancheria of Chukchansi Indians of California	✓	✓	✓	✓		✓
	Table Mountain Rancheria	✓	✓	✓	✓		✓

10 Appendix IV: Potential Barriers

10.1 Strategy #1: Drive Circular Transformation

Table 9: Specific barriers and ways to address to drive circular transformation.

Activities	Barriers
A. Partner with circular manufacturers (both in and outside of the region) to build a knowledge repository of circular manufacturing best practices.	Some manufacturers may be hesitant to share information about their manufacturing practices due to concerns about competition or the effort required to participate.
B. Build up technological capabilities (e.g., carbon capture and sequestration, ag tech) in the region through R&D initiatives focused on sustainable manufacturing innovations (e.g., partnerships with innovation hubs, higher ed).	Some educational institutions may be hesitant to commit resources and facilities to house R&D initiatives due to competing priorities or limited capacity.
C. Support the production of clean energy components (e.g., components for batteries) and other clean energy technologies (e.g., components for zero-emission vehicles, ZEVs) to foster growth in the renewable energy sector.	Some manufacturers may lack awareness of the growing demand for clean energy components and may not have sufficient resources to adapt production capabilities.

10.2 Strategy #2: Enhance Infrastructure

Table 10: Specific barriers and ways to address to enhance infrastructure.

Activities	Barriers
A. Invest in clean energy production , upgrade transmission lines, and implement smart grid technologies to increase electricity capacity and reliability.	Land availability for energy production can be limited by concerns about building near disinvested communities and existing land-use.
B. Develop and optimize transportation infrastructure , including expanding highways and adding rail stops to reduce shipping times, improve supply chain efficiency, and increase access to talent pipelines.	Acquiring land from private owners to develop transportation infrastructure may be challenging .

10.3 Strategy #3: Leverage Local Supply Chains

Table 11: Specific barriers and ways to address and leverage local supply chains.

Activities	Barriers
A. Leverage by-products and waste from other industries (such as agricultural waste) and foster industries that use waste as input for manufacturing processes.	Some farmers could be reluctant to invest in collecting and managing agricultural waste without additional incentives as they may believe that leaving the waste in place is more cost-effective.
B. Conduct assessments to identify potential local suppliers and provide financial and technical support to help them scale up to meet manufacturing demands, thus curtailing dependence on distant sources.	Local suppliers may hesitate to participate in assessments due to concerns about the time and effort required. It may be challenging to develop an online platform for collecting and managing supplier information.
C. Facilitate partnerships through industry organizations and events that connect suppliers with manufacturers, fostering relationships and introducing new opportunities for collaboration.	Manufacturers and other buyers may be reluctant to participate in industry events and partnership-building activities due to time constraints, competing priorities, or a lack of perceived value.

10.4 Strategy #4: Expand Workforce Development

Table 12: Specific barriers and ways to address and expand workforce development.

Activities	Barriers
A. Collaborate with local colleges and vocational schools to create curricula focused on desired skills; build a manufacturing-skills training center.	The rapid pace of technological change in the circular manufacturing industry may make it difficult for educational institutions to keep curricula up to date.
B. Establish apprenticeship and internship opportunities to provide hands-on experience for students and workers.	Some manufacturers may hesitate to devote time and resources to training and mentoring interns who may not join the company.
C. Partner with exemplary mfgs to demonstrate best practices to college instructors and workers.	Manufacturers may be reluctant to share due to concerns about competition, potential loss of proprietary information.
D. Provide comprehensive support services – such as career counseling, childcare, transportation assistance, to help individuals participate in workforce development programs that could broaden the available talent pool for prospective manufacturers.	Coordinating and integrating support services across multiple agencies or providers can be challenging.

10.5 Strategy #5: Offer Economic Development Incentives

Table 13: Specific barriers and ways to address and offer economic development incentives.

Activities	Barriers
A. Secure and distribute federal and state grants to reduce operational costs and support growth initiatives.	Relevant entities (such as governments, non-profits, and manufacturers) may not be aware of available grant opportunities, leading to an uneven distribution of funding and support.
B. Assist manufacturers in accessing capital for facility upgrades, technological advancements, and infrastructure improvements (for example, offer grant-writing assistance and toolkits).	Manufacturers may see the time and effort required to pursue grant funding as prohibitive, particularly if they are unsure of the potential benefits or lack the capacity to apply.

10.6 Strategy #6: Support streamlined permitting

Table 14: Specific barriers and ways to address to support streamlined permitting.

Activities	Barriers
A. Work with local agencies to support consistent, efficient, and clear communications throughout permit approval processes. Identify other industries where industry, government, and stakeholders have collaborated to improve processes & identify best/promising practices that could be adopted.	Coordinating communication and aligning priorities among local agencies and government stakeholders can be challenging.
B. Review existing zoning and determine if land availability matches circular manufacturers' needs while balancing other land-use priorities.	Competing land-use priorities, like clean energy or agriculture, may take priority over allocating land to circular manufacturing facilities.



‘One Water’ Watershed Management

Essential Infrastructure



Essential Infrastructure

‘One Water’ – Watershed Management

1 Problem Statement, Opportunity, & Area Overview

The San Joaquin Valley Water Collaborative Action Program (CAP) is providing water investment recommendations for the One Water portion of the Sierra San Joaquin (S2J2) Jobs Initiative, which are outlined in this document. The CAP, a coalition of over 80 leaders from agriculture, water agencies, safe drinking water advocates and technical assistance providers, environmental organizations, local governments, academia, and state and federal agencies, is dedicated to identifying actions that, when implemented, have the potential to create a more resilient water and land future for the region, offering hope for an improved economy, healthy ecosystems, sustained agriculture, and an overall better quality of life for all residents. The recommendations in this document have the support of the five CAP caucuses: Safe Drinking Water Advocates and Technical Service Providers, Environmental Organizations, Water Agencies, Agricultural Organizations, and Local Government.

The eight-county San Joaquin Valley is facing unprecedented change due to water shortages, climate change, and economic market conditions. There is a high degree of uncertainty about the region’s future, and its landscape will undoubtedly change over time. Agriculture is a major land use and economic driver, on which many communities depend. Landowners, especially farmers, face many difficult choices to address changing market conditions and less available water. The recommended investments in this document are intended to provide a range of viable options for landowners, the region’s communities, and the environment to achieve a sustainable and healthy future.

The San Joaquin Valley is the ancestral homeland of the Northern Valley Yokuts and Southern Valley Yokuts. The S2J2 geographic scope is the four-county area encompassing Fresno, Tulare, Kings, and Madera counties. The CAP is focused on the entire San Joaquin Valley which includes the four S2J2 counties plus Merced, Stanislaus, San Joaquin, and Kern counties. In several places, information is provided for both geographic scales and identified accordingly.

1.1 Problem Being Addressed

The water challenges facing the region can be grouped into five broad categories:

1. Lack of Safe, Reliable, and Affordable Drinking Water
2. Water Scarcity and Increasing Demand
3. Loss of Functional Habitats
4. Inadequate Infrastructure and Unsustainable Land Use
5. Inconsistent Policies at the Local, State, and Federal Level and the Burden on Local Government

1.1.1 Many Valley Residents Lack Reliable, Safe, Affordable Drinking Water

The S2J2 region has a population of about 1.78 million with over 60 percent of the census tracts designated as “disinvested,”¹ compared to 29 percent of census tracts statewide. The average household income in the S2J2 region is more than 30 percent lower than the California average and 44 percent lower in “disinvested” areas. Nearly 1 in 5 people live below the poverty line in the S2J2 region, compared to 1 in 8 in the rest of the state. In disinvested areas, the poverty rate increases to 1 in 4 (Urban Institute, 2023). In the San Joaquin Valley, many households and communities experience dry wells, drinking water contamination, and unaffordable drinking water costs. When experienced first-hand, these drinking water crises lead to physical, emotional, and financial hardship for families. Declining water levels, groundwater contamination, and insufficient and incomplete drinking water infrastructure have left tens of thousands of Valley residents without access to safe, affordable, and reliable drinking water in their homes.

Estimates indicate that approximately 93 of the 353 public drinking water systems in the S2J2 region violate safe drinking water standards and have pending enforcement actions due to high levels of contaminants. Drinking water contamination disproportionately impacts disadvantaged communities² in the Valley. Sixty-four disadvantaged unincorporated communities – containing approximately 64,000 residents – received unsafe drinking water in 2018, and this number does not include residents on private domestic wells. Arsenic, uranium, and other natural and human-made compounds are present in many parts of the aquifers in the Valley, leading to violations of drinking water standards. Historic and continued nitrogen fertilizer and manure use has resulted in higher levels of nitrates and salts relative to naturally occurring levels in some parts of the Valley making water unsafe to drink in those areas. There are also extensive areas of groundwater contamination from industrial chemicals, most notably 1,2,3-TCP (trichloropropane).

Many homes are currently at risk of having no on-going supply of water. During the 2020-2022 drought about 1,500 domestic wells in the S2J2 region were reported dry. Private domestic wells are particularly at risk of running dry because of their shallow depth. Approximately 70,000 Valley households rely on domestic wells for drinking water. Wells serving private homes continue to go dry even in non-drought years, and falling groundwater levels are anticipated to impact up to 12,000 more wells in the next two decades.

1. ‘Disinvested’ is a term used by the California Jobs First Initiative and includes the following factors: i) Census tracts identified as “disadvantaged” by the California Environmental Protection Agency (CalEPA); ii) Census tracts with median household incomes at or below 80 percent of the statewide median income; iii) “High poverty area” and “High unemployment area” as designated by the California Governor’s Office of Business and Economic Development California Competes Tax Credit Program; and iv) California Native American Tribes as defined by the Native American Heritage Commission (NAHC) Tribal Consultation Policy (Urban Institute, 2023). Valley CERF Regional Plan Part 1
2. A community with an annual median household income that is less than 80 percent of the statewide median household income (Water Code §79505.5).

Fixing drinking water infrastructure is costly, and this burden is disproportionately borne by low-income households and communities in the Valley, as well as taxpayers through state assistance programs. The costs to treat contaminated water, dig new wells, and operate and maintain drinking water infrastructure are expensive. Many small communities cannot afford these investments. For homes with private domestic wells, digging a new well – depending on location – is estimated to cost up to \$60,000, which is unaffordable for low-income households. Installing water filters and purchasing bottled water are not acceptable long-term solutions for residents to pay when experiencing contaminated water. For small community water systems, replacing new wells, installing treatment systems, and operating and maintaining distribution lines and meters are just some of the high costs that communities bear. In addition, the lack of adequate investment in safe, reliable, and affordable drinking water access for low-income communities of color and the lack of equitable representation in water management decisions means that disadvantaged community members, who often are not included in the decision process, are disproportionately affected by drinking water issues.

Solutions are urgently needed to ensure access to safe, reliable, and affordable water for all homes in the region.

1.1.2 The Gap Between Water Demand and Supply is Substantial

The balance between available local water supplies and demand in the Valley has driven conflict in California water management for decades. Most portions of the Valley do not have sufficient water supply available from local streams, rivers, and groundwater to meet current demands without further depleting groundwater aquifers. In much of the Valley, water agencies have relied upon surface water contracts for imported water from the Sacramento-San Joaquin Delta and its tributaries through the Central Valley Project and State Water Project, to meet a portion of demands – particularly in the western and southern regions of the Valley. Many small cities and towns have relied on groundwater as a primary source of drinking water. Other regions on the east side of the Valley have historically had better access to local water resources, capturing water from the major rivers and streams originating in the Sierra Nevada Mountain range, south of the Delta. Still, other regions known as “white areas” or “undistricted areas” have little access to local streams and rivers and little to no access to imported water supply from the Delta or storage.

Climate change is expected to contribute to the Valley’s water supply challenges. Although average annual total precipitation amounts are not expected to change significantly across the Sierra Nevada range, more precipitation is expected to fall as rain instead of snow. As a result, one of California’s most important water storage assets, the Sierra Nevada snowpack, is projected to be diminished. Climate change is also expected to result in longer, more severe drought episodes punctuated by shorter periods of heavy precipitation. Rain events can further stress surface and stormwater management systems, and reduced snowpack may reduce summer surface water flows and groundwater recharge. Climate change may result in less reliable and more volatile water supply and greater risks from both droughts and flood events, impacting Valley cities, towns, and farms.

The California Department of Water Resources designates overdrafted groundwater basins in California. The majority of the critically overdrafted basins are in the Valley. In a 2019 report, the Public Policy Institute of California estimated that over the last two decades there has been an average annual overdraft of 2.4 million-acre-feet (MAF) in the San Joaquin Valley. During the 2012-16 drought, the overdraft was estimated to be more than 8 MAF. Under current policies and programs, land fallowing would become the dominant means of balancing water demand and supply. It is estimated that 500,000 - 900,000 acres of productive farmland would have to come out of production in the San Joaquin Valley to balance demand (Hanak et al.). In the S2J2 region, the annual overdraft is 1.5 MAF based on the PPIC study. The California Department of Water Resource estimates climate change could cause a 50 percent increase in demand which would translate to an estimated 2.3 MAF of overdraft if demand is unchanged. The California Department of Conservation estimates that, in a worst-case scenario, over 900,000 acres would need

to be followed just in the four-county area to balance demand. Without any intervention and planning, this could lead to catastrophic impacts on the Valley's economy, ecosystems, and communities.

This large gap between water demand and supply does not include the water necessary to support improved Valley ecosystems. As stakeholders in the region work to improve ecosystem function and connectivity, additional demands are anticipated.

1.1.3 Existing Natural Areas are Not Adequate to Sustain Fish and Wildlife

Today, of the 17 million acres that make up the 8-county San Joaquin Valley, less than ten percent of the functional habitat remains, and many habitat areas are disconnected "islands" – too small to support sustainable populations of many fish and wildlife species. Significant quantities of water have been diverted from wetlands and floodplains by extensive water supply and flood control infrastructure to provide for farmland, grazing, and residential and commercial developments for people, displacing fish and wildlife habitat. Levees channelize floodwater towards the coast, bypassing and degrading important ecosystems in the Valley. Dams and other water diversion facilities are a vital part of the Valley's water supply and flood control systems and have some benefits in regulating flow and temperature, but they also directly block fish passage and reduce instream flows at various times that can influence fish life cycles.

In addition to habitat loss and disconnection, fish and wildlife are facing similar climate change induced stress from increased temperatures and weather severity, along with a decrease in water availability. These challenges are especially acute for the 18 endangered species and 27 at-risk species that call the San Joaquin Valley home, along with the millions of birds that use the Valley as an important resting place on the Pacific Flyway.

Importantly, reduced habitat availability does not only negatively impact wildlife; it also removes places and opportunities for people to interact with the outdoors and nature. Studies have indicated that greater outdoor recreation opportunities benefit the physical, mental, and emotional health of all ages.

Management of the remaining habitat in the Valley is the responsibility of a combination of federal, state, and private entities. There are examples of collaborative habitat restoration and water supply projects that have been completed, and more are under way with constructive partnerships between farmers, local water agencies, and environmental organizations. These partnerships are critical to meeting the Valley's ecological needs. One example of such a partnership is River Partners' Dos Rios project, a collaboration across diverse interests. It is the largest public-private floodplain restoration project in California, a leading example of "green infrastructure" that lowers flood risk, increases groundwater recharge capacity and brings life back to the San Joaquin Valley to protect endangered species. This type of activity needs to occur on a broader scale to help expand floodplains, wetlands, riparian, upland, and other habitat.

1.1.4 Infrastructure is Out of Date

Most of the infrastructure that provides flood control benefits and stores and conveys water to Valley communities and agricultural lands is well over 70 years old. Current built infrastructure needs to be repaired, replaced, and expanded to deliver safe drinking water to Valley communities, support sustainable levels of agriculture, replenish groundwater basins, and expand environmental habitat areas. Infrastructure rehabilitation and expansion is needed to deliver water for agricultural and domestic uses. Domestic uses include residents who rely on both small and large community water systems as well as households on domestic drinking water wells. Infrastructure improvements will also be required to address the hydrologic impacts of climate change so that the capacity of conveyance and storage facilities can better take advantage of high flow events to mitigate the effects of prolonged dry periods.

Unsustainable groundwater withdrawal exacerbates infrastructure problems and, in some areas, has caused land subsidence. Land subsidence occurs when groundwater is extracted in excess of natural or managed replenishment. The ground compacts and sometimes permanently sinks as the groundwater table declines. This compaction can damage roads, bridges, canals, buildings, and other infrastructure. Subsidence reduces conveyance and storage capacity, impacting these systems' ability to deliver water for consumptive uses, habitat restoration, and groundwater replenishment. In the San Joaquin Valley, all the major conveyance systems – the California Aqueduct, the Delta Mendota Canal, and the Friant Kern Canal – have experienced diminished capacity due to subsidence. Subsidence also diminishes the aquifer's ability to store and recharge groundwater in the future, further increasing the gap between water demand and supply in the Valley.

1.1.5 Inconsistent Policies at the Local, State, and Federal Level and Lack of Capacity

Various government policies and programs have tried to address water quality, supply, and access issues, along with environmental concerns, but are not producing the magnitude of success needed to address current or future challenges. Many of the current policies and programs lack flexibility and are oriented toward different objectives and administered by different agencies and levels of government. Although some funding is available through state and federal programs to help address these challenges, local governments and nonprofit organizations that support the necessary actions typically lack adequate staff capacity or resources to actively manage funding to allow them to complete the work themselves. Additional planning and technical assistance for local entities, disadvantaged communities (DACs), and landowners is critical to accelerating success in this area.

In addition, economic instability is at the forefront of communities' concerns. Local government property tax and sales tax revenues are likely to be reduced as more agricultural acreage goes out of production and shifts to other uses that require less water. It is unclear whether or what other revenue sources might offset that decline.

Implementing the "One Water" Investment Plan will require working closely with all levels of government and the private sector, especially local governments, where the rubber often meets the road in natural resource policy. Valley local governments are overwhelmed, and changes in water policy have imposed many unfunded mandates on them. They simply do not have the resources to fully do what is being asked of them. Ensuring that local counties, cities, and Groundwater Sustainability Agencies (GSAs) have the resources and capacity to do their part in implementing a sustainable and comprehensive water management program will be essential for success. This need to increase the capacity to engage and do the necessary work is critical for disadvantaged communities, state and federal agencies, and the private sector.

1.2 The Vision / Opportunity

The CAP "One Water" Investment Plan identifies four priority areas for necessary investment to support the long-term sustainability of the region's residents, ecosystems, and economies:

1. Safe Drinking Water Investments
2. Ecosystem Restoration Investments
3. Water Supply Investments
4. Multi-benefit Land Repurposing and Demand Reduction Investments

1.2.1 Safe Drinking Water Investments

The State Water Resources Control Board's "California Drinking Water Needs Assessment" served as the guiding document for identifying needed investments in infrastructure and other physical and administrative solutions to advance the goal of providing safe and reliable drinking water to all residents by 2025. The "California Drinking Water Needs Assessment" was updated in the spring of 2024 to reflect current cost estimates for required projects to provide drinking water to failing or at-risk public water systems and address water supply reliability challenges faced by domestic well owners and users. This chapter builds on the Assessment based on the local knowledge of CAP participants. The data and information outlined in the Assessment is also supplemented with the needs identified through other water quality programs like CV-SALTS and the work required of Groundwater Sustainability Agencies.

1.2.2 Ecosystem Restoration Investments

There is a wealth of studies and reports identifying the ecosystem restoration and enhancement needs that were used to inform the development of these investment recommendations. Participating organizations provided expertise to identify the overall need and near-term investments to advance a regional landscape with increased habitat areas to support an array of species and healthy aquatic ecosystems, including floodplain, riparian, wetland, on-farm, and upland habitat.

1.2.3 Water Supply Investments

Participating water agency members and other stakeholders have built on existing work to identify the categories of investments that can improve the conveyance and storage of water, mitigate environmental impacts, and provide benefits for the Valley communities, agriculture, and ecosystems. These include in-valley recharge, improving inter-valley conveyance, and increasing flexibility to move water across the region. These investment categories are based on projects included in Integrated Regional Water Management Plans, Groundwater Sustainability Plans, and other compiled sources.³ These investments and projects do not include changes to regulations governing Delta export operations, the Delta Conveyance Project, or surface storage projects supported by the Water Storage Investment Program under Proposition 1.

1.2.4 Multi-Benefit Land Repurposing and Demand Reduction Investments

It is estimated that hundreds of thousands of acres of farmland will need to come out of production in order to comply with SGMA, eliminate groundwater overdraft, and adjust to climate driven water scarcity. Because of this, programs to manage the changing agricultural landscape due to reducing demand, such as the Multi-benefit Land Repurposing Program (MLRP), have broad support amongst participating members. This strategy builds upon the existing work of MLRP and related programs to identify a high-level estimate of the long-term need to fund repurposing of previously irrigated agricultural land in response to water scarcity. These lands are proposed to be repurposed to a range of new uses that require little to no water, including wildlife-friendly recharge basins, dryland crops, renewable energy, community buffers, and habitat. Importantly, these efforts are aimed to support the long-term viability of agriculture and the overall health and well-being of communities in the region.

³ Referenced Plans include Groundwater Sustainability Plans (GSPs) for the Kaweah, Tulare Lake, Tule, Madera, Chowchilla, Delta-Mendota, Westside, and Kings Subbasins, Integrated Regional Water Management Plans (IRWMPs) for the Poso Creek, Tule, Kaweah River Basin, Kings Basin Water Authority, Westside-San Joaquin, and Madera IRWM Regions, and projects associated with implementation of the south-of-delta drought plan advanced by the United States Bureau of Reclamation, Friant Water Authority, San Luis & Delta-Mendota Water Authority, and the San Joaquin River Exchange Contractors Water Authority. Projects contained within these aggregated documents had varying levels of detail, and further analysis will be required for project level support by SJV CAP.

These collective investments make significant progress towards:

- All San Joaquin Valley (Valley) residents will have timely access to safe, reliable, and affordable drinking water, regardless of hydrologic conditions.
- Sustainable water supplies support a diverse economy, thriving ecosystems, access to safe, reliable, and affordable drinking water for all Valley residents, and sustainable agricultural production.
- Ecosystem restoration increases the Valley's habitat areas to support an array of species and healthy aquatic ecosystems, including floodplain, riparian, wetland, on-farm, and upland habitat.
- Reliable, safe, and secure food and fiber with industry-leading protections for workers, in-valley communities, and the environment. The Valley continues to be a major agricultural region by preserving as many acres of sustainable farmland as possible, while being a good neighbor to communities and ecosystems.
- Sufficient public funds invested to support a) the necessary natural and constructed infrastructure to increase supply, b) demand reduction strategies, including land repurposing, and c) other investments to accomplish the Desired Outcomes.
- State and federal policies and funding are aligned to advance the outcomes.
- Investments provide organizations with adequate resources, staffing, and the capacity necessary to play a vital role in the transition to sustainable water resources management in the Valley.
- Investments are based on the best available and independent science possible. Adaptive management with monitoring, deployment of the best available technology, and outcome accountability will be necessary to maximize the effectiveness of resource decisions.

2 Investment Strategies

At this stage in the S2J2 process, the recommended investments below, unless otherwise noted, attempt to indicate the ultimate need for that particular investment category. Investment categories include Safe Drinking Water, Ecosystem Restoration, Water Supply Infrastructure, Multibenefit Land Repurposing, and Demand Reduction. In some cases, the current recommended investments overlap and could be using the same acreage for different purposes (i.e., habitat restoration, solar, water supply infrastructure, etc.). At the same time, some investments are only qualitatively described because there is insufficient information to estimate the magnitude of the need. Collectively, the current recommended investments provide an overall sense of the magnitude of investment needed, though there are additional refinements needed. Following the S2J2 Sprint, an integrated strategy will need to be developed that synthesizes the level of investments across categories, resulting in holistic water management. The synthesis of investments must demonstrate how it meets the ongoing water needs using the available supply, as well as other constraints.

Flood hazard reduction is a major need in the S2J2 region. There are several major waterways and drainages that flow through mountains and foothill areas and onto the Valley floor. Both urban and rural communities benefit from investments in flood risk reduction. At this point, the CAP has not quantified all of the necessary investments for flood risk reduction.

2.1 Collaborative Action Program Principles of Investment

2.1.1 Preamble for the Investments Recommended to S2J2

The points listed below provide the context guiding the CAP recommendations for investments.

1. Recommended investments are based on past studies, reports, and estimates extrapolated based on example projects or programs.
2. An investment recommendation must be consistent with the CAP Term Sheet (**Appendix**) and investment criteria to be included in this Investment Plan.
3. Supporting an investment category does not indicate support for any project or collection of projects.
4. Funding for investments will come from various public and private sources, including state, federal, user-placed, foundations, and others.
5. The investment must not have disproportionate, unmitigated impacts on any beneficial use or user.
6. The suite of investments provides the water needed in a manner that achieves the outcomes of the Term Sheet for safe drinking water, ecosystem restoration, sustainable agriculture, and a robust economy.
7. An updated system of financing water investments is needed to achieve the magnitude of funding for success and address participation and other issues experienced by Valley residents. Although the CAP, at this point in the process, does not identify what funding sources are appropriate for specific investments, when it evaluates projects in the future, it will consider what sources are available to fund specific projects and how they would improve equity between water users.
8. Investment projects should incorporate current climate modeling consistent with environmental permitting requirements.

2.1.2 Criteria for Determining CAP Support for an Investment

A. The investment will seek to achieve multiple benefits but, at a minimum, advances one or more CAP “Desired Outcomes.”

1. **Safe Drinking Water:** All San Joaquin Valley residents will have timely access to safe, reliable, and affordable drinking water, regardless of hydrologic conditions. This means prioritizing both interim and long-term water supply and water quality challenges for all residents, including those faced by small communities and domestic well users.
2. **Sustainable Water Supplies:** Sustainable water supplies support a diverse economy, thriving ecosystems, access to safe, reliable, and affordable drinking water for all Valley residents, and sustainable agricultural production.
3. **Ecosystem Health:** Ecosystem restoration increases the Valley’s habitat areas to support an array of species and healthy aquatic ecosystems, including floodplain, riparian, wetland, on-farm, and upland habitat.

4. **Sustainable Agriculture:** Investments provide reliable, safe, and secure food and fiber with industry-leading protections for workers, in-region communities, and the environment. The Valley continues to be a major agricultural region by preserving as many acres of sustainable farmland as possible, while being a good neighbor to communities and ecosystems.
5. **Public Investment:** Sufficient public funds will be invested to support a) the necessary natural and constructed infrastructure to increase water supply, b) demand reduction strategies, including land repurposing, and c) other investments to accomplish the Desired Outcomes.
6. **Consistent Policies:** State and federal policies and funding will be aligned to advance the Desired Outcomes. Expedited permitting and regulatory review processes will be available for qualified multi-benefit projects and other actions to achieve the Desired Outcomes.
7. **Local Government Resources.** Investments provide local governments with adequate resources, staffing, and capacity necessary to play a vital role in the transition to sustainable water resources management in the Valley.
8. **Sound Science:** Investments are based on using the best available and independent science possible. Adaptive management with monitoring, deployment of the best available technology, and outcome accountability will be necessary to maximize the effectiveness of resource decisions.

B. If an investment has a potentially significant impact on other Term Sheet “Desired Outcomes,” it should include elements to avoid or mitigate the impacts.

C. Drinking Water Specific Criteria

1. The project ensures the creation of direct and measurable benefits to residents of the disadvantaged community that would not materialize without its implementation. The benefits are not incidental, indirect, or speculative.
2. The project protects or enhances the disadvantaged community’s sources of drinking water in terms of water supply, water quality, and/or water affordability.
3. The project protects or enhances the disadvantaged community’s resources and quality of life regarding air pollution, noise pollution, or other negative impacts identified by the community.
4. The project actively involves, gives agency to, and secures support from the disadvantaged community during its development. The demonstrated benefits directly address the community’s expressed needs. Examples of affirmative demonstration of community support include, but are not limited to, community benefits agreements, community-signed affidavits, letters of support from the community, and evidence of opportunities to opt-out or otherwise veto the project.
5. The project does not harm the community, and if inadvertent harm occurs, it has a predefined mechanism and commitment to remediation.

D. Ecosystem Specific Criteria

1. Create assets for Valley communities through the robust rehabilitation, protection, and enhancement of native ecosystems, which will benefit the public and improve community health.
2. Protect, enhance, and recover wildlife populations and habitats, habitat corridor connectivity, and priority habitat in critical locations.
3. Use locally adapted ecotypes of native plants for restoration.
4. Prioritize the establishment of self-sustaining vegetation communities that minimize the costs of continued maintenance and management over time.
5. Promote early detection and rapid response to infestations of problematic invasive weeds in waterways and uplands; build coordinated efforts to treat weeds using durable methods.
6. Connect broken migration pathways benefitting insects and pollinators, terrestrial animals, fish, and birds.
7. Build off and expand existing and planned wildlife areas managed by local, state, and federal land management agencies.
8. Protect and make judicious use of freshwater to ensure that stream flows are augmented in a functional framework (such as California Environmental Flows Framework⁴), managed wetlands are protected and adaptable to changing climate conditions, and groundwater and surface water interactions are supported and bolstered by ecosystem restoration projects.

E. Water Supply Specific Criteria

1. The investment is consistent with maintaining and diversifying sustainable water supplies for one or more beneficial uses of water in the San Joaquin Valley.
2. The investment increases the flexibility to store or convey water for beneficial use.
3. Surface and groundwater storage and conveyance investments maximize conjunctive use and long-term sustainability for beneficial water users. The investment allows the Valley to better respond to climate extremes, including expanding the capacity to capture and efficiently store water during wet periods.
4. Surface water conveyances and improvements should strive to maximize the beneficial use of water across uses when possible, and costs should be distributed across those uses according to the “beneficiary pays” principle, with recognition that public funds may be used to increase benefits or reduce costs to one or more beneficial use type(s), consistent with law.
5. Projects supported by the investment should:
 - a. Have or be able to secure the water rights for the intended use within a reasonable time frame.
 - b. Meet all environmental requirements and other regulatory requirements before implementation.
 - c. Incorporate climate modeling, using best available science, that is consistent with environmental permitting requirements.

4 <https://ceff.ucdavis.edu/>

- d. Be analyzed and prioritized by maximizing the benefits provided by the project, including improved public safety, water supply reliability to DACs, and the ability of water supply to support the reliability of water supply for Municipal and Industrial (M&I) and DAC uses.
- e. Projects supported by CAP that have a Central Valley Project Municipal and Industrial component will be consistent with the Bureau of Reclamation policy, including the Central Valley Project Municipal and Industrial Water Shortage Policy Guidelines and Procedures.⁵
- f. Partnerships should be encouraged, where possible, for the development of long-term conjunctive use water supply solutions that involve utilizing abundant supplies when available to improve groundwater quality and supply for dry years when surface supply is unavailable.

2.2 Safe Drinking Water Investments

Terms and Definitions

Administrator Assistance: Appointment of an administrator made by the State Water Board to assist in providing an adequate supply of safe drinking water. The 2023 Revised Administrator Policy Handbook⁶ provides more information on this program.

At-Risk Public Water System: A community water system with up to 30,000 service connections or 100,000 population served and K-12 schools and is confronting circumstances which threaten its ability to continue to meet one or more key *Human Right to Water* goals: (1) providing safe drinking water; (2) accessible drinking water; (3) affordable drinking water; and/or (4) maintaining a sustainable water system. (State Water Resources Control Board)

At-Risk State Small Water Systems (SSWS) and Domestic Wells (DW): State Small Water Systems and Domestic Wells located in areas where groundwater is threatened by: (1) encroaching contaminants which are likely to lead to concentration levels that exceed safe drinking water standards; (2) water shortage risk; and/or (3) socioeconomic risk. This definition may be expanded in future assessments as more data becomes available. (State Water Resources Control Board)

Centralized Treatment: Water treatment methods instituted by the water purveyor that address water quality concerns prior to distribution of water to customers.

Consolidation: The joining of two or more public water systems, state small water systems, or affected residences into a single public water system, either physically or managerially. For the purposes of this report, consolidations may include voluntary or mandatory consolidations. (Health & Saf. Code, § 116681, subd. (e).)

Decentralized Treatment: Water treatment methods such as Point-of-Use (POU) or Point-of-Entry (POE) devices installed at individual homes or businesses that can be used to address water quality concerns following distribution to the consumer rather than upstream of the distribution system by the water purveyor.

Domestic Wells (DW): Groundwater extraction wells that serve 1-4 individual connections that can be isolated in remote areas or in clusters/communities where multiple individual wells serve homes in close proximity. Permitting of well construction is regulated by the County.

5 <https://cawaterlibrary.net/wp-content/uploads/2017/10/miwp-guidelines.pdf>

6 https://www.waterboards.ca.gov/drinking_water/certlic/drinkingwater/docs/2023/administrator-policy-handbook-2023-revision.pdf

Failing: The inability of a public water system to provide an adequate and reliable supply of drinking water which is at all times pure, wholesome, and potable (Health & Saf. Code, § 116555).

Operations and Maintenance (O&M): Collective term for the materials, functions, duties, and labor associated with the daily operations, normal repairs, replacement of parts and structural components, and other activities needed to preserve a water system's capital assets so that it can continue to provide safe drinking water.

Other Essential Infrastructure (OEI): A category of necessary costs modeled in the Needs Assessment that estimates the fees to upgrade and replace aging infrastructure for public water systems. These needs can include the following:

- Metering all un-metered service connections.
- Backup source of water supply (new well) for systems with a single source that is a well.
- Backup power to ensure continuous operation during a power failure.
- Fire flows.
- Sounder device to measure static well levels.
- Replace well pump and motor.
- Adding additional storage.
- Adding SCADA (supervisory control and data acquisition) and electrical upgrades.

Public Water Systems (PWS): Most water systems that are regulated by the state. About half of the state's counties still serve as local primacy agencies, which means that they oversee systems with 15-200 connections. These fall into three categories, generally:

1. Community (CWS) – a public water system that serves at least 15 service connections used by yearlong residents or regularly serves at least 25 of the same persons over six months per year (Health & Saf. Code, § 116275, subd. (i).) Examples include homes, mobile home parks, etc.
2. Non-Transient - Non-Community (NTNC) – A Public Water System that is not a Community Water System and regularly serves at least 25 of the same persons for six months or more during a given year, such as a school. (Health & Saf. Code, § 116275, subd. (k).) Examples include schools, churches, and daycare centers.
3. Transient Non-Community (TNC) - A non-community water system that does not regularly serve at least 25 of the same persons over six months per year. (Health & Saf. Code, § 116275, subd. (o).) Examples include businesses, parks, rest stops, etc.

State Small Water Systems (SSWS): Water systems that are regulated by the local county government. Consists of 5-14 service connections.

Technical Assistance (TA): Technical, managerial, and financial capacity assistance provided to address the drinking water and wastewater needs of small, disadvantaged communities and domestic well and septic tank users in California.

2.2.1 Strategy-Specific Problem Statement

Nearly 800,000 people in the S2J2 region live in DAC or SDAC communities, with at-risk or failing public water systems⁷ or are served by a state small water system that is at risk of failing. Additionally, nearly 4,000 domestic wells in the S2J2 region were reported as dry through the statewide reporting interface between 2012 to July of 2024. This total only accounts for those dry wells that were reported. The true number of dry wells is acknowledged to be larger. Nearly 20,000 domestic wells providing drinking water to households in the S2J2 region are at-risk of failing. Domestic well risk assessments are only capable of quantifying wells that are known to the agencies completing these assessments. In many areas there are wells that are unknown to regulatory agencies and may not be included in these risk assessments, likely indicating that there are more domestic wells at risk than are quantified here, including those fractured rock wells in foothill and mountain communities that are not included in groundwater discussions in the San Joaquin Valley. The critical investments outlined in this plan are intended to address the deficiencies and lack of security for household water supply sources to provide safe and reliable drinking water to these nearly one million residents.

To quantify this investment need, the CAP relied on the existing work of the State Water Resources Control Board (“SWRCB” or “Water Board”) Safe and Affordable Funding for Equity and Resilience (SAFER) Program. In particular, the CAP considered the 2024 Drinking Water Needs Assessment (Needs Assessment) “Cost Assessment” component which was released in June 2024.⁸ The Cost Assessment is a model that utilizes decision criteria, cost assumptions, and calculation methodologies to estimate a statewide cost for implementing long-term and interim solutions for Failing Public Water Systems, At-Risk Public Water Systems, At-Risk State Small Water Systems and Domestic Wells. The 2024 Drinking Water Needs Assessment “Cost Assessment Component” model includes proposed updates from the original 2021 model.

2.2.1.1 Failing and At-Risk Public Water Systems

The SAFER program completed a 2024 Cost Assessment that considered the status of Public Water Systems, based on criteria described in greater detail in the report. **Table 1** summarizes the “Failing” and “At-Risk” Public Water Systems as identified by the *2023 Drinking Water Needs Assessment and accessed from the SAFER Dashboard*⁹. The 2024 Cost Assessment model utilized various inputs and considerations to generate anticipated costs to address the needs of these systems.

Table 1: Summary of Public Water System SAFER Status in S2J2 Region

County	Failing	At-Risk	Total
Fresno	29	33	62
Kings	3	5	8
Madera	28	20	48
Tulare	33	36	69
Grand Total			187

7 Population served by water systems with a DAC or SDAC status from the 2023 Risk Assessment data
8 https://www.waterboards.ca.gov/drinking_water/certlic/drinkingwater/needs.html
9 https://www.waterboards.ca.gov/drinking_water/certlic/drinkingwater/saferdashboard.html

2.2.1.2 State Small Water Systems and Domestic Wells

The SAFER program maintains a “Risk Assessment” dashboard¹⁰ for State Small Water Systems (SSWS) and Domestic Wells (DWs) based on the results of the corresponding “Risk Assessment.” The current version of the dashboard provides data from the “2024 Risk Assessment.” The updated Cost Assessment utilizes an updated model from the previous 2021 Cost Assessment that now includes Other Essential Infrastructure, Administrative Needs, and updated Interim Solutions. This Cost Estimate also identifies needs for SSWS and DWs, based on the “Risk Assessment” results. **Table 2**, below, identifies the number of SSWS and DWs that are estimated to be located in each of the S2J2 counties and how many of those SWSS and DWs are located in “at-risk” areas.

Table 2: Summary of State Small Water Systems Modeled as Suitable for Consolidation in S2J2 Region

County	SSWS	At-Risk SSWS	Domestic Well	At-Risk Domestic Wells
Fresno	19	2	19,400	10,000
Kings	5	2	2,200	2,000
Madera	17	9	10,200	4,000
Tulare	44	19	7,100	3,700
Total	85	32	38,900	19,700

2.2.1.3 Municipal Wastewater and Stormwater Management

The State Water Resources Control Board has adopted resolutions “recognizing Californians’ equal and human right to sanitation and that safe wastewater management is critical to human and environmental health.” The Water Education Foundation estimates that Californians generate around four billion gallons of wastewater per day. The state has nearly 100,000 miles of sewer lines and 900 utility providers and treatment plants. In California’s rural communities, many homes rely on individual septic systems that may not adequately address the sanitation needs of individuals and communities.

10 <https://gispublic.waterboards.ca.gov/portal/apps/experiencebuilder/experience/?id=ece2b3ca1f66401d9ae4bfce2e6a0403&page=Homepage>

2.2.2 Outline of Proposed Strategy

2.2.2.1 Long-Term and Interim Solutions

Long-Term Solutions are those that permanently address system deficiencies relating to water quality or quantity. The extent of complexity of these solutions is dependent on the risk associated with the system, current regulations, and site-specific conditions. The modeled long-term solutions in the Cost Assessment include physical consolidation, centralized treatment, decentralized treatment, a new well, other essential infrastructure (OEI), and managerial assistance.

Interim Solutions are those that continue to offer reliable and safe drinking water while long-term solutions are developed or implemented. These include bottled water and decentralized treatment. Only failing systems, as modeled for the Cost Assessment, are included in this analysis as "At-Risk" systems are still in compliance, and customers do not require an alternative potable water source. The 2024 model reduced the duration of modeled interim solutions. For decentralized treatment needs, the duration is modeled at three years for failing systems and state smalls and two years for domestic wells. For interim bottled water assistance, the duration is modeled at three years for failing systems and state smalls and two years for domestic wells. The solutions address different risks associated with the systems and can vary based on parameters. These costs are estimated based on the results of ongoing SAFER work and reflect the conditions derived from the 2024 Risk Assessment.

The Cost Assessment Model used by the State Water Resources Control Board considers various components for different types of systems and levels of risk. For estimating costs, the model looks at system needs and conditions and determines which solution set is most appropriate. The costs are then estimated for those actions and consolidated. These parameters are defined below:

Failing & At-Risk Public Water Systems

The model uses a four-step approach for determining the best long-term modeled solution for Failing Public Water Systems with water quality violations. Step 1 considers if physical consolidation is a viable solution. If not, Steps 2 and 3 consider if centralized treatment and then decentralized treatment are viable options. Step 4 considers other infrastructure, administrative, technical assistance, and interim needs (additional needs). Managerial consolidation is an additional component that would be considered under the intersecting consolidation pathway.

At-Risk Public Water Systems are modeled through a two-step approach. Step 1 considers if physical consolidation is a viable solution. If not, the other essential infrastructure, administrator, technical assistance, and interim needs costs are considered (additional needs).

Within the model there are distance criteria for determining if physical consolidation is viable based on the distance between the joining and receiving systems. There are three general pathways for consolidation to occur: (1) intersect, where a joining system, state small water system, or domestic well is physically located within the service area boundary of a potential receiving system; (2) route, where the joining system is physically located within a maximum distance from the service area boundary of a potential receiving system along a street; and (3) route intersect, where the joining state small water system or domestic well is along the modeled route of a potential public water system physical consolidation. Distance requirements only pertain to route and route intersect consolidation strategies. For a Public Water System consolidation, the maximum route distance is defined at three (3) miles. For State Small Water Systems consolidation, the maximum route distance is defined as 0.38 miles, and for route intersect consolidations the system must intersect a viable public water system physical consolidation route. For Domestic Well consolidation, the maximum distance from the system is 0.38 miles and for route intersect consolidations the well must be within a 1-mile section that intersects with a public water system consolidation

route. Additional information on the physical consolidation cost estimate methodology can be found in the Supplemental Appendix to the Cost Assessment.¹¹

State Small Water Systems and Domestic Wells

The methodology within the Cost Assessment model considers State Small Water Systems (SSWS) and Domestic Wells using one of two methods, depending on the risk type associated with the system: either high water quality related risk, or high water shortage risk. For High water quality risk SSWS and Domestic Wells, Step 1 considers if physical consolidation is a viable option. If not, Step 2 considers if decentralized treatment is a viable option. If not, Step 3 selects bottled water as the appropriate long-term solution for the system. For High Water Supply Risk SSWS and Domestic Wells, Step 1 considers if physical consolidation is a viable option. If not, Step 2 selects construction of a new well as the appropriate long-term solution.

It should be noted that bottled water solutions do not address contaminants like 1,2,3-Trichloropropane (TCP) which can be absorbed through the skin.

Please see the **Construction of Recharge Basins for Disadvantaged Communities** below for further consideration of localized water supply solutions for disadvantaged communities.

Provide Necessary Investments for Long-Term and Interim Solutions to Address the Needs of “Failing” and “At-risk” Public Water Systems (\$1.1 Billion): The investment needs for Public Water System solutions are calculated using different variables. **Table 3** summarizes the investment needs for Failing and At-Risk Public Water Systems based on the 2024 update of the *Drinking Water Needs Assessment* and Cost Assessment update. These costs include a variety of long-term assistance types, including consolidation, centralized treatment, and new private wells. The costs also include temporary solutions, bottled water, and decentralized treatment.

Table 3: Modeled Cost Estimates for Long-Term and Interim Solutions (in millions of dollars)

County	Failing	At-Risk	Total
Fresno	\$256.74	\$157.48	\$414.22
Kings	\$70.11	\$51.23	\$121.34
Madera	\$96.34	\$68.74	\$165.09
Tulare	\$255.14	\$151.01	\$406.15
Grand Total	\$658.33	\$428.46	\$1,106.8

Provide Necessary Investments for Long-Term and Interim Solutions to Address the Needs of High-Risk State Small Water Systems (SSWS) and Domestic Wells (DWs) (\$1.3 Billion to address current need): The long-term and interim investment needs for At-Risk State Small Water Systems and Domestic Wells solutions are calculated using different variables. **Table 4** summarizes the investment needs for At-Risk SSWS and DWs based on the 2024 update of the *Drinking Water Needs Assessment* and Cost Assessment update. These costs include a variety of long-term assistance types, including consolidation, centralized treatment, and new private wells. The costs also include temporary solutions, bottled water, and decentralized treatment. These investments are anticipated to address the needs of SSWS and DWs throughout the S2J2 region, not just those on the Valley floor.

11 https://www.waterboards.ca.gov/drinking_water/certlic/drinkingwater/documents/needs/2024/2024costassessment-physical-consolidation.pdf

Table 4: Modeled Cost Estimates for Long-Term and Interim Solutions (in millions of dollars)

County	SSWS	DW	Total
Fresno	\$2.02	\$666.33	\$668.35
Kings	\$0.73	\$75.32	\$76.05
Madera	\$6.20	\$311.52	\$317.72
Tulare	\$18.77	\$208.88	\$227.65
Grand Total	\$27.72	\$1,262.05	\$1,289.80

2.2.2.2 Funding Operations and Maintenance

Ongoing Operations and Maintenance for the Public Water Systems in the Four-County Region (\$4,000,000,000 for a twenty-year period): Public Water Systems face challenges of aging infrastructure and require ongoing operations and maintenance and capital improvements to maintain adequate service to customers. Operations and maintenance are frequently delayed and underfunded because these systems are not able to raise rates to adequately fund these improvements because of the limited means of their customer base, particularly in Disadvantaged Communities (DACs) or Severely Disadvantaged Communities (SDACs). Systems are limited by their service connections and customers and, depending on size, may struggle or be unable to achieve an economy of scale that makes operations and maintenance funding feasible. This cost is estimated by taking the number of service connections for DACs in the four-county region and applying an assumed annual cost of \$1,100 per connection (based on average cost per connections for DAC and SDAC drinking water systems). Operations and maintenance are also required for State Small Water Systems and Domestic Wells, but the CAP has not generated an estimated investment need based on the complexity of their regulation and reporting.

2.2.2.3 Organizational Capacity

Provide Funding for Technical Assistance (TA) Providers for Adequate Assistance During Project Implementation (\$75,000,000 - twenty-year total):

Public Water Systems and domestic well users often rely on technical assistance to move through the necessary technical and administrative processes to successfully implement projects. Projects often take 10 to 15 years to reach completion, generally less for domestic well consolidations, and assistance is required at all points throughout the process. Full-time specialized staff are needed to provide this assistance. This project timeline and level of assistance assumes that the TA provider will be involved throughout the duration of the project from community engagement and education for project scoping, drafting of an engineering report and selecting consultants, preparing funding applications, signing agreements, and construction and project start up. This investment need assumes that a staff level specialist can support a workload of 10 projects and would have a full-time equivalent cost of \$125,000. It also assumes that there are 250 projects requiring technical assistance, which would necessitate 25 specialized staff. The cost for technical assistance could be significantly reduced if the funding is front loaded for drinking water system improvement projects, there is strong local support, and the bureaucratic process is streamlined.

2.2.2.4 System Operator Training

Expand the Institutional Capacity for Career and Technical Education Training for Water Treatment Operators in the San Joaquin Valley (No Estimated Cost; Programmatic):

There is a recognized lack of water treatment and distribution operators to serve the systems in the San Joaquin Valley. Operators are certified through the State Water Resources Control Board Division of Financial Assistance. Experience and education are means of advancing to higher grade treatment facilities, which often comes with better pay. This leads to operators leaving smaller systems once they have the necessary experience to advance. Training programs, such as those at

Clovis Community College and an education program by the Environmental Defense Fund, would provide greater accessibility to community members and add to the available workforce of treatment and distribution operators. In addition, systems are becoming more advanced over time as more constituents are regulated. As systems are upgraded, operators may require additional training to advance to higher grades. Local governments and other water providers can consider developing incentive programs to support ongoing education and encourage operators to remain employed at the current system.

In addition to the training of operators, organizations like the Rural Community Assistance Corporation (RCAC) organize leadership development programs for interested community leaders to gain experience in the project implementation process. This can assist community advocates in understanding the processes involved in water systems upgrades, maintenance, improvements, consolidation, etc. It is also recommended that local school districts incorporate curriculum to expose students to potential careers in water and wastewater treatment and distribution.

2.2.2.5 Groundwater Sustainability Agency Domestic Well Mitigation

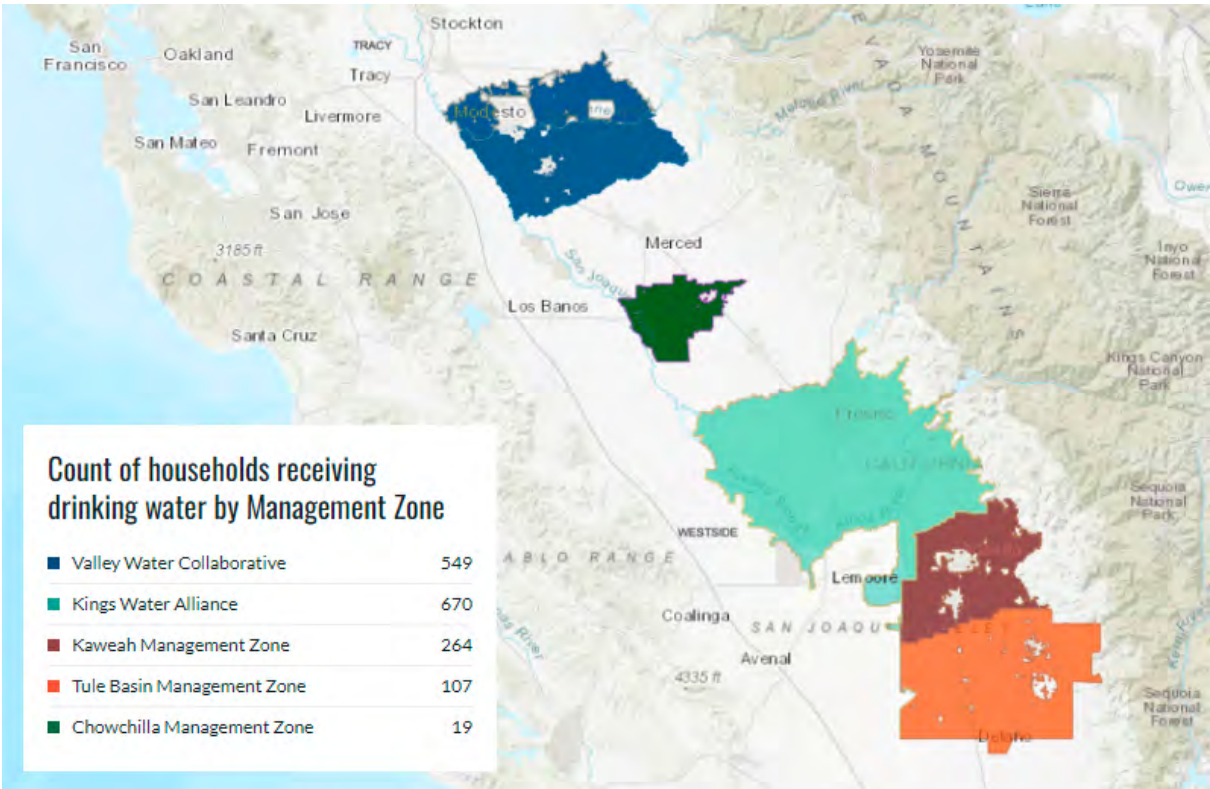
Adequately Fund Domestic Well Mitigation Programs as Proposed by Groundwater Sustainability Agencies (\$200,000,000 – Cost for five of seven subbasins): Groundwater Sustainability Agencies (GSAs) are required to mitigate impacts to domestic wells that result from declining groundwater levels. GSAs in the various subbasins are in the process of developing or starting to implement domestic well mitigation programs, or larger mitigation programs to address other potential impacts. GSAs are in varying stages of identifying the estimated costs required to implement these mitigation programs. There are limitations in these estimates as the full extent of potential impacts are unknown, and estimates are currently based on models or best available science. The development of domestic well mitigation programs, or broader mitigation programs under SGMA, are ongoing. The development of programs that generate adequate revenue and propose sufficient mitigation activities will be critical for the successful implementation of SGMA. Several organizations have been working with the Department of Water Resources to develop a mitigation program framework that can assist GSAs in developing fully supportive mitigation programs.¹² This work should continue to provide resources and guidance.

2.2.2.6 Nitrate Management Zones

Consider Necessary Investments in Nitrate Treatment Systems in Areas Where it is the Most Cost-Effective Solution to Provide Long-Term Safe Drinking Water. (No Estimated Cost; Cost per Public Supply Well ranges from \$1 Million - \$75 Million): The Central Valley Regional Water Quality Control Board (CVRWQCB) adopted regulations in 2018 to implement the CV-SALTS Nitrate Control Program. There are currently five active "Priority 1" Management Zones in the San Joaquin Valley in six groundwater subbasins: Modesto, Turlock, Chowchilla, Kings, Kaweah, and Tule. Management Zones provide interim water supplies for those drinking water users who have demonstrated nitrate exceedances at their homes, from domestic wells. At the time of preparation of this report, the Priority 1 Management Zones are distributing clean drinking water to 1,538 households in the planning areas, with 989 households in the S2J2 planning region. The figure below displays the Management Zone areas and total number of households for each zone that is receiving interim water supplies.

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Figure 1: Nitrate Management Zone Assistance [Source: <https://cvssalts.mljenv.com/> (retrieved July 15, 2024)]



In 2023 these Management Zones submitted “Management Zone Implementation Plans” (MZIPs) which are intended to end nitrate exceedances in the underlying groundwater. As MZIP preparation coincided with the implementation of SGMA, many MZIP projects are derived from the submitted Groundwater Sustainability Plans (GSPs) project and management actions of the coincident subbasins. Investments to support the project and management actions from these GSPs will be crucial for addressing the requirements of the priority Management Zones. In addition to these project and management actions, MZIPs may also consider the need to implement nitrate treatment at surface water treatment facilities. Depending on numerous conditions including treatment plant property size, treatment type, size, permitting, engineering, construction, etc., the anticipated capital cost for nitrate treatment for an individual public supply well ranges from \$1,000,000-\$75,000,000. These investments may not be necessary for every system, and individual assessments of return on investment compared to other nitrate management methods should be considered.

2.2.2.7 Sanitation Needs

Critical Investments are Needed for Sanitary Sewer, Septic Systems, and Stormwater in the San Joaquin Valley, and Statewide (No Estimated Cost): The CAP recognizes that investments in these categories are critical for the long-term health and well-being of Valley communities but does not have the information necessary to recommend a specific investment amount, at this point. The State Water Resources Control Board is in the process of completing a “Wastewater Needs Assessment” that will better define the needs and anticipated costs in this area.

2.2.3 Barriers and Potential Mitigation Pathways

Funding and Contracting - The current institutional structure and process for funding and contracting are significant barriers, as are administrative burdens for the construction of long-term solutions to address failing and at-risk water systems for disadvantaged communities.

Rural Nature of Counties - The rural nature of the communities in areas of County responsibility adds cost and implementation challenges for drinking water projects. The distance between these communities and systems and potential receiving systems can be physically impossible or financially infeasible.

Consolidation - The process of consolidating community water systems is complicated and time-consuming. It requires agreement between the community and the potential water system provider. Currently, systems with drinking water quality or quantity issues must go through a lengthy process to receive financial assistance to resolve issues. The current funding process includes applying for planning funds (feasibility study and design), applying for construction funding, and, ultimately, building the project. This process, at best, takes five years and more often, a decade or longer. Costs only rise with each passing year, and the exorbitant expense of interim solutions is compounded. The interim water solutions offered to failing water systems are costly and overly burdensome when extended for five to ten years.

A comprehensive evaluation of the current process and restructuring to accelerate the pace and results are needed. Also, additional incentives for water providers to consolidate with a community that has a failed or at-risk system are needed.

Education - The level of awareness for the causes, risks and potential solutions to failed or at-risk water systems varies within and across communities. These differences in understanding create challenges for achieving community agreement to select and implement the best solution. An education program tailored to affected communities is needed.

Financial Assistance - Many disadvantaged community members do not have the financial resources to pay their monthly water bill. Financial assistance is needed to support the full cost of providing water to the community.

2.3 Ecosystem Restoration Investments

2.3.1 Strategy-Specific Problem Statement

2.3.1.1 Ecosystem Loss and Degradation

In the greater Central Valley less than ten percent of the historical wetland habitat remains, in addition to more than half of the historical grassland and oak savannah habitat being lost.¹³ Of that, many areas exist in disconnected fragments that are too small to support sustainable populations of fish and wildlife species. In addition, water diverted from these habitat areas for the development of agricultural, commercial, and urban development has led to degraded habitat quality. The ecosystem restoration investments outlined in this plan are specifically focused on the Valley floor of the S2J2 region. Some upland and foothill habitats are considered but no mountain areas are included in this chapter.

2.3.1.2 Impacts of Gray Infrastructure on Ecosystem Health

Levees and dams constructed to support human development have impacted the health of habitats and ecosystems. Levees channel floodwaters towards the coast and disconnect critical riparian floodplains habitats from their source rivers. Dams and water diversion facilities are critical pieces of water supply and flood control systems, but they often block fish passage and reduce instream flows.

2.3.1.3 Lack of Existing Capacity to Support Habitat Management

Implementing restoration activities is dependent on the capacity of the responsible agencies and the project proponents to successfully finance and implement the strategies that make meaningful transitions to the target habitat type(s).

Agencies and Organizations

The following organizations or organization types are recognized as critical for capacity building in being able to ensure that these investments are adequately made and maintained.

• Conservation Organizations

- Resources Legacy Fund
- River Partners
- Sequoia Riverlands Trust
- California Rangeland Trust
- San Joaquin River Parkway and Conservation Trust
- The Nature Conservancy
- The Trust for Public Land
- Tule Basin Land and Water Conservation Trust
- Kings River Conservancy
- Local community organizations
- Local restoration organizations

• State Agencies

- California Natural Resources Agency (CNRA)
 - Department of Conservation (DOC)
 - Department of Fish and Wildlife (CDFW)
 - Department of Parks and Recreation
 - Department of Water Resources (DWR)
 - Central Valley Flood Protection Board (CVFPB)
 - San Joaquin River Conservancy
- California Environmental Protection Agency (CalEPA)
 - State Water Resources Control Board (SWRCB)

- **Federal Agencies**

- Bureau of Reclamation
- National Marine Fisheries Service
- US Department of Fish and Wildlife
- US Army Corps of Engineers

- **Local Agencies**

- Groundwater Sustainability Agencies
- Local wetland managers
- Water and Irrigation Districts
- Flood Control Agencies
- Counties

To advance ecosystem restoration goals in the San Joaquin Valley, the following capacity limitations need to be addressed:

Agency Staffing and Funding

Many restoration projects depend on grant funding to finance some or all of their costs. Funding agencies need adequate staffing to administer grant programs. Without adequate staffing, contracting delays, invoicing delays, and other administrative delays can hinder the implementation of habitat restoration projects. In addition, those organizations that implement projects on the ground require adequate staffing and funding to administer and carry out projects.

Permitting

Obtaining the permits required to implement restoration projects can be a complex and expensive process and result in significant delays in project implementation. Requirements are frequently designed for more traditional development projects, rather than projects with long-term environmental benefit. The state launched the “Cutting the Green Tape” initiative to help streamline permitting for projects that are beneficial to habitat or ecosystem restoration. However, ecosystem restoration projects, such as floodplain restoration, often involve permitting requirements from multiple state and federal agencies that may not be active participants in this initiative or who have not fully implemented or embraced efficient permitting for restoration. Since permits are required from all relevant agencies to proceed, this can result in slowdowns on the path to project implementation.

Land repurposing projects may also receive criticism or opposition from neighboring landowners or project proponents who are concerned that restored habitat may put them at risk of violating endangered species protection laws. Landowner assurances of “safe harbor” may alleviate these concerns and increase participation.

Seed Collection

Native seed collection is an under-resourced component of ecosystem restoration and can pose a significant delay in project implementation or limitations to the scope of restoration. Seed collection and maintenance of native vegetation have fewer commercial applications and are not readily available like other species that have more widespread production value.

State Invoicing Process

Many restoration projects seek grant funding from state agencies. The state process for receiving, processing, and approving invoices is a major limitation for grantees who do not have the financial means to balance program or project costs between repayments. In addition, many grant programs only operate on a reimbursement model, meaning grantees must be able to cover the interim costs as they are incurred.

Once invoices are received, it often takes months for an invoice to be approved by the state agency. Once approved, the invoices are sent to the State Controller's office for checks to be cut and distributed.

2.3.2 Outline of Proposed Strategy

Important note: To achieve healthy, sustainable ecosystems, the strategy must be holistic and address the geographic scale and connectivity of habitats in order to provide the functions and processes required for the species that the habitats support. There are several geographic areas used in the information below:

- San Joaquin Basin is the watershed that drains to the San Joaquin River on an annual basis.
- Tulare Basin is the watershed that formerly drained to Tulare Lake.
- San Joaquin Valley – includes the San Joaquin River Basin and the Tulare Basin
- S2J2 four-county area (Fresno, Kings, Madera, and Tulare) which includes parts of the Tulare and San Joaquin Basins.

The hydrologic system in the San Joaquin Valley is very complex with water flowing in different directions depending on the level of rainfall and human infrastructure. The estimates for habitat restoration are based on scientific information in various technical reports and plans. The S2J2 four-county area crosses over parts of different habitats and drainage systems. The investment needs for the S2J2 area are estimated dividing in half the estimates for San Joaquin Valley. The four-county S2J2 planning region accounts for about 52 percent of the landmass in the eight-county San Joaquin Valley. Dividing the eight-county total in half provides an order of magnitude for the need. However, when the investments are implemented, a more sophisticated approach will be required to ensure the habitats are restored to provide the habitat processes and functions necessary.

2.3.2.1 Restoration and Protection of Acreage Targets

Restore and Protect Various Habitat Types in the San Joaquin Valley (\$13.6 Billion for S2J2 region): The CAP relied largely on existing plans and studies to inform the targeted acreage and pace of ecosystem restoration required to establish or maintain adequate habitat to support fish and wildlife. These estimates only reflect ecosystem restoration needs on the Valley floor and in some portions of the foothills. This estimate is based on the restoration of 715,000 acres, rounded up from the 707,900 total acres identified in **Table 6** below.

To translate the acreage needs identified within the previously identified plans, cost estimates were based on the experience of restoration organizations that are participating members of the CAP. The estimated cost identified for this investment area includes the cost for land acquisition (based on recent experience) and the cost for performing restoration activities. The cost of land acquisition, per acre, is summarized in **Table 5**. Acquisition is assumed to include orchard properties with access to surface water, irrigated row crops with access to surface water, and irrigated agricultural land that is groundwater dependent, and costs range from \$13,000 per acre to \$27,000 per acre. The cost to perform restoration activities on this acquired land is assumed to be an average of \$18,000 per acre, based on the extensive practical experience of restoration organizations that are participating members of the CAP. This per-acre estimate includes costs associated with design, permitting, seed collection/propagation, land preparation, planting, and three years of post-planting weed control.

Table 5: Land Acquisition Acres and Assumed Costs for Habitat Restoration in the Entire Valley (eight counties)

Acquisition	Acres	\$/ac
Orchard w/ surface water	180,000	\$27,000
Row crop w/ surface water	320,000	\$21,000
Ag land with GW only	215,000	\$13,000
	715,000	

Habitat restoration acreage needs are typically quantified by specific habitat types and are often separated by basin or planning region. For the purposes of the CAP and this S2J2 Investment Plan, the San Joaquin River and Tulare Lake basins are considered to best encompass the four-county region within hydrologic planning boundaries. The targets identified below are inclusive of the eight-county¹⁴ region that makes up the San Joaquin Valley. For purposes of S2J2, the total identified need will be proportional to the four counties in the S2J2 planning region, which the recommended investment reflects. The broader needed investment for the entire San Joaquin Valley is estimated at \$27,245,000,000 for land acquisition and restoration of 715,000 acres.

To quantify this investment need, the CAP used the Central Valley Joint Venture-identified, anticipated restoration targets for habitat types in the San Joaquin Valley, by hydrologic region. As with the estimated investments, these habitat targets are inclusive of the entire San Joaquin Valley. The summary of required restoration or enhancement acreage is derived from the *Central Valley Joint Venture*, the *Tulare Basin Riparian and Wildlife Corridor Conservation Report*, and the *Central Valley Flood Protection Plan Conservation Strategy* - 2022 update.

The overall summary of habitat restoration acreage needs for the entire valley is summarized in **Table 6**. The habitat restoration acreages are further broken down in **Table 7**, by more specific habitat type needs.

Table 6: Summary of Habitat Acreage Needs for the Entire San Joaquin Valley

	San Joaquin Basin (acres)	Tulare Basin (acres)
Aquatic Habitat Needs	239,800	219,100
Upland Habitat Needs	32,000	217,000
Total	271,800	436,100
	Grand Total	707,900

14 Kern, Kings, Tulare, Fresno, Madera, Merced, Stanislaus, and San Joaquin counties.

Table 7: Habitat Acreage Needs by Habitat Type in the entire San Joaquin Valley

Habitat Type	San Joaquin Basin (acres)	Tulare Basin (acres)
Inundated Floodplain	28,500	-
River Meander Potential	6,400	-
Riparian	95,000	115,000
Wetland	30,000	30,000
Semi-Permanent Wetland	73,000	71,000
Summer-Flooded Seasonal Wetland	1,000	1,200
Winter-Flooded Seasonal Wetland	5,900	1,900
Upland ¹⁵	32,000	217,000
Total	271,800	436,100

Developing wildlife corridors and expanding access to valuable habitat areas for fish species is an important component of this ecosystem restoration work. Roughly 75 percent of salmon habitat exists above major fish passage barriers, like dams. Supporting restoration efforts should explore opportunities to reconnect access to these habitat areas for anadromous fish species.

Provide Adequate Funding the San Joaquin River Restoration Program to Implement the Provisions of the Settlement (\$758 Million¹⁶): The CAP has identified the implementation of the San Joaquin River Restoration Program ("SJRRP" or "Program"), through the fulfillment of the "Restoration" and "Water Management" goals outlined in the associated cases and legislation, as a critical investment for the San Joaquin Valley. In 2018, the Program released the "Funding Constrained Framework for Implementation" (Framework) which proposes a funding framework to achieve as many of the "Restoration" and "Water Management" goals as possible with limited funding. The Framework proposes a multistage approach to achieve the goals and third-party protections. The Program is currently in the implementation process of Stage 1, which is primarily focused on reestablishing the spring-run and fall-run Chinook Salmon between Merced River and Friant Dam. This goal is meant to be accomplished by establishing volitional fish passages, habitat, and sufficient flows for maintaining temperature. Stage 1 is meant to be implemented between fiscal year (FY) 2017 through 2024. Stage 1 defines three activities: flow related activities, restoration goal activities, and water management goal activities. These include both the construction of projects and management activities. The following funding activities have been identified in the Framework:

1. Program Staffing
2. Flow Actions
3. Channel and Structural Improvements
4. Fish Reestablishment
5. Water Management Goals and Friant Division Improvements

15 The upland habitat total in the Tulare Lake Basin is much higher due to the protection and restoration acreages identified in the Tulare Basin Riparian and Wildlife Corridor Conservation Report.

16 The total funding required to complete Phase 1 is estimated to be \$1.021 billion, but the Restoration Fund currently has a remaining \$264 million, so the outstanding need is the \$758 million identified above.

The total estimated costs of implementing these programs in Stage 1 (Fiscal Year 2017-2024) was estimated to be \$643,255,000. These estimated costs reflect implementation through a deficit of about \$15,000,000. Through ongoing work and planning the SJRRP has concluded that funding will be required beyond the initial estimate included in the Framework. The proposed investment in this plan reflects the updated anticipated costs to implement Stage 1. This proposed investment would expand the capacity of the SJRRP and allow the program to continue to accomplish the “Restoration” and “Water Management” goals.

The following activities are anticipated to be funded through this investment:

- Flow Related Activities
 - Conservation Strategy and Flow-related Mitigation Measures
 - Flow Management and Monitoring
 - Seepage Actions
- Restoration Goal Activities
 - Phase I Projects:
 - *Mendota Pool Bypass, Fish Screen, and Reach 2B Levees*
 - *Reach 4B/ESB/MB Channel and Structural Improvements*
 - *Arroyo Canal Fish Screen and Sack Dam Fish Passage*
 - Passage at Key Barriers to Migration
 - Phase II Projects:
 - *Gravel Pit Filling and/or Isolation*
 - Fishery Recolonization Activities
 - Water Management Goal Activities

Additionally, the opportunity to add value for the communities near the Program’s implementation areas should be considered. These past and future activities have secured properties for the public near the cities of Mendota and Firebaugh, both of which are considered underserved. By funding outdoor recreational facilities and staffing to local or state agencies, additional benefits, leveraged from otherwise required funding, would facilitate local community economic gains.

2.3.2.2 Address Water Quantity Needs

Restored Habitat Water Needs (No Estimated Cost): Restored habitat requires water at least for several years for plants to establish. Some types of habitats, like new wetlands, may need water on an ongoing basis. The amount of water, the cost of the water, or the infrastructure needed are not estimated. In areas where habitat is restored on land that is currently farmed, there will, in most cases, be water savings. These water savings could total several hundred-thousand acre-feet. Riparian and floodplain habitats require sufficient in-stream flows to support ecological processes and functions. There are existing programs and initiatives in discussion or implementation that are intended to increase the viability of in-stream flows for ecosystem health.

Make Specific Investments in Water Supply Projects to Generate an Additional 58,500 AF Annually for the Central Valley Project Improvement Act (CVPIA) Wildlife Refuges (\$25 Million for infrastructure, does not include any needed cost for the water): Wetland areas in the San Joaquin Valley rely on reliable water supplies to maintain adequate habitat conditions. Certain wetland areas have adequate water supplies in years of wetter hydrology to support best management practices. In other areas there are inadequate water supplies, or no water

supplies, which leaves these areas dry and with long-lasting impacts (CVJV, pg. 52). The Central Valley Project Improvement Act (CVPIA) directs the U.S. Department of Interior and the State of California to provide adequate and reliable water supplies to 19 refuges in the Valley, 14 of which are within the San Joaquin Valley (CVJV, Pg. 52). The Central Valley Joint Venture 2020 Implementation Plan has identified that water supplies required under the CVPIA have never been fully delivered to the refuges because of physical and institutional challenges (CVJV, p. 52). Citing the work in an unpublished report by E. Wehr et al, from 2017, the 2020 Implementation Plan Update estimate that the 14 refuges in the San Joaquin Valley have an average unmet water need of 56,000 AF per year, or 64,400 AF when considering an assumed 15 percent carriage loss across the conveyance system.

2.3.2.3 Expand Agency and Organizational Capacity

Adequately Fund the Creation of 20 Full-Time Equivalent Positions within the Relevant State and Federal Agencies to Handle the Increased Workload of Permitting 100,000 Acres of Habitat Restoration (\$60 Million; 20-year period): Ecosystem restoration projects require administrative support from state and federal agencies to process permits and other required documentation. In addition, many ecosystem restoration projects are funded through public grant programs which require adequate staffing to administer.

Expand the Capacity of Native Seed Farming Operations to Meet the Demand of Restoration Projects (\$10 Million capital investment): Restoration projects require native seed in order to restore appropriate vegetation. To support the proposed habitat restoration projects, the capacity of native seed propagation must be expanded.

Invest in the Governance, Administration, Consultation, and Community Engagement Capacity for Tribes and Disadvantaged Communities (\$40 Million – 20-year period): Tribal consultation and community engagement are required for certain projects but are components that can also be considered more broadly. These entities will benefit from capacity-building support which will also increase the efficiency with which they can provide consultation on proposed projects.

Expand the Available Workforce for the Implementation of Restoration Projects by Funding Workforce Development Programs that Support Skilled Labor, Project Management, Seed Collection/Propagation, and Restoration Design (\$40 Million – 20-year period): In order to support the implementation of the recommended habitat restoration projects, an expanded workforce with specific skill sets will be required. This proposed investment is intended to triple the amount of available skilled labor applicable to these projects.

Invest in the long-term land management of restored habitat areas (\$100 Million – 20-year period for 100,000 acres): This recommended investment is based on the land management costs for California Department of Fish and Wildlife and United States Fish and Wildlife Service National Wildlife Refuges, system wide. This is a rough approximation and does not consider specific project components or requirements.

Establish a Prepayment or Rapid Repayment Process for Grant Invoices (No Estimated Cost; Programmatic): Ecosystem restoration projects are often undertaken by organizations that do not have the cashflow or overhead resources to support undertaking large projects that will require large capital at the outset of project implementation. Allowing for prepayment or by quickly repaying grant invoices, these organizations would be better suited to facilitate the implementation of ecosystem restoration projects.

Continue to Advance Programmatic Permitting and Other Changes to Reduce the Regulatory Requirements for Restoration Projects (No Estimated Cost; Programmatic): In recent years, there have been successful efforts for agencies and interested parties to work together to develop regulatory pathways that reduce the time and cost associated with permitting for restoration projects. For example, a more efficient authorization pathway was signed in 2018 by the National Marine Fisheries Service for expedited permitting of habitat restoration projects through the

Sacramento and San Joaquin River watersheds and Delta. In addition, two statewide authorizations for beneficial aquatic and riparian restoration projects have been developed for the State Water Resources Control Board and the US Fish and Wildlife Service, which also covers projects with multiple benefits. These authorizations are intended to provide cost-efficient and faster avenues for project implementation for both project proponents and regulatory agencies.¹⁷ The expansion of these strategies to a variety of multi-benefit project types would allow for more rapid and cost-effective project implementation.

2.4 Water Supply Investment

2.4.1 Strategy-Specific Problem Statement

Most of the infrastructure that provides flood control benefits and stores and conveys water to Valley communities and agricultural lands is well over 70 years old. Current built infrastructure needs to be repaired, replaced, and expanded to deliver safe drinking water to Valley communities, support sustainable levels of agriculture, replenish groundwater basins, and expand environmental habitat areas. Infrastructure rehabilitation and expansion is needed to connect residents in the S2J2 region who rely on the 336¹⁸ small water systems, as well as the nearly 40,000¹⁹ households on domestic drinking water wells, to large community water systems or to develop other safe drinking water solutions. Infrastructure improvements will also be required to address the hydrologic impacts of climate change.

Unsustainable groundwater withdrawal exacerbates infrastructure problems by causing subsidence. Land subsidence occurs when groundwater is extracted in excess of natural or managed replenishment and the ground compacts and permanently sinks as the groundwater table declines. Subsidence reduces conveyance and storage capacity, impacting these systems' ability to deliver water for consumptive uses, habitat restoration, and groundwater replenishment. In the San Joaquin Valley, all the major conveyance systems – the California Aqueduct, the Delta Mendota Canal, and the Friant Kern Canal – have experienced diminished capacity due to subsidence. Subsidence also diminishes the aquifer's ability to store and recharge groundwater in the future, increasing the gap between water demand and supply in the Valley.

Historic droughts over the last several decades placed extreme strain on California's groundwater basins and people. Additionally, climate change continues to reduce California's snowpack, which serves as a natural storage reservoir.

17 Sustainable Conservation - Simplified Permitting to Accelerate Restoration

18 Identified from SAFER Dashboard for systems with 3,300 connections or fewer

19 Identified from SAFER Risk Assessment Dashboard

2.4.2 Outline of Proposed Strategy

Participating water agency members and other stakeholders have built on existing work to identify the categories of investments that can improve the conveyance and storage of water, mitigate environmental impacts, and provide benefits for the Valley communities, agriculture, and ecosystems. These include in-valley recharge, improving inter-valley conveyance, and increasing flexibility to move water across the region. These investment categories are based on categories of projects included in Integrated Regional Water Management Plans, Groundwater Sustainability Plans, and other compiled sources.²⁰ Where projects outside of the San Joaquin Valley have transfer and exchange benefits that can support the CAP Desired Outcomes, they have been considered, particularly for projects planned in the Diversified Supply Development category. These investments and projects do not include changes to regulations governing Delta export operations, the Delta Conveyance Project, or surface storage projects supported by the Water Storage Investment Program under Proposition 1.

2.4.2.1 Interregional and Regional Conveyance Investments

Invest in a Portfolio of Interregional and Regional Conveyance Projects (\$4.2 Billion): New regional water conveyance systems and repairs of existing facilities, including levees, weirs, bypasses, canals, and other flood protection facilities, will be essential to create a more resilient water infrastructure system. Many local and regional conveyance upgrades and repairs are needed throughout the State to maintain and create access to new and existing water sources, provide emergency backup conveyance, or convey floodwaters to beneficial use. These needs are intended to be addressed by potential projects under this project category.

2.4.2.2 Surface and Groundwater Storage Opportunities

Invest in a Portfolio of Surface and Groundwater Storage Projects (\$6.8 Billion): In response to the passage of the Sustainable Groundwater Management Act (SGMA), local agencies have proposed a significant number of new groundwater recharge projects that, if built, could result in substantial additional water storage capacity to divert flood flows in future wet years, like 2023, with sufficient investments to advance these projects. The State should invest in additional surface water storage infrastructure to capture and store rainfall for utilization during dry periods and to optimize groundwater recharge opportunities. Importantly, the interconnectedness of the State Water Project and Central Valley Project provide an opportunity for projects located outside of the San Joaquin Valley to provide in-Valley benefits through a number of mechanisms, including water transfers and exchanges. The Governor's Water Supply Strategy identifies the need to develop over 4-million-acre feet of new storage facilities, with other estimates placing the need much higher.

2.4.2.3 Diversified Supply Development

Invest in a Portfolio of Diversified Water Supply Development Projects (\$3.4 Billion): The State has set a statewide target of 1.8 million acre-feet of new recycled water by the year 2040.²¹ In addition, the State has set a target of expanding brackish groundwater desalination by 84,000 acre-feet per year by 2040^{22,23}. Both ocean and brackish groundwater and surface water desalination can play an important role in communities' water supply

20 Referenced Plans include the California Water Supply Strategy and associated work performed by the State Water Resources Control Board and agencies under the California Natural Resources Agency. Groundwater Sustainability Plans (GSPs) for the Kaweah, Tulare Lake, Tule, Madera, Chowchilla, Delta-Mendota, Westside, and Kings Subbasins; Integrated Regional Water Management Plans (IRWMPs) for the Poso Creek, Tule, Kaweah River Basin, Kings Basin Water Authority, Westside-San Joaquin, and Madera IRWM Regions; and projects associated with implementation of the south-of-delta drought plan advanced by the United States Bureau of Reclamation, Friant Water Authority, San Luis & Delta-Mendota Water Authority, and the San Joaquin River Exchange Contractors Water Authority. Projects contained within these aggregated documents had varying levels of detail, and further analysis will be required for project level support by SJV CAP.

21 <https://resources.ca.gov/-/media/CNRA-Website/Files/Initiatives/Water-Resilience/CA-Water-Supply-Strategy.pdf>

22 Id.

23 https://www.waterboards.ca.gov/water_issues/programs/recycled_water/docs/2024/brackish-GW-write-up.pdf

planning processes to enhance drought resilience both inside and outside the San Joaquin Valley. Importantly, and similar to storage improvements, the interconnectedness of the State Water Project and Central Valley Project provides an opportunity for projects located outside of the San Joaquin Valley to provide in-Valley benefits through a number of mechanisms, including water transfers and exchanges.

2.4.2.4 Water Conservation Investment Strategies

Invest in a Portfolio of Water Conservation Strategies (\$500 million): From 2013 to 2016, statewide per capita residential water use declined 21 percent and has remained 16 percent below (on average) 2013 levels. Public water agencies continue to invest in water conservation projects and programs that increase conservation efforts, such as turf replacement programs, water loss projects, and other water-use efficiency upgrades. Similarly, there are significant infrastructure projects at agricultural irrigation districts that can yield water savings, like canal linings, drip irrigation conversions and other system efficiencies. Importantly, and similar to storage improvements, the interconnectedness of the State Water Project and Central Valley Project provides an opportunity for projects located outside of the San Joaquin Valley to provide in-Valley benefits through a number of mechanisms, including water transfers and exchanges.

The exploration of residential water conservation program development for smaller water systems could generate meaningful incentives for domestic water consumers to reduce their consumption of water throughout the home by providing rebates. This could include rebates and incentives for low-flow toilets, water efficient washing machines and appliances, etc. Water conservation programs are often self-funded, and many of these small systems struggle to charge rates and collect on rates that can adequately fund operations and maintenance. Other means of generating and funding these potential rebate and incentive programs would allow for these programs to be implemented without the need to raise rates on consumers. Unfortunately, because water conservation is self-funded by agencies, Valley residents served by small community water systems do not have the access to opportunities to reduce their water use and therefore their cost of water.

2.4.2.5 Groundwater Recharge Investments

Expand the Flood-MAR Watershed Studies to the Tulare Basin (\$13.2 Million – One-time): The California Department of Water Resources (DWR) is close to completing five San Joaquin Valley watershed models, which will help the state prepare for the watershed-level impacts of the state's drought and deluge cycles. For example, in the Merced Subbasin, a six-fold increase in peak flows is expected resulting from climate change. Flood-Managed Aquifer Recharge (Flood-MAR), forecast-informed reservoir operations (FIRO), and additional infrastructure can mitigate up to 65% of these flood impacts and reduce groundwater overdraft by up to 63%. The costs to implement each of these mitigation strategies (Flood-MAR, FIRO, and infrastructure) were not estimated as part of the studies. DWR should complete a watershed study of the remaining San Joaquin Valley watersheds in the Tulare Basin, which would cost approximately \$13.2 million. This cost is only to study the Tulare Basin watersheds. It does not include the implementation costs.

Technical Assistance to Support Implementation of San Joaquin River Watershed Flood-MAR Study Findings (\$10 million; Recurring): As a state, we need to implement and scale recharge activities identified through DWR Watershed Studies and pilot projects. Funding is needed to support expanded technical assistance for groups including but not limited to irrigation districts, groundwater sustainability agencies, counties, reservoir operators, groundwater-dependent communities and ecosystems, and the agricultural industry to plan Flood-MAR operations. Technical assistance includes support for water rights permitting, regulatory compliance, development of recharge programs, monitoring and enforcement, site suitability and prioritization, and more. Technical assistance for the

initial phase of implementing the watershed study findings is approximately \$10 million and would support funding for DWR and its contractors to work with local entities.

Flood-MAR recharge project implementation of on-farm recharge (\$91 Million – Recurring): Identification of projects is currently being done by the CAP project team based on projects identified by GSAs, irrigation districts, and flood managers. That analysis is still under way and not represented in this section. The scope of these projects may expand as findings from the Watershed Studies become available, and additional Flood-MAR technical planning assistance is provided to local entities.

GSPs don't typically include the cost of on-farm recharge (OFR) on private land, but covering costs is important to incentivizing individuals to participate. NRCS estimates costs of \$130 per acre of OFR. Scaling to 700,000 acres of readily-rechargeable farmland (those that would not require new conveyance infrastructure) would cost \$91 million per wet year for OFR.

Construction of Recharge Basins for Disadvantaged Communities (\$150 Million – total capital cost for an assumed 75 projects): Implementing recharge for community drinking water is a promising approach for communities dependent on groundwater. Recharge for drinking water requires special attention to potential water quality impacts that could occur by mobilizing contaminants in the soil. The potential of recharge to improve water quantity and reduce water quality risk can be most efficiently managed by dedicating recharge basins located in optimal locations to benefit community drinking water supplies.

As an example of costs incurred, the 20-acre recharge basin in Okieville had \$1.3 million of construction costs. Land acquisition costs are assumed to be \$20,000 per acre, totaling \$400,000 for a 20-acre project. Planning and design are estimated at \$300,000, based on recent project design experience. Therefore, the one-time costs to construct a 20-acre recharge basin are approximately \$2 million, based on recent project experience. The total investment amount assumes that 75 DACs in the San Joaquin Valley would benefit from a recharge basin, by having access to surface water supplies (<1,600 m), land to construct a basin, and reasonably adequate soil conditions.²⁴ These assumptions result in a total of \$150 million for one-time construction costs. Recurring operation and maintenance costs are not included in this investment item but discussed below. Note, that this cost may fluctuate based on the necessary conveyance infrastructure.

Recharge Basin that Also Serves as a Park for Disadvantaged Communities (\$2.8 million per basin/park):

Recharge basins can be constructed with multiple purposes in mind, such as serving as a community park in the dry season. This could provide recharge in the wet season (and potentially reduce local flooding) while also serving as a public community space with amenities.

For a single 5-acre basin/park with amenities construction costs are estimated at \$2.5 million. Land acquisition costs are estimated at \$20,000 per acre, totaling \$100,000. Robust community engagement is key to this type of project, so this should also be included for an additional \$200,000. The total one-time costs to construct the basin/park total \$2.8 million. Annual basin/park maintenance is estimated at \$32,000 per year, a recurring cost. It is not known how many basins/parks are needed in the SJV.

24 Fernandez-Bou, A. S., Rodríguez-Flores, J. M., Guzman, A., Ortiz-Partida, J. P., Classen-Rodriguez, L. M., Sánchez-Pérez, P. A., Valero-Fandiño, J., Pells, C., Flores-Landeros, H., Sandoval-Solís, S., Characklis, G. W., Harmon, T. C., McCullough, M., & Medellín-Azuara, J. (2023). Water, environment, and socioeconomic justice in California: A multi-benefit cropland repurposing framework. *Science of the Total Environment*, 858, 159963. <https://doi.org/10.1016/j.scitotenv.2022.159963>

Operations & Maintenance Fund for DACs and Ecosystems (\$48 million for 20-year period): Projects benefiting Disadvantaged Communities (DACs) and ecosystems need O&M funding in addition to initial design and construction costs. For example, a recharge basin requires short-term O&M such as weed and rodent control, as well as long-term O&M such as silt removal, disking, and other basin maintenance. A fund dedicated to O&M for such projects would ensure the long-term success of these projects while also potentially providing ongoing skilled job opportunities. Based on the assumptions above of \$32,000 per year and approximately 75 communities implementing projects, an estimate of \$4,000,000 per year.

2.5 Land Repurposing Investments

2.5.1 Strategy-Specific Problem Statement

2.5.1.1 Land Transition Necessity under SGMA

The implementation of the Sustainable Groundwater Management Act (SGMA) and climate driven water scarcity will necessitate a shift away from the current irrigated agriculture acreage in the San Joaquin Valley. The Public Policy Institute of California (PPIC) estimates that by 2040 average annual water supplies available could decline by 20 percent, primarily driven by SGMA but also driven by the impacts of climate change. In a worst-case scenario PPIC estimated at least 900,000 acres of farmland may need to be fallowed in the San Joaquin Valley, resulting in the loss of around 50,000 jobs and reduced regional economic activity of 2.3 percent.

2.5.1.2 Continued Overdraft of Groundwater

Achieving SGMA compliance requires eliminating groundwater overdraft, either by bringing in new supplies of surface water or reducing the extraction of groundwater. The California Department of Water Resources (DWR) estimates that the average annual overdraft in the S2J2 region is at least 1.4 million acre-feet (MAF).

2.5.2 Outline of Proposed Strategy

2.5.2.1 Expansion of Multibenefit Land Repurposing Program Funding

Fund the Multi-benefit Land Repurposing Activities (\$13.6 Billion for land repurposing that focus on habitat restoration, plus added costs for lower water use crops, multibenefit groundwater recharge, and utility-scale solar projects): Several recent studies, including those by the Public Policy Institute of California (PPIC) (e.g., Hanak et al., 2023), have outlined opportunities to augment water supplies and manage existing water supplies more flexibly. However, reductions in groundwater extraction for irrigated agriculture will be unavoidable to achieve groundwater sustainability and to adjust to climate driven water scarcity. By 2040, it is estimated that nearly 900,000 acres of land may need to be taken out of irrigated agriculture — approximately 720,000 acres in order to meet SGMA requirements and 150,000 additional acres in response to climate change driven reductions in water supply in the San Joaquin Valley (Escriba-Bou et al. 2023; Hanak et al. 2019). In the S2J2 four-county area, the worst-case scenario is a need to repurpose 900,000 acres.

Multi-benefit land repurposing works to transition land to new uses in ways that reduce groundwater extraction and provide public benefits, such as improving community well-being, promoting renewable energy development, sustaining agriculture, restoring habitat and/or increasing resilience to the effects of climate change. Through the Multibenefit Land Repurposing program, administered by the California Department of Conservation, lands must be repurposed a minimum of ten years and in perpetuity. Given the scale of land use transition that will be needed over the next two decades, it is crucial to consider how best to maximize benefits to the region's economy, environment, and communities in a cost-effective manner.

Repurposing activities will occur on privately owned land. A brief definition of each repurposing activity is provided here.

- **Rangeland.** Land is converted to non-irrigated rangeland or pasture.
- **Repurposing Lower Water Crop.** Land remains in agricultural production; however, water use must decrease, which could be achieved by switching to a lower water use crop (e.g., alfalfa to safflower), deficit farming, water-limited agriculture, and/or dryland farming.
- **Habitat.** Land is restored to a state similar to its ecological condition prior to agricultural use (i.e., riparian/floodplain, wetland or upland).
- **Multi-benefit Recharge.** Land is developed into groundwater recharge sites that also provide additional benefits (e.g., habitat, flood control, etc.).
- **Open Space.** Land is purchased by a public entity for public benefit and then restored to a state similar to its ecological condition prior to agricultural use (i.e., riparian/floodplain, wetland or upland).
- **Park Space.** Land is purchased by a public entity and restored for public benefit, which could include habitat restoration and/or additional amenities (e.g., hiking trails, parking lot, public restrooms).
- **Solar.** A solar array is installed on the land for use by an individual or community solar project.
- **Other repurposing activities** may be viable in concert with solar (e.g., grazing, managed aquifer recharge).

The investment needs for land repurposing will vary based on the final scenario and the ultimate mix of different land uses. For the S2J2 recommendations, the need will include habitat restoration, transition to lower water use crops, multibenefit groundwater recharge basins, and utility-scale solar projects and community recreational spaces and buffers.

2.5.2.2 Solar Investments

Invest Funds and State Resources in Expanding Energy Transmission Infrastructure (No Cost Estimate):

Renewable energy projects must be strategically sited near energy transmission infrastructure to convey the energy from the Valley to where it is needed most (i.e., major urban centers). PPIC and others have identified that the current energy transmission infrastructure level is inadequate to address the State's energy consumptive needs or its 2045 objectives. California should increase (a) State funding and improve the permitting process for energy transmission infrastructure development and construction and (b) cooperation between the California Energy Commission (CEC), California Public Utilities Commission (CPUC), California Independent System Operator (CAISO), Department of Water Resources (DWR), electric utilities, developers, communities, and land use planning agencies for coordinated planning of energy transmission infrastructure and strategic siting that is compatible with priority habitat areas and prime agricultural lands. The CAISO and CPUC should also study the opportunity to maximize the existing transmission infrastructure in the Valley to unlock renewable energy projects in areas identified as compatible with the values described above. *Please see the S2J2 Clean Energy and Fuels investment plan.*

Reinstatement of Williamson Act Subvention Funds (No Cost Estimate): Landowners with Williamson Act contracts face difficult decisions when considering whether a utility scale solar project is a financially suitable alternative land use for their property, as certain counties have determined that utility-scale solar is incompatible with the Williamson Act. The result of this county-by-county approach is that property taxes increase in some Valley counties when agricultural land is repurposed for utility-scale solar projects, thereby disincentivizing those wishing to utilize the property to meet the State's clean energy objectives. At the same time, counties struggle with the revenue implications of retaining the Williamson Act on land repurposed for utility-scale solar. The result is that the solar development community faces inconsistency on a county-by-county basis, and landowners and counties

find themselves in conflict over property taxes. The State should reinstate subvention funds to supplement lost tax revenues in counties impacted by repurposing farmland to utility-scale solar. The intent is for this form of land repurposing to be revenue-neutral to the counties.

2.5.2.3 *Alternative Agricultural Land Uses*

Continue to Research the Economic Viability and Support the Implementation of Alternative Agricultural Land Uses (No Estimated Cost; Programmatic): The agricultural footprint of the San Joaquin Valley has largely transitioned to permanent deciduous crops that require ongoing water supplies to sustain the crop and support the initial investment made in planting the trees. A strategy that is growing in popularity is the transition to crops that have a lower water demand, rotational cropping to only farm when water is available for irrigation, or to grow cover crops or other low- to no-water crops.

2.6 Demand Reduction Investments

2.6.1 Strategy Specific Problem Statement

2.6.1.1 *Continued Overdraft of Groundwater*

Achieving SGMA compliance requires eliminating groundwater overdraft, either by bringing in new supplies of surface water or reducing the extraction of groundwater. As noted above, the California Department of Water Resources (DWR) estimates that the average annual overdraft in the S2J2 region at 1.4 million acre-feet (MAF).

2.6.2 Outline of Proposed Strategy

2.6.2.1 *Allocation Program Support*

Support Groundwater Sustainability Agencies (GSAs) in the Implementation of Groundwater Allocations or Pumping Caps (No cost estimate): Implementing a groundwater allocation requires a GSA to have the ability to monitor groundwater extractions or consumptive use. There are available technologies that allow for the tracking of water use but deploying them at subbasin or agency scale requires capital investments, education, and ongoing technical and administrative support to ensure that all participating landowners are operating within their allocations and managing resources appropriately. The costs associated with the development of an allocation program include supporting adequate GSA staffing/consulting support, deploying measurement/monitoring technologies, outreach and education to landowners, and other necessary operational costs.

2.6.2.2 *Demand Reduction Grant Funding*

Renew and Expand the Funding of the LandFlex Grant Program (\$1 Billion): The Department of Water Resources (DWR) developed the LandFlex Grant Program (LandFlex) to provide immediate drought relief to drinking water wells in drought-stricken communities and limit unsustainable groundwater pumping in critically overdrafted (COD) basins. Limiting overdraft groundwater pumping means more water left in the ground and available for drinking water wells in California's most vulnerable communities.

For the LandFlex program, the range of payment per acre is based on a number of components for row crops and permanent. For all three components of LandFlex, the repayment amounts were:

- \$6,500 (row crop) per acre
- \$9,000 (permanent crop) per acre.
- Dollar amount per ac-ft based on estimated water savings is approximately \$250-260 per ac-ft water. This includes immediate savings plus long-term permanent water savings.

It is assumed for \$1 Billion estimate that the primary acreage will be permanent crops which would allow for 100,000 acres enrolled. DWR has not finalized their analysis of the 2023 pilot program. It will be essential to ensure the program meets its primary purpose to protect vulnerable drinking water wells.

3 Funding Models & Sources

An updated system of financing water investments is needed to achieve the magnitude of funding for success and address participation and other issues experienced by disadvantaged community residents. Although the CAP, at this point in the process, does not identify what funding sources are appropriate for specific investments, the CAP will soon turn to both considering specific projects to implement and the appropriate funding sources. Additionally, support is needed from financial experts who can help consider comprehensive funding approaches, as opposed to project-by-project funding only. The region would benefit from comprehensive, creative funding systems that blend public grants and low-cost financing, philanthropic investments, below-market capital sources, and revenue-based financing mechanisms that enable “landscape-scale” investments to be made. Other considerations include:

1. Reforming Proposition 218 to ensure assessments can be approved to pay for pass-through mandates such as SGMA and Flood Control. Reform is also needed to ensure affected parties, including disadvantaged communities, are part of the rate-setting process.
2. Funding rate assistance for low-income customers.
3. Financing structures to enable disadvantaged communities to work in coordination with landowners to determine locations for local groundwater recharge, including the acquisition of lands for this purpose.

4 Tribes and Stakeholders

Engagement of tribes and stakeholders is required for successful implementation of the recommended investments for sustainable water and land management.

4.1 Tribes

The legacy of political actions, such as colonization, relocation, and termination toward California Tribes has perpetuated a practice of leaving them out of the discussion in developing State legislation. The exclusion of Tribes in State policies and plans has limited their ability to control and access water in accord with their asserted Indigenous and aboriginal rights. As a result, it has prevented Tribes from continuing their cultural, spiritual, and sustainability practices. Tribes must be offered the opportunity to genuinely participate in statewide and regional water planning, to voice their concerns and have them heard and respected, and to shape water policy. (California Water Plan - 2023 Update)

4.2 Stakeholders

Essential stakeholders for implementation of water investments include:

1. Disadvantaged communities, organizations, and service providers for disadvantaged communities.
2. Farmers and agricultural organizations
3. Water supply agencies
4. Local, state, and federal government agencies
5. Environmental and conservation organizations
6. Affected local communities

4.3 Tailored Engagement and Education is Needed to Involve Disadvantaged Communities in Implementing Drinking Water Solutions

Engagement and educational efforts cost time and money. Below are examples of activities or methods to provide outreach to the affected communities.

- **Public Workshops** – Workshops need to be informative and engaging, not just one-time meetings to provide information but opportunities to provide supported learning and build capacity. The number and extent of public workshops should vary by project. A simple infrastructure project requires less community engagement than a policy or regional water management project/effort. Example: when it comes to consolidation projects, Prop 13 elections, domestic well connections to a nearby PWS, etc., where people (voters) need to be educated/engaged, the level of need greatly increases in contrast to a simple well replacement in a community PWS.
- **Translation** – Provide verbal and written in Spanish and other languages relevant to region.
- **Stipends** – Consider providing stipends to support community members' transportation, travel, child-care, lost wages for a workday, etc.
- **Meals** – Provide food and refreshments if workshops are all day.
- **Venue Rental** – Community spaces or meeting halls may have rental fees associated with them.
- **Educational Opportunities** – Tours are a great educational tool, but time consuming to develop & implement, expensive for buses, etc.
- **Staff Time** – Agency staff time is required to participate and facilitate the listening, documenting input, and translating between community members and decision-making bodies.
- **Promotional Materials** – Flyers, social media, radio, door to door outreach.

Support for community members attempting to engage in water management decisions that impact their drinking water is needed.

- How to participate in public meetings via public comment, written public comment, or general member of the audience.
- How to serve, and stay engaged, as an advisory committee or board member.
- Supported opportunities for community members and decision-makers to engage in dialogue via structured engagement sessions, support at meetings, etc.

4.3.1 TMF Capacity Building (Technical, Managerial, Financial)

Geared more toward individuals serving on local boards, managing the governance and financial and compliance efforts of a public water system.

- Continual training for volunteer boards is needed, to stay compliant with new/revised regulations, for new board members, to seek new funding sources, etc. Training is often minimal for board members because of lack of funds and/or access. The trainings cost money, often occur during workdays, and are very rarely accessible geographically.
- Financial support for bookkeeping, bills, audits, state compliance, etc. It has become extremely difficult to find auditors for small CSDs. The requirements and liabilities have become onerous and therefore expensive to small water systems. Highly informed bookkeepers are very difficult to find and retain for small systems.

Domestic Well User

There is no widespread, comprehensive education plan or effort currently in the SJV for domestic well users. Education is needed on the following:

- How and when to prepare to replace a well
- How to monitor “time left” until the well might dewater
- How to provide interim water for the home if the well dewater
- How to secure a legitimate well driller
- How to prepare financially (potential cost)
- How to determine what depth to pay for and other construction options for longevity and contamination mitigation
- Knowledge of known contamination in the community
- How to mitigate, including pump level setting, seals, etc. in new/existing wells
- Filters and/or home treatment options, including O&M
- Much education is needed to provide accessible and trusted information to domestic well owners on consolidation or connection to nearby public water systems, or establishment of a new public water systems.

5 Barriers, Path to Addressing, & Policy Updates

Barriers have been identified in the overall problem statement and for each investment category. Common barriers across the investment categories include:

- Capacity for agencies, organizations and communities to engage and implement the necessary actions.
- Bureaucratic processes and requirements that unnecessarily limit the pace and increase the administrative burden for needed projects.
- The lack of funding and funding structures that support the magnitude of need and the certainty needed for making long-term investments.

6 Path Forward

The CAP is an existing group formed in 2021 and is committed to being a part of the S2J2 Initiative for the next two years. An essential next step is to develop a scope of work to synthesize the recommended water investments into a cohesive strategy for implementation. The scope will require the expertise of professional engineers, climate scientists, public and infrastructure finance experts, and others to identify the specific projects, funding structures, and other tools necessary to achieve sustainable land and water management. In addition, the CAP will develop programmatic recommendations needed for governmental programs and policies to accelerate the implementation of the recommended investments.

7 Appendix – San Joaquin Valley Water Collaborative Action Program (CAP) Term Sheet – Approved 11/22/22

Mutually Beneficial Gains

The overall guiding principle of CAP is that the goals of the caucuses will be achieved on a mutual basis. All caucuses will share benefits as the program moves forward. No caucus can advance its interests at the expense of others. CAP's governance is designed to assure mutually beneficial outcomes. Each caucus can object to and stop a CAP action from moving forward. This means that each caucus knows that its goals and concerns must be respected and each caucus benefits from working to advance the interests of the other caucuses.

CAP Desired Outcomes

1. **Safe Drinking Water.** By 2035, all San Joaquin Valley (Valley) residents will have access in a timely manner to safe, reliable, and affordable drinking water no matter the hydrologic conditions. This means prioritizing both interim and long-term water supply and water quality challenges for all residents, including those faced by small communities and domestic well users.
2. **Sustainable Water Supplies.** Sustainable water supplies will be available to support a diverse economy, thriving ecosystems, access to safe, reliable, and affordable drinking water for all Valley residents, and a sustainable level of agricultural production.
3. **Ecosystem Health.** The Valley landscape will increase its habitat areas to support an array of species and healthy aquatic ecosystems, including floodplain, riparian, wetland, on-farm, and upland habitat.
4. **Sustainable Agriculture.** California will continue to provide reliable, safe, and secure food and fiber with industry-leading protections for workers, in-Valley communities, and the environment. The Valley will continue to be a major agricultural resource by preserving as many acres of sustainable farmland as possible while being a good neighbor to communities and ecosystems.
5. **Public Investment in Desired Outcomes.** Sufficient public funds will be invested to support a) the necessary natural and constructed infrastructure to increase supply, b) demand reduction strategies including land repurposing, and c) other investments to accomplish the Desired Outcomes.
6. **Consistent Policies.** State and federal policies and funding will be aligned to advance the Desired Outcomes. Expedited permitting and regulatory review processes will be available for qualified multi benefit projects and other actions to achieve the Desired Outcomes.

7. **Local Government Resources.** Local governments will have adequate resources, staffing, and capacity necessary to play a vital role in the transition to sustainable water resources management in the Valley.
8. **Sound Science.** Decisions will be made using the best available and independent science possible. Adaptive management with monitoring, deployment of the best available technology and outcome accountability will be necessary to maximize the effectiveness of resource decisions.

CAP Solutions Elements

1. **Safe Drinking Water.** Support state and local agencies and communities in efforts to address data gaps, fund emergency solutions (such as bottled water delivery and well replacement), ensure strong local well mitigation programs, and promote long-term solutions such as consolidation and targeted recharge projects.
2. **Sustainable Water Supplies.** Eliminate the demand-supply gap and long-term overdraft with co-equal efforts to reduce demand and increase supply by prioritizing projects that will benefit multiple stakeholders.
 - a. **Reduced Demand.** Reduce demand via responsible groundwater management and incentivizing landowners to voluntarily repurpose irrigated agricultural lands to other beneficial uses that require little or no water, with compensation to landowners for creating public benefits and water rights reserved by landowners, consistent with applicable GSPs, with a priority for groundwater demand reduction programs where they benefit those reliant on shallow groundwater resources without hindering the ability to replenish aquifers for sustainable agriculture and other beneficial uses.
 - b. **Increase Supply.** As available, increase supply for sustainable agriculture primarily by managing in-Valley and through-Delta flood flows for use and aquifer replenishment.
 - c. **The Delta.** In partnership with Delta interests and stakeholders, conduct a science-based assessment of the Delta with independent scientific experts to:
 - iv. Determine how much additional water can be diverted from the Delta during high flow events while protecting ecosystem health and Delta communities, consistent with PPIC May 16, 2022, Policy Brief (PPIC Report).[1] As of the above date, the PPIC Report confirms the availability of increased Delta exports in wet years. CAP will support conducting an assessment of increased Delta exports during high flow events in other year types.
 - v. Assess the reduction of non-flow stressors in the Delta (e.g., predation, invasive plants, urban effluent, agricultural runoff, disease/competition, changes in food etc.). CAP will support the review of existing studies on non-flow stressors to decide next steps and best investment in further research.
 - vi. Explore reservoir reoperation that takes into account leading edge forecasting technology to serve multiple benefits.
3. **Ecosystem Restoration.** Create one of the largest restoration programs, in part, through voluntary land repurposing of a portion of the Valley's irrigated land to create a range of habitats.
4. **Coordinated Changes in Land Use.** Ensure Valley-wide land use change helps accomplish CAP goals by working through the California Multibenefit Land Repurposing Program and related state programs, while also leveraging federal sources of funding. Ensure outreach and protections for communities and locally defined small farmers through this program. Explore supportive programs for farmworkers who are displaced by land use changes.

5. **Effective Implementation.** Work through the politically diverse CAP coalition to align state and federal policies and funding as informed by units of local government. Implementation measures should ensure additional funding and staffing resources for local governments so that they can play a vital role in transitioning the Valley to sustainable water resource management.

[1] PPIC Policy Brief: Tracking Where Water Goes in a Changing Sacramento–San Joaquin Delta, May 16, 2022: “Increasing the amount of water stored during wet periods—whether by taking more water out upstream of the Delta, or making the best use of export facilities—has to be done with care for the environment and other water users. But it is possible to do a better job of storing water during wet years—both above and below ground—without doing harm. Improving the management of wet-year supplies is a critical climate change adaptation strategy. This will require identifying cost-effective investment options and adapting operations and regulatory approaches to facilitate capturing more water in wet times.”



Broadband

Essential Infrastructure



Essential Infrastructure

Broadband

1 Current Challenges and Vision for the Future

“Reliable internet and broadband are necessary for many things in today’s world. They enable the public and private sectors to deliver – and consumers to receive - healthcare, education, public services, social services, and goods. They are also critical in connecting people to employment opportunities as well as to advancing the clean energy economy and “smart” technologies that can help with water and energy conservation and other resource conservation practices” – Sierra San Joaquin Jobs Regional Plan Part I

1.1 The Challenges

Access: There are significant gaps in reliable broadband internet access across the 4-county region. The state has identified approximately 31,500 unserved and underserved locations across the four counties.¹ But it is likely that the scale of the problem is much greater. For example, rigorous testing conducted on students’ take-home devices in the Fresno Unified School District revealed that 27%—more than 87,440 households—were effectively unserved (i.e., experiencing < 25 Mbps downstream and 3 Mbps upstream).² Broadband connectivity and infrastructure is poor both in rural, low-income neighborhoods and urban low-income neighborhoods.

Adoption and affordability: Broadband adoption is lower across the region compared to state averages, and some groups are particularly digitally disconnected (Figure 1). Just under 25% of households do not subscribe to broadband, compared to only 15% statewide. Across the four counties, 32% of non-English speakers, 27% of those 60 or older, and 24% of Latinx residents do not subscribe to broadband, percentages that are all higher than comparable state averages.³ The recent lapse of the federal Affordable Connectivity Program (ACP), which provided a \$30 discount⁴ monthly broadband service to more than 171,000 households in the region could further depress adoption rates.⁵ In addition, ongoing limited access to devices, training, and affordable and reliable broadband will continue to limit adoption.

1 <https://challenge.cpuc.ca.gov/challenge/bead-challenge-map>

2 <https://communitynets.org/sites/default/files/2024-02/myQoI%20measurements%20in%20California.pdf> ; MyQoI numbers were measured at different points in time throughout the day. Households calculated using average household size for Fresno as per US census data.

3 IPUMS Microdata Analysis of the U.S. Census Bureau American Community Survey, 2022 5-Year Estimates.

4 ACP program, <https://www.fcc.gov/acp>

5 USAC ACP Enrollment and Claims Tracker (data as of February 8, 2024; retrieved May 21, 2024); Broadband for All CDT Dashboard on ACP Eligibility (informed by analysis from the USC Annenberg School of Communication and Journalism; retrieved May 21, 2024); EducationSuperHighway National Eligibility data (February 8, 2024)

Computer ownership: Broadband subscriptions and affordability challenges are exacerbated by disparities in device ownership (e.g., desktops, laptops, tablets) (Figure 1). Only 73% of households in the region have a desktop or laptop, lower than the statewide average of 84%. There are also significant disparities across demographic groups. Only 65% of Latinx report having a device, compared to 75% statewide. Similarly, slightly more than half (55%) of residents who do not speak English report using or accessing a desktop or laptop across the four counties compared to 70% statewide.³

Digital skills access: State-level inventories of digital inclusion assets, including training opportunities, undercounts activity in the region. The California Digital Equity plan includes 10 regional assets (mentioned in Appendix B. 1); however, recent analysis indicates there may be up to 270 assets, which can support digital skill development across the region. The complete list of these assets can be found in Appendix B.

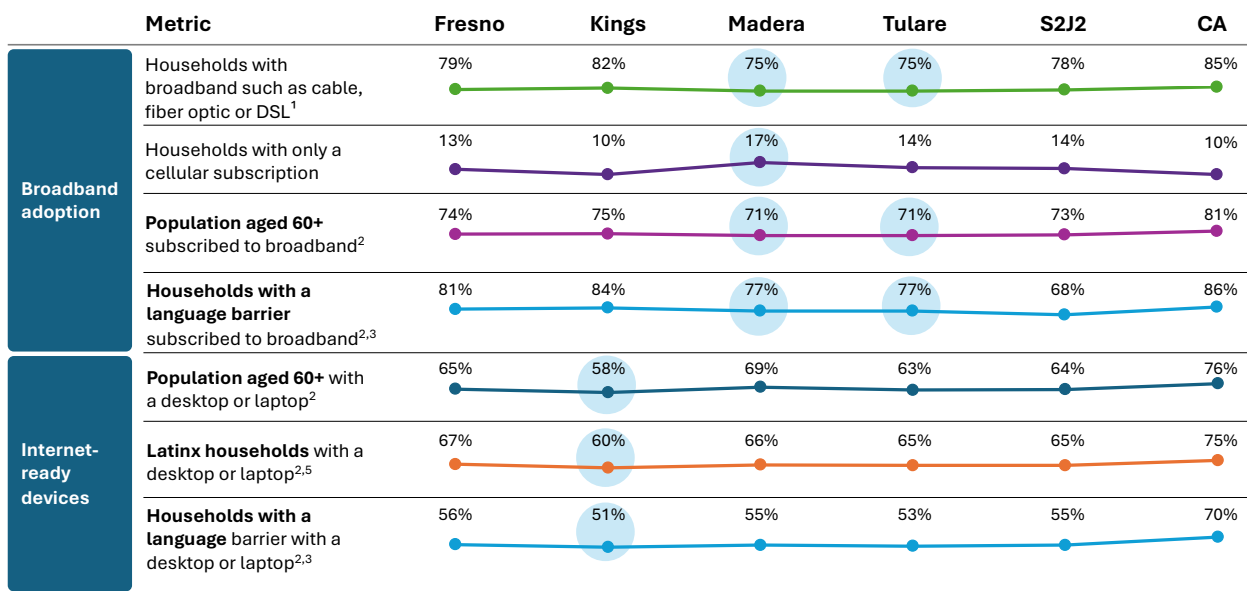
Coordination: There is no regional coordination across the four counties⁶ to unite local nonprofits, community anchor institutions (CAIs) and local governments, which limits the region's capacity to:

- Organize regional planning efforts to advance connectivity by raising awareness of investment opportunities and reducing obstacles to existing resources;
- Encourage local organizations to participate in outreach activities and to offer programs that include broadband;
- Ensure that narratives on broadband access gaps accurately reflect residents' experiences; and
- Identify infrastructure and adoption-related assets.

Additional data and research about the current state of broadband adoption and availability in the region can be found in Appendix A.

⁶ The existing regional broadband consortia currently represents an eight-county region, which limits its ability to focus deeply on specific issues such as poor broadband access in urban areas of high poverty. Additionally due to various structural issues the consortia have largely been inactive in 2023/2024 and may not have the needed support or political independence to effectively move the needed work forward.

Figure 1: Overview of S2J2 performance on key adoption and device ownership indicators



1. U.S. Census Bureau American Community Survey, 2022 5-Year Estimates (Table S2801)
2. IPUMS Microdata Analysis of U.S. Census Bureau American Community Survey, 2022 5-Year Estimates.
3. Language barrier defined as population who does not speak English.
4. Represents average of 4-county region (Fresno, Kings, Madera, and Tulare). UUSAC ACP Enrollment and Claims Tracker (data as of Feb. 8th, 2024; retrieved May 21st, 2024), Broadband for All CDT Dashboard (informed by analysis from the USC Annenberg School of Communication and Journalism; retrieved May 21st, 2024), EducationSuperHighway National Eligibility data (as of Feb. 8, 2024)
5. Defined as Hispanic or Latino, any race.

1.2 Vision

Addressing these challenges will support residents, community institutions, and businesses in accessing affordable, high-speed broadband both in their homes and throughout their daily journeys, and acquiring the digital skills needed to support participation in the digital economy. This work will be guided by core Sierra San Joaquin Jobs (S2J2) principles:

- **Equity:** Emphasize unserved and underserved populations in deployment.
- **Environmental Stewardship:** Focus on industry locations that require greater broadband connectivity, to become more sustainable.
- **Good Jobs:**⁷ Foster the creation of equitable access to quality jobs, promoting career ladders with upward mobility, supported by ongoing training and accessible educational opportunities. Advance job opportunities that are family sustaining, provide health and retirement benefits, consistent scheduling, create opportunities for collective worker input, foster a supportive work environment, with family-friendly policies. Support climate-forward approaches to industry and business development, expansion, and retention.
- **Data-Based Planning:** Build a plan for ongoing data collection to support new public-private partnerships and investment models.
- **Community Benefits Considerations:** Focus on equitable infrastructure improvements that provide widespread benefits across the region.

7 Refers to the definition of good jobs as in the Valley CERF, Regional Table Principles, https://www.valleycerf.org/_files/ugd/387008_8ca028a3ec4347658116b5c5675af9db.pdf

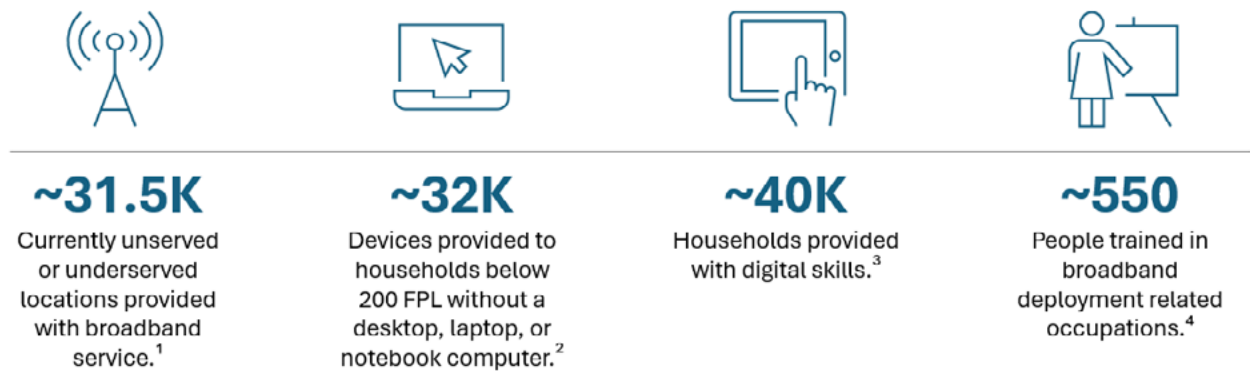
2 Investment Strategies and Impact

Implementing seven key broadband investment strategies can support reliable, affordable broadband, more devices, newly trained residents, and new, good jobs. (Figure 2)

Investment Strategies:

- Support middle-mile and last-mile connectivity in the region by sharing existing infrastructure and building new last-mile infrastructure.
- Launch a regional process to increase broadband availability and affordability across the region.
- Facilitate an enabling environment to deploy broadband for multi-dwelling units (MDUs).
- Provide centralized technical application assistance to local entities to access funding sources.
- Establish programs to assist individuals in strengthening digital skills.
- Develop workforce skills for local talent that result in good jobs, increased broadband deployment, and enhanced career pathways in technology.
- Enable long-term capacity building to support digital equity planning.

Figure 2: Potential impact of the seven broadband investment strategies



1. Based on data from State of California Challenge map (as of 07/09/2024)
2. Based on estimating that the strategies would reaching 40% of ~104K households in S2J2 without any cable, fiber optic or DSL
3. Based on reaching ~40% of ~80K households in S2J2 below 200 FPL, without a desktop, laptop, or notebook computer
4. Based on training people for ~400 new inorganic jobs created for broadband deployment and ~150 additional technicians to be reskilled as estimated by S2J2

2.3 Strategy 1 – Support Middle-Mile and Last-Mile Connectivity in the Region by Sharing Existing Infrastructure and Building New Last-Mile Infrastructure

Partner with existing initiatives to build and lease fiber infrastructure and leverage existing assets like towers and utility poles by bringing municipalities, counties, and private providers together to enable affordable and high-quality last-mile connectivity for residents.

Detail: This strategy will leverage existing public and private assets to connect middle-mile and last-mile networks at reduced costs as well as build open-access last-mile infrastructure. One method to implement this strategy is to partner with the Rural County Representatives of California’s (RCRC) Golden State Connect Authority (GSCA) to finance, build, operate and maintain open-access, last-mile internet infrastructure.⁸ The model enables local governments to partner with GSCA without any upfront costs, while supporting the build-out through streamlined permitting and public land/asset provision. Customers pay directly to GSCA⁹ and all local governments (county, city, or municipality) can participate in the Joint Powers Authority (JPA) already established by GSCA.

Key enablers to successfully implement the strategy:

- Explore partnership with RCRC and GSCA for open access last-mile infrastructure for all four counties.

2.4 Strategy 2 – Launch a Regional Process to Increase Broadband Availability and Affordability Across the Region

Launch a collaborative, multi-county initiative to leverage economies of scale and employ a mix of technologies for optimal service across locations in the S2J2 region.

Detail: All four counties face challenges in providing affordable, quality broadband, especially in rural and economically challenged areas. Given the diverse housing needs (e.g., farm labor housing, sparse households, mobile home parks, MDUs, and small agricultural communities) and varied topography, the S2J2 Initiative would benefit from a comprehensive regional approach. However, there is no formal structure for various local governments and other stakeholders to work together and collectively address the region’s infrastructure gaps. The S2J2 Initiative proposes instituting a four-county coalition that could support multi-county collaborative processes to address several different goals, such as:

- Serve as a centralized procurement vehicle to enhance purchasing power for smaller municipalities or organizations that implement deployment projects.
- Streamline permitting, including a “dig once” policy, and create a simplified process for new players, eliminating the bureaucratic hurdles typically associated with these projects.
- Leverage alternate technologies such as low-cost satellites to subsidize connectivity for locations that may be expensive for fiber builds (e.g., remote and rural areas).

8 Golden State Connect Authority (GSCA) partnership with rural counties; <https://www.rcrcnet.org/sites/default/files/documents/GSCA%20and%20UTOPIA%20Partnership.pdf>

9 Interview with RCRC representative as on June 27, 2024

This strategy would bring local governments, K-12 school districts, county offices of education, higher education institutions, and other local entities together, giving them a competitive edge. It would also make infrastructure development more appealing to providers, enhance the region's bargaining power, and increase the likelihood of affordable services for residents. By combining resources and demand, local governments can achieve cost efficiencies and secure broader coverage through the coordinated efforts of multiple counties. Additionally, this could support the creation of formal communication channels between local governments and broadband providers, particularly if new sustainability projects also require broadband connectivity.

The potential successes of coordinated processes are evident across the country. For example, in 2021, the County of Los Angeles launched an RFP to improve broadband access for low-income communities through a public-private partnership.¹⁰

Key enablers to successfully implement the strategy:

- Allow optional participation in multi-county projects, giving each county or local government the flexibility to join based on its priorities and resources.
- Create a regional coalition for infrastructure development to enable the four counties to develop joint RFPs. Hire two full-time staff members for the coalition – one for administration and one for technical support, ensuring adequate manpower for project management across multiple jurisdictions.
- Leverage public-private partnerships that allow counties to own the infrastructure but lease out maintenance and operations to private entities. This approach ensures that county capacity is not constrained by the need to manage and operate projects.

2.5 Strategy 3 – Facilitate an Enabling Environment to Deploy Broadband for MDUs

Facilitate broadband access in MDUs by supporting property owners with necessary technical assistance to deploy broadband infrastructure.

Detail: MDUs in low-income urban and agricultural neighborhoods, including farmworker housing, publicly supported housing, and mobile home parks, often face limited broadband infrastructure. The S2J2 region has a sizable share of households living in MDUs, with an average of 18% of households in structures containing 2+ units. At the county level, this includes 25% of households in Fresno County, 19% in Kings County, 13% in Madera County, and 16% in Tulare County.¹¹

Broadband deployment can be an expensive and complex process to navigate for property owners. While existing grants, like the California Advanced Service Fund (CASF) Public Housing Account, are available to fund the costs of inside wiring and broadband network equipment costs, property owners often lack the grants experience and engineering expertise needed to plan and complete these applications.

10 County of Los Angeles, Accelerating Digital Equity, <https://doingbusiness.lacounty.gov/ade/>

11 U.S. Census Bureau, American Community Survey 2022 5-Year Estimates (Table S1101); USDA ERS Persistent Poverty Estimates

The strategy would provide property owners with the resources to facilitate broadband deployment for residents of MDUs, including:

- Providing MDU property owners with planning grants that offer technical resources to plan engineering development and design network schematics.
- Connecting property owners with service providers for ease of deployment.
- Providing tax or investment incentives for those landlords who choose to improve horizontal infrastructure.

Key enablers to successfully implement the strategy:

- Enable access to technical experts who can assist MDU property owners with infrastructure assessment and planning, including identifying potential Internet Service Providers (ISP), leveraging existing infrastructure and ensuring that property owners are not constrained by lack of technical knowledge.
- Leverage community-based organizations (CBO), nonprofits, and local governments (e.g., housing departments) to generate awareness about the grants.

2.6 Strategy 4 – Provide Centralized Technical Application Assistance to Local Entities for Access to Broadband Funding Sources

Create centralized application support to assist local entities in the S2J2 region in applying for broadband deployment related funding grants.

Detail: Numerous public funding sources for broadband deployment and digital equity are available in California, each with unique and evolving eligibility criteria. Local entities like schools, non-profits, and CBOs may need assistance to navigate these funding sources.

- Small municipalities and non-profits may struggle with navigating public funding eligibility criteria. For example, E-Rate, a funding program which provides broadband subsidies to schools and libraries¹² was expanded in November 2023 by the Federal Communications Commission (FCC) to include off-premises Wi-Fi and wireless service.¹³ The potential impact to deliver reliable broadband through this initiative is tremendous, but schools and libraries have to know it is available to take advantage of it.
- CPUC has ongoing grants and is about to launch a one-time ~ \$1.8B infrastructure program and ~\$70M digital equity program, indicating significant upcoming opportunities for applicants to pursue.

By providing centralized application support to entities seeking deployment grants, the strategy would:

- Help increase regional grant competitiveness.
- Minimize knowledge gaps about policy changes to help organizations understand available funding opportunities through a combination of local workshops, informational sessions, and one-on-one tailored assistance.
- Build on the “circuit rider” model (like the USDA’s Circuit Rider program) with cost-sharing structures, allowing organizations to pool resources.¹⁴

12 Universal Service Administrative Co. (USAC), “Eligibility Services Overview.” <https://www.usac.org/e-rate/applicant-process/before-you-begin/eligible-services-overview/>

13 “FCC Proposes E-Rate Program for Wi-Fi Hotspots for Students and Library Patrons Without Internet at Home” (November 8, 2023). <https://docs.fcc.gov/public/attachments/DOC-398327A1.pdf>

14 USDA, “Circuit Rider Program – Technical Assistance for Rural Water Systems.” <https://www.rd.usda.gov/programs-services/water-environmental-programs/circuit-rider-program-technical-assistance-rural-water-systems>

Key enablers to successfully implement the strategy:

- Provide centralized resources and templates to enable one expert to help multiple people more efficiently, thereby reducing the cost of hiring more experts.
- Assemble teams of grant specialists with expertise in different types of grants to provide tailored and one-on-one assistance.
- Leverage CBOs, nonprofits, and local governments to generate awareness.

2.7 Strategy 5 – Establish Programs to Assist Individuals in Strengthening Digital Skills

Launch digital skills-focused programs to reduce the digital divide, increase workforce competitiveness, and enhance access to computational thinking skills.

Detail: The Urban Institute’s Community Engagement survey demonstrated that digital access is an issue for many households across the S2J2 region.¹⁵ Recent U.S. Census data confirm twice as many households in the S2J2 region can only access the internet through a smartphone as compared to the State (13% vs. 7%, respectively).³ Additionally, 32% of households with language barriers and 27% of those aged 60+ do not have broadband subscription.³ Furthermore, 45% of households with a language barrier, 36% of those aged 60+ do not have access to laptops or desktops.³ The S2J2 region consistently has lower broadband adoption and device access rates compared to the State.

To increase access to digital skills and devices, this strategy aims to implement three specific programs:

- Multilingual digital skills training programs
- Multilingual helpline paired with in-person support (e.g., Digital Navigators) offering one-to-one support to strengthen digital skills and help access affordable subscriptions
- Coordinated device refurbishment program in partnership with private entities to distribute recycled devices for residents without access to computing devices

Key enablers to successfully implement the strategy:

- Partner with local cultural and community organizations to co-develop and co-deliver curriculum, leveraging their expertise and trust within the community.
- Hold training and offer in-person support in convenient, accessible locations like community centers, libraries, or schools to eliminate transportation barriers.
- Establish and maintain consistent quality standards for refurbished devices, including ensuring all security protocols are upheld to remove donor data and install relevant licenses for the recipients.

15 Urban Institute, Community Engagement Survey synthesis.

2.8 Strategy 6 – Develop Workforce Skills for Local Talent to Support Broadband Deployment and Enable Career Pathways in Technology

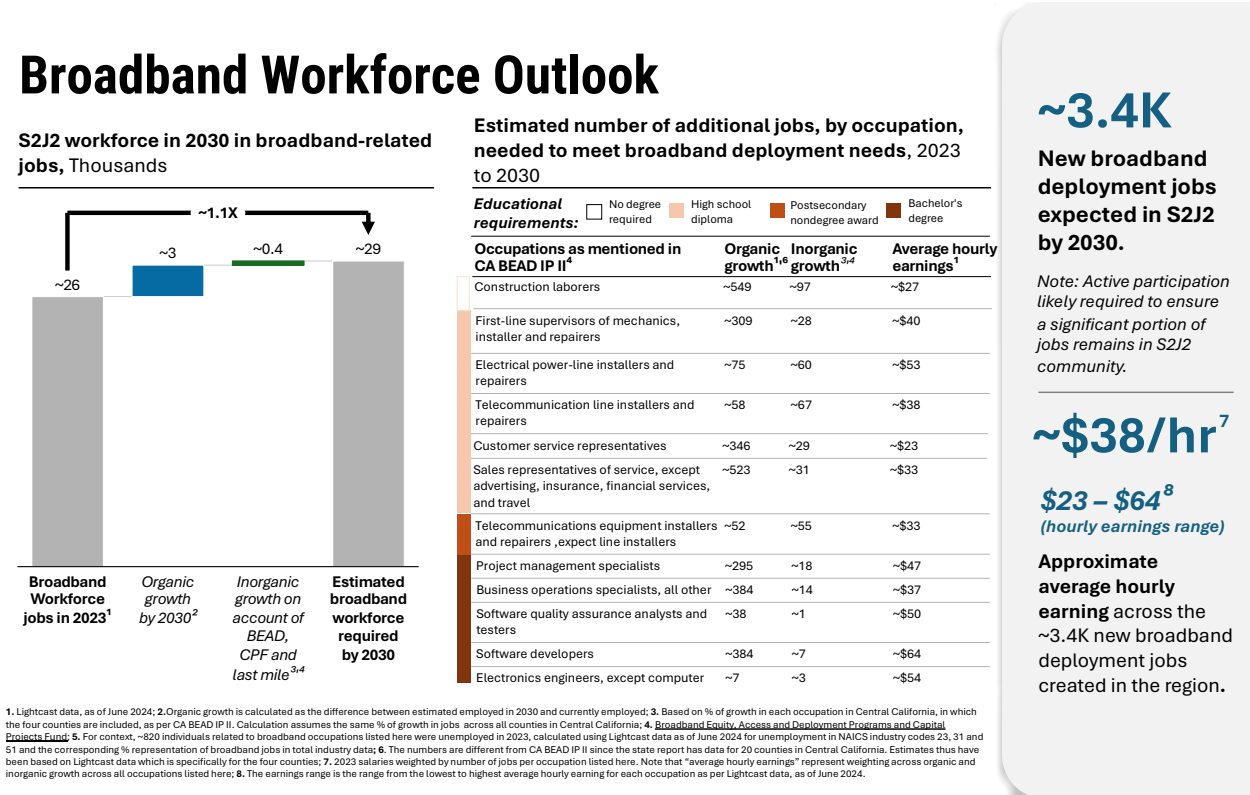
Launch training programs to equip the local workforce for the upcoming, new broadband deployment jobs. Additionally, leverage project labor agreements, where feasible, to ensure that new job opportunities result in meaningful economic benefits for the residents in the S2J2 region.

Detail: By 2030, ~3,400 new jobs in broadband-related occupations are expected to emerge, driven both by organic growth and by the investments attracted through upcoming Broadband Equity Access and Deployment Program (BEAD) funding and investment strategies described in this plan. Figure 3 below illustrates the projected growth in the S2J2 region across various broadband deployment occupations.

By building a skilled workforce, the S2J2 region could maximize high-road labor jobs for local communities (e.g., engineering, telecommunication technicians, etc.) and build partnerships with labor unions to ensure these new jobs are union jobs where possible. In cases where jobs are non-unionized, focus on good wages, inclusive benefits, and employee protections could still be prioritized. Furthermore, SB 1460, the California Broadband Worker High Road Labor Standard Act, aims to establish high road labor standards for broadband projects funded by federal dollars.¹⁶ These standards could be leveraged as new broadband projects receive funding and new job opportunities become available.

Discussions with local experts also highlight the need to reskill the existing workforce, for instance, training more cable technicians in the region.

Figure 3: Overview of estimated workforce increase in the S2J2 region for broadband deployment-related jobs by 2030



16 California Broadband Worker High Road Labor Standard Act; <https://cwalocal9333.com/california-broadband-worker-high-road-labor-standard-act-sb-1460/>

The strategy specifically aims to:

- Create job training programs in broadband deployment roles that are expected to grow across K-12 and higher education to address skills gaps and increase exposure to career pathways through more apprenticeship or pre-apprenticeship opportunities.
- Facilitate resident access to training grants to support tuition and fees for programs.

Key enablers to successfully implement the strategy:

- Secure employer commitments to hire apprentices from training programs to increase employment guarantee for newly trained workforce.
- Support historically underrepresented communities in broadband deployment training by offering wraparound supports, such as childcare.
- Make partial tuition funding a part of the contract for employers so that training is more affordable.

2.9 Strategy 7 – Enable Long-Term Capacity Building to Support Digital Equity in the Region through Coordinating Entities

Establish a coordinating entity with key stakeholders across the four counties to build the region’s long-term capacity for digital equity.

Detail: S2J2 currently lacks a dedicated coalition to unite the four counties in addressing the region’s long-term broadband and digital equity needs. Engaging residents and CBOs is crucial to ensuring that the perspectives of all community members, including marginalized and underserved populations, are considered. This inclusivity could help prevent further digital inequities and ensure that broadband solutions benefit everyone, regardless of socio-economic status, geographic location, or demographic characteristics.

A regional digital equity coalition could focus on enhancing skills, knowledge, and resources across the region, aiming for long-term, sustainable development, effective policy making, and the efficient management of broadband infrastructure.

The coordinating entity will collaborate with key local stakeholders to:

- Build S2J2’s long-term capacity to provide broadband solutions for all its residents.
- Facilitate collaboration among counties and other key local stakeholders.
- Fundraise for the region and allocate funds for local projects.
- Enable local entities to share technologies and best practices.
- Map data to reflect actual internet speeds and areas with limited or no access.

Key enablers to successfully implement the strategy:

- Gain buy-in from administrative bodies and ensure alignment with broader governmental goals and priorities.
- Expand existing coalitions such as Fresno Coalition for Digital Inclusion (FCDI) to cover all four counties with a new name, clear mandates, governance structures, and operational procedures.
- Hire two full time staff to help convene the coalition.

Additional detail for each strategy is available in the Appendix.

- Appendix C includes a summary table with each strategy and the corresponding key activities.
- Appendix D describes how each strategy aligns with the California Jobs First requirements.

3 Funding Models and Sources

To successfully implement the strategies and achieve the S2J2 Initiative’s vision, a minimum of \$320M is required. Of this, the cost of broadband infrastructure deployment for all unserved and underserved locations in the S2J2 region would be approximately \$228M (Table 2) and the cost to implement the broadband strategies outlined in this investment plan is approximately \$92M. (Table 1)

The \$228M required for broadband deployment is expected to be funded by both public and private sources in equal measure. The \$92M required to execute the key activities of the strategies mentioned in this plan is expected to be funded entirely by public or philanthropic sources. Of this \$92M, approximately \$15M is planning cost.

The estimated \$228M for broadband deployment is based on State of California’s current Challenge map with an assumption of \$7,200 per location passed (Table 2). However, local experience and review of the State of California challenge maps indicate that the number of unserved or underserved locations is significantly higher. Many rural areas for instance are claimed as served by carriers that have no active presence in the area.¹⁷ Local digital equity groups are challenging the accuracy of the state maps. Therefore, the estimate presented here is a minimum cost and the actual required investment for broadband deployment could substantially exceed the current estimates provided in this plan by up to an order of magnitude.

3.10 Funding Models and Potential Sources

Communities with strong broadband economics often see their infrastructure built-out without the aid of public-private partnerships or public sector grants and loans. In areas that are not well-served today, however, including unserved and underserved rural and urban communities in the S2J2 region, different models, all of which include strong community leadership, will be important to achieve universal connectivity. These include:

1. **Federal, state, or local government:** Appendix E lists federal, state, and local grants, and loans. Cities and counties can also provide in-kind grants or matches to existing applications in the form of access to existing infrastructure, land, rights-of-way, and permitting, to help reduce the costs and logistical challenges of deployment.
2. **Private sector sources:** Includes internet service providers building new infrastructure or expanding existing infrastructure, private equity, and new and existing community-based organizations or businesses funding digital equity services.
3. **Philanthropic funding sources:** Includes grants from local, state, and federal foundations (e.g., James Irvine Foundation, Wellness Foundation, Knight Foundation).

Combination of sources: (a) Public-private partnerships (PPPs) involve collaborations between public entities and private companies to expand broadband infrastructure and connectivity. (b) Public-public partnerships involve collaborations between different public entities and leverage economies of scale from shared infrastructure.

4. **Funding from Community Benefits Agreements:** Includes funding for infrastructure and services that are identified by the community as priority needs or funding for renewable energy or other projects that may also serve as anchors for broadband availability to neighboring regions.

17 Based on inputs from S2J2 Spring Sprint Broadband workgroup discussions; July 2024

Appendix E includes a detailed list of funding sources that can support the S2J2 Initiative broadband strategies. The sources have been mapped to the funding models referenced in section 3.1.

There are potentially 16 state, federal, and local grant sources that could support implementation of these strategies. In addition, certain infrastructure investments could be supported through other financing, such as municipal bonds and PPPs.

Overall, the region will need a combination of government and other funding and innovative approaches to develop infrastructure with local resources, assets, and partnerships.

Table 1 below includes funding sources for each strategy and estimated investment required for each investment strategy.

Table 1: Potential funding sources for each strategy and estimated costs

Strategy	Potential Funding Sources	Estimated investment required for the next 10 years ¹⁸	Rationale for Estimated Investment Required
Strategy 1 Support middle-mile and last-mile connectivity in the region by sharing existing infrastructure and building new last-mile infrastructure.	1. Community Development Block Grant 2. Municipal bonds 3. CASF Broadband Infrastructure grant account 4. CASF Rural & Urban Regional Broadband Consortia Grant Account 5. CPUC Last Mile FFA 6. CPUC Digital Divide Grant Program 7. E-rate 8. Public-private partnership 9. Foundations 10. Funding from Community Benefits Agreement	~\$.6M (one-time)	Cost for local governments to develop the technical designs to build access to open access last-mile is ~\$40,000. ¹⁹ The estimate assumes that ~16 local entities that are a part of the S2J2 coalition, as highlighted by Urban Institute, may develop such a proposal over the next two to three years. ²⁰

¹⁸ Some costs/ programs may not have a cost after the first few years.

¹⁹ Based on interview with RCRC on 06.27.2024; estimate is for each design proposal

²⁰ Urban Institute's list of local government stakeholders provided to S2J2.

Table 1: Potential funding sources for each strategy and estimated costs Cont'd

Strategy	Potential Funding Sources	Estimated investment required for the next 10 years ²¹	Rationale for Estimated Investment Required
Strategy 2 Launch a regional process to increase broadband availability and affordability across the region.	1. Municipal bonds 2. CASF Tribal Technical Assistance 3. CASF Rural & Urban Regional Broadband Consortia Grant Account 4. CPUC Last Mile FFA 5. USDA ReConnect 6. Public-private partnership 7. Foundations 8. Funding from Community Benefits Agreement	~\$23M (cumulative recurring) ²¹	The estimate is based on two key elements. Note that satellite is an illustrative example of a short-term solution to immediately provide broadband while long-term infrastructure is being built. a. The employment of two full-time staff members at approximately \$250,000 in wages and \$100,000 in benefits. b. Subsidizing the availability of satellite broadband for households with incomes below 200% of the Federal Poverty Level (FPL) that currently lack broadband connections. The model assumes a full subsidy for the cost of Starlink equipment, which is \$599, for at least 50% (based ACP enrollment rate) of these households over the next 10 years. Please note that this does not include the cost of a monthly subsidy, which would amount to \$87M, assuming a 50% uptake rate for a monthly subsidy of \$90 for households below 200 FPL without a cable, fiber, or DSL connection.
Strategy 3 Facilitate an enabling environment to deploy broadband for MDUs	1. CASF Public Housing Account 2. Broadband Loan Loss Reserve Fund 3. CASF Line Extension Account 4. CASF Rural & Urban Regional Broadband Consortia Grant Account 5. Public-private partnership 6. Foundations	\$3M (cumulative recurring)	In 2023, the State of Colorado used IIJA funds for grant writing support and project planning technical assistance²². It awarded ~\$315,000 to support seven local governments.²³ The model anticipates similar costs, funding ~65 proposals over a period of 10 years.

21 Refers to costs that would recur for the region after the end of the period of 10 years specified for the investment.

22 IIJA and IRA Grant Writing Assistance Program; <https://dlg.colorado.gov/grant-writing-assistance-program>

23 Colorado Technical Assistance program; <https://broadband.colorado.gov/funding/technical-assistance-program>

Table 1: Potential funding sources for each strategy and estimated costs Cont'd

Strategy	Potential Funding Sources	Estimated investment required for the next 10 years ¹⁸	Rationale for Estimated Investment Required
Strategy 4 Provide centralized technical assistance to local entities to access funding sources.	1. CASF Adoption Account 2. CASF Tribal Technical Assistance 3. CASF Rural & Urban Regional Broadband Consortia Grant Account 4. Public-private partnership 5. Foundations	~\$2M (cumulative recurring)	The average hourly salary of "circuit riders" is ~\$29. ²⁴ The model assumes at least 4 circuit riders, 1 for each county, for 10 years.
Strategy 5 Establish programs to assist individuals in strengthening digital skills.	1. CASF Adoption Account 2. CPUC Digital Divide Grant Program 3. CA Digital Equity Capacity Grant Program 4. CA Digital Equity Competitive Grant Program 5. E-Rate 6. Public-private partnership 7. Foundations	~\$52M (cumulative recurring)	• The estimated investment is across different digital skills programs which may be implemented over the next 10 years. • Activity 1 – • Estimated cost of training/ person based on current digital programs in California is \$155 (~46,000 trained with ~\$7.2M)²⁵ • ~104,000 households do not have cable/ fiber or DSL; model assumes 40% reach for the program. • Activity 2 – • Digital Navigator service cost per person: ~\$700 (based on Salt Lake City Public Library's Digital Navigator program).²⁶ • Model assumes that 40% of households without cable, fiber optic, or DSL could be reached by the program.²⁷ • Activity 3 – • Average cost per laptop refurbishment: ~\$500 (based on Tech Exchange estimates).²⁸ • Model assumes reaching 40% of ~80,000 households below 200% of the FPL30

24 <https://www.ziprecruiter.com/Salaries/Circuit-Rider-Salary>

25 CA BEAD 5-year action plan, <https://docs.cpuc.ca.gov/PublishedDocs/Efile/G000/M513/K977/513977116.PDF>

26 NDIA, Digital Navigator Toolkit, Salt Lake City Public Library; <https://www.digitalinclusion.org/wp-content/uploads/2021/09/Digital-Navigators-Toolkit-Final.pdf>; Funding for Salt Lake City Public Library Program, <https://www.abc4.com/news/local-news/new-slc-public-library-program-helping-close-digital-divide-left-by-covid-19/>

27 IPUMS Analysis of US Census Bureau ACS 5Y 2022, select CA counties.

28 Oakland Promise and Tech Exchange; <https://oaklandpromise.org/news/oakland-promise-provides-800-laptops-to-scholars-continuing-their-postsecondary-education/>

Table 1: Potential funding sources for each strategy and estimated costs Cont'd

Strategy	Potential Funding Sources	Estimated investment required for the next 10 years ¹⁸	Rationale for Estimated Investment Required
Strategy 6 Develop technical skills for local talent to support broadband deployment.	1. CPUC Digital Divide Grant Program 2. CA Digital Equity Capacity Grant Program 3. CA Digital Equity Competitive Grant Program 4. NTIA Broadband Equity, Access, and Deployment (BEAD) Program 5. Public private partnership 6. Foundations	~\$4M (cumulative recurring)	Average per student training cost: ~\$7,000 (based on broadband programs at Youngstown State University in Ohio).²⁹ Number of students to be trained by 2030 are ~550 (~400 based on workforce analysis in figure 3 and additional ~150 based on workgroup input on requirements for cabling technicians.)
Strategy 7 Establish a regional capacity building coalition to support long term broadband planning.	1. CASF Rural & Urban Regional Broadband Consortia 2. Digital Equity Capacity Grant Program	~\$7M (cumulative recurring)	The employment of two full-time staff members at approximately \$250,000 in wages and \$100,000 in benefits.

3.11 Potential Funding Required for Broadband Deployment in Currently Unserved or Underserved Locations

Table 2: Estimated investment required for broadband deployment

Estimated investment required	Rationale for investment
\$228M	The State of California Challenge map includes ~ 31,500 locations across the four counties that are either unserved or underserved.¹ Local data indicates that this number undercounts service availability in the region and the number of unserved and underserved locations is significantly higher, which means that the cost of fiber deployment in the region will also be significantly higher. Using the CPUC's 2020 cost model and adjusting for inflation, the cost of brownfield and greenfield fiber deployment per location³⁰, ~\$7,200.³¹ Costs could be lower for broadband depending on the mix of brownfield and greenfield deployment as well as the type of technology deployed.

29 YSU grant to expand broadband training; <https://ysu.edu/news/ysu-granted-115-million-expand-broadband5g-training>

30 CPUC Cost model, 2020; https://www.cpuc.ca.gov/-/media/cpuc-website/divisions/communications-division/documents/california-broadband-cost-model/california-state-broadband-cost-model_december-2020_12142020.pdf

31 US Inflation calculator; cost adjusted from 2020 to 2024; <https://www.usinflationcalculator.com/>

4 Stakeholder Map

The successful implementation of broadband initiatives in the S2J2 region requires strategic collaboration among a range of key stakeholders, including:

1. **Regional coalitions:** Organizations such as Fresno Coalition for Digital Inclusion (FCDI) that bring together different CBOs, nonprofits, and experts to advance affordable and reliable broadband in the region.
2. **Public sector:** Local government (e.g., counties, municipalities, special districts, school districts) and state government (CPUC, Department of Technology)
3. **Private sector:**
 - Internet service providers that bring broadband service to residents and businesses.
 - New infrastructure projects that could be used as anchor institutions to provide broadband to people living in neighboring areas.
 - MDU property owners looking to provide residents in their units with internet connections.
4. **Labor organizations:** Unions including CWA, IBEW, and others.
5. **Nonprofit organizations and CBOs:** Organizations that foster community engagement and prioritize social equity.
6. **Digital equity organizations:** Organizations at both the state and regional level that enable affordable access and adoption of broadband across communities.
7. **Educational institutions:** Schools, higher education institutions, and libraries that provide students with internet to enable better educational outcomes.
8. **Workforce development organizations:** County Workforce Development Boards and other labor-centric organizations that cultivate a skilled workforce.
9. **Fresno DRIVE workgroups:** Relevant workgroups from Fresno DRIVE that have shared goals with regard to broadband investments.
10. **Utilities:** Includes electricity companies that own towers and poles.

A crosswalk of stakeholders to strategies can be found in Appendix F.

From an organizing perspective, the region lacks a cross-sector coalition of non-government actors (CBOs and nonprofits) that work together to increase digital equity. Currently, FCDI fulfills this role for Fresno and could expand to include organizations and representatives from Kings, Madera, and Tulare, creating a comprehensive S2J2 region-wide digital equity coalition.

Additionally, city and county governments do not have a mechanism for easily sharing updates and identifying shared broadband opportunities across the region, as described further in Strategy 7. Recent conversations - as a result of the S2J2 Initiative work - have surfaced important insights. For instance, Kings County has built a potentially replicable model in KingsNet, which over the last decade has provided low-cost internet to students. Local speed tests, such as MyQoI, have been critical in evaluating the lived connectivity experiences of students

and families and could be used across the region to build insights on broadband access and adoption. Additionally, efforts to use existing infrastructure, such as using towers for LTE equipment to improve local connections, have faced challenges like difficulty in coordinating all entities.

5 Path Forward

To implement the seven strategies detailed in this plan, two immediate steps can be taken over the next six months. While this is not an exhaustive list of all activities, the aim is to establish a foundation for future implementation of strategies.

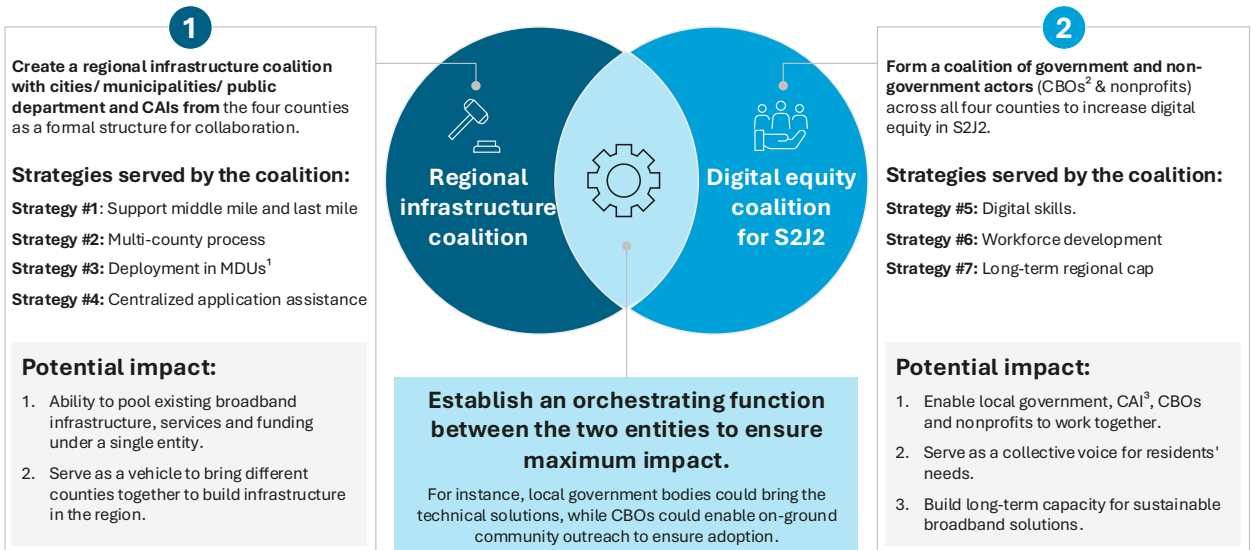
The S2J2 Initiative could establish two key entities over the next six months that would be responsible for implementing the strategies:

- 1. Create a regional infrastructure coalition with representation from all four counties to enable local governments to collaborate on broadband deployment strategies. This could be specific to the four counties or could be in partnership with other organizations (e.g., Rural County Representatives of California).
- 2. Building on the success of activities since 2014, form an expanded coalition of stakeholders across all four counties to increase digital equity in the S2J2 region.

Additionally, an orchestrating function between these two groups could help ensure that community voice is fully included in infrastructure development plans. (Figure 4)

Figure 4: Potential path forward

- Establish two regional entities to execute the strategies.



Source: 1. Multi-dwelling units; 2. Community Based Organizations; 3. Community Anchor Institutions

The potential list of barriers which would be addressed collectively by the strategies and next steps are included in Appendix H.

6 Appendix

A. Deep-Dive on the Current State of Broadband in the S2J2 Region

The S2J2 region has a unique demographic profile in California and the U.S. overall. Approximately 26% of families live below 150% of the Federal Poverty Level (FPL), exceeding state and national figures (both at 15%).³⁶ Furthermore, 38% of the region's population speaks a language other than English and may be experiencing language barriers, 17 percentage points higher than the national average.³² Conversely, the region has a lower share of adults older than 60 years (16%) compared to California (21%) and nationally (23%).³⁵

Tulare County records the highest percentage of families below 150% of FPL (27% vs. 24-25% in the other counties)³⁶ and the highest percentage of individuals who speak a language other than English (43% vs. 36-38%).³⁵ Madera County features the highest percentage of adults 60 years old and above (19% vs. 14-17%).³⁵ All counties have a larger Hispanic population than California and national averages (54-66% vs. 40% in California and 19% nationally).³³

Interviews with representatives from various counties highlighted ongoing initiatives to expand broadband access in the region and the related challenges. Fresno County is participating in the CPUC BEAD Challenge³⁴ to reclassify locations inaccurately marked as served to unserved or underserved to potentially unlock future BEAD funding. Fresno Unified undertook an initiative to bring 110 miles of new fiber to schools and neighboring homes. The Kings County Office of Education operates KingsNet, providing affordable internet to students and their families for as little as \$10/month and supplies students with Wi-Fi hotspots to ensure better connectivity. Infrastructure development is ongoing, including a large-scale project in Kettleman City. There remains an opportunity to learn from these successful models and replicate them across other counties.

However, despite these efforts, providing affordable, reliable broadband in both rural and urban areas remains challenging. The largest population of unserved are likely in urban, low-income neighborhoods across the four-counties.²⁰ The region's lack of broadband access exacerbates the already limited employment opportunities, particularly affecting those working from home. Tulare County, especially, highlighted connectivity challenges, particularly in mountain areas and eastern parts of the county. Several parts of the county, including educational institutions, are connected through dark fiber. Kings, Madera, and Tulare counties have also collaborated with Rural County Representatives of California's (RCRC) Golden State Connect Authority (GSCA) to explore additional broadband deployment projects and are also exploring the State of California BEAD Challenge.³⁵ Many representatives were unaware of the upcoming BEAD grants and uncertain about how to access them but indicated a strong interest in learning more about available funding sources.

32 NTIA (National Telecommunications and Information Administration) State level data, 2015-2019

33 U.S. Census Bureau, American Community Survey, 2022 5-Year Estimates.

34 California Public Utilities Commission (CPUC) Broadband Equity, Access, and Deployment program Challenge process, <https://www.cpuc.ca.gov/industries-and-topics/internet-and-phone/broadband-implementation-for-california/bead-program/bead-challenge-process>

35 Interviews conducted on June 12, 2024, with superintendents of schools and representatives from County Offices of Education for Fresno, Madera, Kings and Tulare, Interview conducted on June 11, June 13, and June 18, 2024, with representative from Fresno, Kings, and Tulare County Administrative offices, respectively.

Broadband infrastructure

Local speed test data conducted by MyQoI³⁶ within Fresno Unified School District highlights a significantly larger number of unserved locations, ~27%, as compared to only ~3% unserved locations in CPUC’s FFA Map.³⁷ The discrepancies could be the result of several issues. For instance, locations may be marked as “served” in the CPUC FFA map, but actually are “unserved” or “underserved” due to inadequate availability or quality.

Similar data for Kings, Madera, and Tulare is not available, but the data from Fresno, combined with inputs received from representatives from county offices of education (COE) of the four counties suggests inaccuracies in the current state/federal service availability designations.

Affordable broadband subscriptions

The Affordable Connectivity Program (ACP) was a government initiative that provided eligible low-income households with discounted internet service and connected devices³⁸. Across the region ~313,000 or 58% of households were eligible for ACP (vs. 45% in California and 39% nationally).³⁹ The enrollment of eligible households, i.e., ~171,000 or 55% of households exceeds California and national enrollment rates of 50% and 44%, respectively (ranging from 47–59% in the S2J2 region) as well.⁴² These factors demonstrate both a need for affordable broadband and a willingness to subscribe when the affordability barrier is minimized. The current unwinding of the ACP program means that ~171,000 households may lose their discounted access. Providers offering existing low-cost programs (refer to Appendix G) could be an option for some households. Other households may continue to subscribe, though without an increase in income, the result likely means less ability to afford other household needs. For instance, interviews with county representatives from Tulare indicated that in rural and remote areas, families are paying up to \$120/month for Starlink satellite internet connection.³⁷ Other households may transition to smartphone-only service or to no broadband service at all.

Regional assets

The State of California recently compiled a list of digital equity resources in the state [refer to Appendix B. 1]. Additional resources in the four-county region that could support broadband access and adoption include school districts [refer to Appendix B. 2], potential digital equity non-profits [refer to Appendix B. 3], and rural development organizations [Appendix B. 4]. While not all these organizations are currently active in broadband activities, they could be important partners in addressing the region’s digital divide.

36 MyQoI California Measurements, <https://communitynets.org/sites/default/files/2024-02/myQOI%20measurements%20in%20California.pdf>

37 CPUC (California Public Utilities Commission) Unserved locations from FFA (Federal Funding Account) map, 2022; reference as in MyQoI California Measurements

38 Households with income below 200% of the Federal Poverty Line, or with household members receiving a government benefit like SNAP, Medicaid, SSI, WIC, Pell Grant, or Free and Reduced-Price Lunch, were eligible for ACP.

39 USAC ACP Enrollment and Claims Tracker (data as of February 8, 2024; retrieved May 21, 2024), Broadband for All CDT Dashboard on ACP Eligibility (informed by analysis from the USC Annenberg School of Communication and Journalism; retrieved May 21, 2024), EducationSuperHighway National Eligibility data (February 8, 2024)

B. List of Regional Assets in the S2J2 Region

1. List of Local Assets in San Joaquin Valley in CA State Digital Equity Plan⁴⁰

Type of Asset	Name
Local Digital Equity Coalitions	Fresno Coalition for Digital Inclusion (FCDI)
	San Joaquin Valley Regional Broadband Consortia
Digital Navigation Service Providers ⁴¹	The Central Valley Urban Institute
	Office of Community and Economic Development at Fresno State University
Responses to DEEM (Digital Equity Ecosystem Mapping) tool	Tulare County Office of Education
	California State University, Fresno
	Central Unified School District, Fresno
	Central Valley Regional Center
	Community Emergency Response Team, Madera County
	Tulare County

2. List of County Superintendents in the Four-County Region

County	County Superintendent Office
Fresno	Office of the Fresno County Superintendent of Schools and Fresno County Board of Education (31 school districts) ⁴²
Kings	Kings County Office of Education (13 school districts) ⁴³
Madera	Madera County Superintendent of Schools (9 school districts) ⁴⁴
Tulare	Tulare County Office of Education (43 school districts) ⁴⁵

40 As noted in the CA State Digital Equity Plan. Please note that assets have not been independently verified.

41 As noted in the CA State Digital Equity Plan, Digital Navigation Service Providers include organizations which offer technical support for internet-connected devices, particularly for those who identify as a member of a Covered Population.

42 Fresno County Superintendent of Schools, <https://www.fcoe.org/districts>

43 Kings County Superintendent of Schools, <https://www.kingscoe.org/Domain/134>

44 Madera County Superintendent of Schools, <https://www.mcsos.org/domain/18>

45 Tulare County Superintendent of Schools, <https://tcoe.org/about/superintendent>

3. List of Non-Profit Organizations that may Conduct Broadband-Related Activities based on Mission, Vision, or Activities Provided in IRS data⁴⁶

County	City	Subject Area ⁴⁷	Organization Name
Fresno	Fresno	Adult education	Fresno Adult Literacy Council Inc
	Parlier	Adult literacy	Central Valley Resource Center Services Corp dba Connect the Valley Inc
	Fresno	Arts and culture	Encourage Tomorrow
	Fresno	Communication media	Community Media Access Collaborative
	Fresno	Economic development	Neighborhood Equity Solutions
	Fresno	Education	Foundation for Fresno Unified Schools
	Clovis		Rebel Foundation for Educational Equity
	Fresno	Education services	Truly Reviving Our Youth (TROY)
	Fresno	Elementary education	The Academy of Financial Education
	Fresno	Environment	Latino Equity Advocacy & Policy Institute - the Leap Institute
	Fresno	Family services	Cultural Brokers Inc
	Fresno	International relations	Global Brigades Inc
	Fresno	Leadership development	Regenerate California Innovation
	Fresno	Personal services	Journeys Life Skills Training Inc
	Fresno	Public affairs	Teens That Care Inc
	Fresno (entire county)	Special population support	Fresno Coalition for Digital Inclusion
	Fresno	Vocational secondary education	BLACK Wellness & Prosperity Center
	Fresno	Education	EveryoneOn ⁴⁸
	Fresno	Youth services	Focus Forward
Kings	Hanford	Education	Literacy Volunteers of America
	Corcoran	Reading promotion	Literacy Learning Center
Madera	Coarsegold	Elementary and secondary education	The MJ Project
	Coarsegold	Humanities	Mountain Area Literacy Council
	Oakhurst	Youth development	Mountain Area Youth Organization
Tulare	Tulare	Arts and culture	Eq Solutions
	Visalia	Equal opportunity in education	Kolaiah Productions
	Visalia	LGBTQ rights	The Source LGBT+ Center

46 GuideStar Charity Data accessed May 2024. Represents organizations with headquarters in the 4-county region and tagged with “Digital Equity,” “Digital Skills,” “Digital Literacy,” or “Digital Navigators” in the organization name, mission statement, vision statement, and/or activity area.

47 “Subject Area” reflects the primary activities and services of the non-profit organization. Only one subject area is listed above, but an organization may have up to five focus areas in the GuideStar database. See Candid Taxonomy for additional details.

48 Input from Broadband workgroup, July 2024

4. List of Organizations that Identify as “Rural Development” in the Four-County Region – Not All Lead Broadband-Related Activities⁴⁹

County	City	Subject Area ⁵⁰	Organization Name
Fresno	Fresno	Adolescent parenting	Perfect Blend Community Development Corporation
	Parlier	Adult literacy	Central Valley Resource Center Services Corp dba Connect the Valley Inc
	Prather	Agriculture	People Food & Land Foundation
	Clovis	Agriculture, fishing and forestry	Ohuhu Development Union Inc
	Squaw Valley	Arts exchange	Ikigai Sanctuary
	Fowler	Baseball and softball	Serbian Baseball Development Association
	Fresno	Business promotion	Fresno Development Company Inc
	Reedley		Reedley Business & Community Development Corp
	Parlier	Christianity	Centro Christiano Familiar
	Clovis		Growing Healthy Churches
	Fresno		Northpointe Community Development
	Fresno		Yahdome Community Development Corp
	Fresno	Civic participation	Fresno Business Council Inc
	Fresno	Community and economic Development	Alternative for Future Research and Development
	Fresno		Hmong Economic Development Corporation
	Fresno		Multi-Ethnic Small Farm and Community Development Corporation
	Fresno	Community improvement	Community Development Service of Fresno West
	Fresno		Downtown Fresno Community Development Corp
	Clovis		Foundation for Regional Cooperation and Development
	Fresno		Greater Macedonia Community Development Center Inc
	Fresno	Community improvement	Jackson Community Development Corporation
	Fresno		Lao Community Development Corporation of Fresno Inc
	Fresno		Lowell Community Development Corporation
	Fresno		Saints Community Development Corporation
	Fresno		Saints Rest Community Economic Development Corp
	Fresno		The Economic Development Corporation Serving Fresno County
	Fresno		Tree Fresno
	Fresno		West Fresno Community Development Corporation

49 GuideStar Charity Data assessed May 2024. Represents organizations with headquarters in the four-county region and tagged with “Rural Development” in the organization name, mission statement, vision statement, and/or activity area.

50 “Subject Area” reflects the primary activities and services of the non-profit organization. Only one subject area is listed above, but an organization may have up to five focus areas in the GuideStar database. See Candid Taxonomy for additional details.

County	City	Subject Area ⁵⁰	Organization Name
Fresno	Fresno	Community organizing	Coalition for Rural Pueblos Economic Development
	Fresno		Enterprise Plus Economic Development Center Inc
	Fresno		Fresno Building Healthy Communities
	Fresno		National Rural Letter Carriers Association
	Fresno	Community service	Generation Changers Title 1 Community Development Center Inc
	Fresno	Continuing education	Hidalgo Community Development Corporation
	Fresno	Domestic violence shelters	Central California Adolescent Development Corporation
	Fresno	Early childhood education	Ordinary Things Learning Center
	Fresno		Saint Agnes Child Development Center
	Fresno		Shelly Bear Child Development Centers
	Fresno	Economic development	El Dorado Park Community Development Corporation
	Fresno		Fresno Community Development Financial Institution
	Kerman		I-5 Business Development Corridor Inc
	Fresno		Southeast Fresno Community Economic Development Assn
	Fresno		Valley Housing and Economic Development Corporation
	Fresno		West Fresno Coalition for Economic Development
	Caruthers	Education	4-H Clubs & Affiliated 4-H Organizations
	Fresno		A Hopeful Encounter Inc
	Firebaugh		Angels of Divine Mercy
	Clovis	Education	Auxiliary of the National Rural Letter Carriers Assn
	Fresno		California Center for Cultural Educational Development
	Fresno		Citizens Action Neighborhood Development Organization Inc
	Clovis		Clovis Municipal Development Corporation
	Earlimart		Colonel Allensworth Development Corporation
	Fresno		HIDDEN ROAD INITIATIVE
	Fresno		Highway City Community Development Inc
	Kingsburg		Kingsburg Economic Development Corporation
	Sanger		Rural Center for Human Development
	Fresno	Elementary and secondary education	Every Neighborhood Partnership
	Clovis	Emergency medical services	Airway Development Inc
	Fresno	Employment	Fresno Career Development Institute Inc
	Fresno		On Ramps Economic Development Corporation
	Fresno	Entrepreneurship	Valley Small Business Development Corporation
	Fresno	Environment	Friends of Calwa, Inc.
	Fresno	Family services	Exceptional Parents Unlimited Inc.

County	City	Subject Area ⁵⁰	Organization Name
Fresno	Fresno	Health	Save Africa Save Our World Inc
	Fresno	Higher education	Development and Relief Foundation
	Clovis	Homeless services	Central Community Development Center
	Fresno	Housing development	King of Kings Housing Development
	Fresno		Fresno Housing
	Fresno		King of Kings Housing Development Corporation II
	Fresno		Southwest Fresno Development Corp
	Fresno	Housing services	Linda Orona Community Development Corporation
	Biola	Human services	Biola Community Development Corporation
	Clovis		Blue Ocean America Community Development
	Fresno		East West Worldwide Development Foundation Inc
	Fresno		Fresno Community Development Coalition Inc
	Fresno		Heritage Development Corporation
	Fresno		National Hmong American Farmers Inc
	Fresno	Human services	Rural Development Centers
	Kerman		Rural Prosperity Center
	Clovis		Trinity Development Center
	Clovis		Valley Dream Center Community Development Corporation
	Fresno	Humanities	Development Inc
	Clovis	Immigrant services	National Lao-American Community and Economic Development
	Prather	International economics and trade	Real Tourism Development
	Fresno	International relations	Global Brigades Inc
	Fresno	Job counseling	Kingdom Business Development Inc
	Del Rey	Leadership development	Institute of Latino Leadership Education and Development
	Fresno		Jakara Movement
	Fresno	Medical support services	Fresno Barrios Unidos
	Fresno	Neighborhood associations	Central Valley Neighborhood Development Solutions
	Fresno	Protestantism	Wesley United Methodist Church of Fresno
	Fresno	Public affairs	Fresno Area Community Enterprises Inc
	Fresno	Recycling	Neighborhood Industries
	Fresno	Rehabilitation	Rehabilitation Opportunity & Development Inc
	Clovis	Retirement housing	Innovative Development and Living Solutions of California
	Huron	Rural development	Foundation for the Application of Science
	Firebaugh		Los Promotores Comunitarios

County	City	Subject Area ⁵⁰	Organization Name
Fresno	Clovis	Sports	Amateur Athletic Union of the United States
	Fresno		Competitive Development Inc
	Fresno	Urban development	Better Blackstone Community Development Corporation
	Fresno		Fresno Metro Black Chamber Foundation
	Fresno	Vocational education	West African Vocational Schools
	Fresno	Voluntarism	Fresno Urban Neighborhood Development, Inc.
	Fresno	Youth development	Rural Youth Center Council of Fresno County
Kings	Hanford	Agriculture, fishing and forestry	Kings County Farm Bureau Inc
	Hanford	Community improvement	Kings Community Development Corporation
	Hanford	Employment	San Joaquin Valley Workforce Development Corporation
	Lemoore	Health care clinics	Rural Community Health Centers
	Hanford	Housing development	Kings County Management & Development Corporation
	Hanford	Housing services	Anchors Supportive Housing Development Inc
	Hanford	Human services	Destiny Community Development Center Inc
	Hanford	Immigrant services	African Native Development Unity foundation Incorporated
Madera	Hanford	Rural development	Kings County Economic Development Corp
	North Fork	Community organizing	North Fork Community Development
	Madera	Economic development	California Central Valley Economic Development Council
	Madera		Economic Development Corporation of Madera County
	Madera	Education	Madera Economic Development Corporation
	Oakhurst	Education services	Calvin Crest Conferences
	North Fork	Environment	Yosemite-Sequoia Resource Conservation & Development Council
	Oakhurst	Pediatrics	Yosemite Child Development Corp
	Bass Lake	Public affairs	Summit Adventure
	Madera	Youth services	Camp Fire Heart of California
Tulare	Dinuba	Arts and culture	Greater Dinuba Community Foundation
	Visalia	Business promotion	Tulare County Economic Development Corporation
	Visalia	Childcare	Rainbow Carousel Child Development
	Three Rivers	Christianity	Three Rivers Community Presbyterian Church

County	City	Subject Area ⁵⁰	Organization Name
Tulare	Visalia	Community and economic development	North Visalia Development Corporation
	Tulare	Community improvement	Helping Hands Housing Development Corporation of Central California
	Porterville		King Industries Community Development Center Inc
	Lindsay		Lindsay Development Corporation
	Visalia		Sequoia Valley Economic Development Foundation
	Visalia	Community recreation	Golden State YMCA
	Visalia	Disasters and emergency management	Self Help Enterprises
	Visalia	Economic development	Visalia Economic Development Corporation
	Earlimart	Family services	Rural Foundation for Community Advancement
	Porterville	Foundations	Porterville Civic Development Foundation
	Porterville	Health	California Association of Rural Health Clinics
	Tulare	Performing arts	Tulare Local Development Company
	Visalia	Physical fitness	South Valley Water Polo Club
	Visalia	Public housing	LA Serena Housing Development Corporation
	Visalia		Plano Development Corp
	Orosi	Rural development	Rural Communities Resource Center
	Visalia	Substance abuse prevention	Ben-E-Lect Foundation
	Porterville	Urban development	Tule River Economic Development Corporation
	Porterville	Youth organizing	Youth Development Zone

5. List of Workforce Development Organizations in the S2J2 Region⁵¹

Organization focus	Name of the organization
Education & training	Labor and Workforce Development Agency
Education & training	Fiber Broadband Association
Education & training	California Workforce Development Board
Education & training	Familias Empoderadas
Education & training	Fresno Regional Workforce Development Board
Education & training	Kings County Job Training Office
Education & training	Madera Community College
Education & training	Sequoias Adult Education Consortium
Education & training	Workforce Development Board of Madera
Education & training	Workforce Investment Board of Tulare County (WIB)
Education & training	Central Valley Opportunity Center
Education & training	Central Valley Training Center
Education & training	Truly Reviving Our Youth (TROY)
Education & training	Mountain Area Youth Organization

6. List of Labor and Worker-Centered Organizations

Organization focus	Name of the organization
Labor & worker centered organizations	Binational of Central California - Farmworker Organization
Labor & worker centered organizations	California Association of Agricultural Labor
Labor & worker centered organizations	California Farm Worker Foundation
Labor & worker centered organizations	California Farmworker Foundation
Labor & worker centered organizations	Central Valley Opportunity Center
Labor & worker centered organizations	Communications Workers of America
Labor & worker centered organizations	IBEW Local 100
Labor & worker centered organizations	Proteus
Labor & worker centered organizations	Teamsters
Labor & worker centered organizations	Unidad Popular Benito Juarez
Labor & worker centered organizations	United Food and Commercial Workers

⁵¹ List of organizations from Urban Institute research

C. Overview of Investment Strategies with Corresponding List of Initiatives

Focus Area	Strategy #	Description	Outline of proposed initiatives
Affordable, reliable infrastructure	1	Support middle-mile and last-mile connectivity in the region by sharing existing infrastructure and building new last-mile infrastructure.	- Utilize existing and new public and private assets (e.g., poles, conduit, manholes, etc.) to reduce costs of building connectivity between middle mile and last mile networks. - Facilitate building of new open access, last mile infrastructure.
	2	Launch a regional process to increase broadband availability and affordability across the region.	Examples of different goals a multi-county collaborative process (e.g., RFP) could address: - Serve as a centralized procurement vehicle for municipalities and organizations. - Streamline permitting. - Leverage technologies other than fiber to subsidize connectivity for expensive to serve locations.
	3	Facilitate an enabling environment to deploy broadband for MDUs. ⁵²	- Provide property owners with technical assistance grants. - Connect property owners with service providers.
	4	Provide centralized technical application assistance to local entities to access funding sources.	Provide centralized funding application support (e.g., grant applications) which: - Helps increase regional grant competitiveness. - Minimizes knowledge gaps on policy changes. - Builds on the “circuit rider” model to pool resources.
Digital equity	5	Establish programs to assist individuals in strengthening digital skills.	- Multilingual digital skills training programs. - Multilingual helpline paired with in-person support (e.g., Digital Navigators) offering one-to-one support. - Coordinated device refurbishment program.
Workforce development	6	Develop workforce skills for local talent to support broadband deployment and enable career pathways in technology.	- Create job training programs with local partners across K12, community college, and skill training centers. - Facilitate resident access to training grants and support tuition and fees for programs.
Capacity building	7	Enable long-term capacity building to support digital equity planning.	Establish a coordinating entity that works with the key local stakeholders across S2J2.

D. Alignment of all Strategies with California Jobs First Requirements

1. Workforce Development and Alignment with Job Quality and Access, Equity, and Climate

- ~3,400 new broadband deployment jobs are expected in the S2J2 region by 2030, as mentioned in Figure 3, based on organic and inorganic broadband deployment growth. These technical skills programs could strengthen career pathways to “good jobs,” as defined by the Valley CERF Regional Table Principles.
- As new broadband infrastructure is developed in the region, project labor agreements that deliver union jobs, apprenticeships, and workforce training could be enacted. Unions and labor agreements can aim to ensure jobs have strong good wages, inclusive benefits, and employee protections. Such arrangements can also engage non-union contractors or business owners for job development opportunities for residents who are trained but waitlisted by unions or for non-unionized occupations. This will require coordination between labor unions and employers to ensure that the needs of both parties are being met.

- S2J2 could develop a framework that involves community members in the planning of broadband infrastructure deployment. See the community benefits chapter for further details.
- Funding could be prioritized for grantees that commit to high road labor practices, including using a directly employed workforce, robust in-house training, quality wages and benefits, and a locally based workforce.

Ensuring broadband availability in MDUs and throughout residents' daily lives, while focusing on digital skills and device access, would enable access to online education, work, telehealth, and government services. This, in turn, would create more workforce opportunities in the S2J2 region.

2. Opportunity to Increase Economic Diversification and Resilience

Strategy	Opportunity for Economic Diversification and Resilience
Strategy 1 – Support middle-mile and last-mile connectivity in the region by sharing existing infrastructure and building new last-mile infrastructure.	• Shared assets created from existing infrastructure could spread costs across multiple providers, achieving economies of scale and lowering per-user cost in the S2J2 region. • Increased competition among ISPs, on account of more shared assets and RFPs, could lead to better pricing and service quality for customers. • New business models would allow long-term financial support for deployment and provide competitive advantage from smaller municipalities and organizations.
Strategy 2 – Launch a regional process to increase broadband availability and affordability across the region.	
Strategy 3 – Facilitate an enabling environment to deploy broadband for MDUs.	• Better broadband in MDUs can improve connectivity for ~16-25% of households, boosting quality of life and economic development. In addition, new deployments may extend broadband to neighboring single-family homes and small businesses.
Strategy 4 – Provide centralized technical application assistance to local entities for access to broadband funding sources.	• Centralized application assistance may unlock a wide range of capital (e.g., E-Rate, CASF Rural and Urban Reg. Broadband Consortia & Adoption Account, Digital Divide grant) in the short-term and build organizational capacity in the long-term to ensure self-reliance for local organizations.
Strategy 5 – Establish programs to assist individuals in strengthening digital skills.	• Strengthening digital skills through different programs may lead to higher device ownership and broadband access for specific populations. In addition, refurbishment programs may increase reuse of electronic waste (e-waste) instead of disposing of it.
Strategy 6 – Develop workforce skills for local talent to support broadband deployment and enable career pathways in technology.	• Offering technical skills programs in different languages and in partnership with organizations who have strong community trust and presence in their respective counties (e.g., Fresno State and State Center Community College in Fresno) could enable employment opportunities for a wider range of population.
Strategy 7 – Enable long-term capacity building to support digital equity planning in the region through a coordinating entity.	• The coordinating entity could serve as a collective voice for residents' needs, ensuring that their needs are met by local initiatives.

3. Alignment with State Strategies

Strategy	State Strategies
Strategy 1 – Support middle-mile and last-mile connectivity in the region by sharing existing infrastructure and building new last-mile infrastructure.	Last-mile projects may be tailored to industry standards as detailed in the CPUC Last-Mile Federal Funding Account.
Strategy 2 – Launch a regional process to increase broadband availability and affordability across the region.	CPUC CASF12 and FFA ⁵³ funding from the state may be used for multi-county consortiums. In addition, BEAD allows for satellite technology as a broadband provision option for areas where fiber or other reliable broadband service is too expensive, i.e., locations with an “Extremely High Cost Per Location Threshold”. ⁵⁴
Strategy 3 – Facilitate an enabling environment to deploy broadband for MDUs.	Several state grants, including the CASF12 Public Housing Account may be used for this strategy.
Strategy 4 – Provide centralized technical application assistance to local entities for access to broadband funding sources.	Application assistance may be tailored for state funded programs such as, CASF12 (e.g., Rural and Urban Reg. Broadband Consortia, Adoption Account) and federal funding (e.g., E-Rate).
Strategy 5 – Establish programs to assist individuals in strengthening digital skills.	Programs to strengthen digital skills may be aligned with several state grants such as, State Digital Equity Capacity Grant, CPUC Broadband Adoption Account, and Community Development Block Grant.
Strategy 6 – Develop workforce skills for local talent to support broadband deployment and enable career pathways in technology.	Proposed technical skills programs will be tailored to broadband-related deployment roles and workforce needs as defined by CPUC.
Strategy 7 – Enable long-term capacity building to support digital equity planning in the region through a coordinating entity.	The coordinating entity could be aligned to the funding requirements from California Jobs First and state grants.

E. Funding Source at the Federal, State, or Local Level

1. Funding Programs at the State Level

Program	Total State-Wide Funding Available	Expenditure Timeline	Eligibility
NTIA BEAD Program ⁵⁵	~\$42B nationally, \$1.86B for California	Projects completed within four years of subgrantee award receipt	Deployment uses (e.g., construction, workforce development) Non-deployment uses (e.g., digital literacy, broadband sign-up assistance)
CASF Last Mile FFA ⁵⁶	~\$1.3B	Last-mile broadband infrastructure or middle-mile in support of last-mile infrastructure Reimbursable expenses may include costs directly related to infrastructure deployment, lease access to property, and facility upgrades	Within 18-24 months after authorization

53 Federal Funding Account

54 BEAD specifications for “Extremely high cost per location threshold”; <https://broadbandusa.ntia.gov/sites/default/files/2022-06/BEAD-FAQs.pdf>

55 NTIA BEAD NOFO; <https://broadbandusa.ntia.doc.gov/sites/default/files/2022-05/BEAD%20NOFO.pdf>

56 CPUC FFA Program Rules and Guidelines, Appendix A; <https://docs.cpuc.ca.gov/PublishedDocs/Published/G000/M470/K481/470481278.PDF>

1. Funding Programs at the State Level Cont'd

Program	Total State-Wide Funding Available	Expenditure Timeline	Eligibility
CA Broadband Loan Loss Reserve Fund ⁵⁷	~\$175M	Borrowing costs for local government agencies and nonprofits to invest in public broadband (e.g., costs of debt issuance, credit enhancement)	Within 36 months from receipt of permits
CASF Broadband Infrastructure Account ⁵⁸	~\$33M	Broadband deployment projects at 100/20 Mbps Reimbursements include costs related directly to infrastructure deployment, cost to lease access to property, and costs incurred by an existing provider to upgrade facilities	Within 18– 24 months of approval
CASF Adoption Account ⁵⁹	~\$20M	Digital Literacy projects for communities with limited broadband adoption (e.g., digital literacy training programs and public education) Broadband Access projects for in public spaces (e.g., free broadband access, community outreach to increase access and adoption)	Within 24 months of funds awarded
CASF Public Housing Account ⁶⁰	~\$15M	Broadband projects which provide free service to low-income residents of publicly supporting housing, other housing, and mobile home parks Reimbursement of interconnection and backhaul	Within 12 months of approval
CASF Tribal Technical Assistance ⁶¹	~\$2M	Market studies, feasibility studies, and/or business plans which support Tribes in pursuit of improved communications and broadband (e.g., locating nearby fiber optic routes, consultation services to assess communication assets)	Within 24 months
CA Digital Equity Capacity Grant Program ⁶²	~\$2M	Implementation of activities outlined in the State Digital Equity Plan	Within 12 months
CASF Rural & Urban Regional Broadband Consortia ⁶³	~\$2M	Infrastructure development or grant applications Activities directly related to broadband deployment for FFA, CASF, MMBI, Loan Loss, and LATA (incl. technical assistance for applicants)	Within 12 mos. of approval

57 CPUC Broadband Loan Loss Reserve Fund Factsheet; <https://www.cpuc.ca.gov/-/media/cpuc-website/divisions/communications-division/documents/broadband-implementation-for-california/bb-loan-loss-factsheet-0816-v2.pdf>

58 CPUC BEAD Initial Proposal Volume I; <https://www.cpuc.ca.gov/-/media/cpuc-website/divisions/communications-division/documents/broadband-implementation-for-california/bead/cpuc-bead-ipv1-approved-04042024--updated.pdf>

59 CPUC Overview of CASF Adoption Account; <https://www.cpuc.ca.gov/industries-and-topics/internet-and-phone/california-advanced-services-fund/casf-adoption-account>

60 CPUC Overview of CASF Public Housing Account; <https://www.cpuc.ca.gov/industries-and-topics/internet-and-phone/california-advanced-services-fund/casf-public-housing-account>

61 CPUC FAQs for the Tribal Technical Assistance Grant Program; <https://www.cpuc.ca.gov/-/media/cpuc-website/divisions/communications-division/documents/tribal-technical-assistance-grant/web-page-docs/faqs-tribal-technical-assistance.pdf>

62 NTIA Digital Equity Act Program FAQs; <https://broadbandusa.ntia.doc.gov/sites/default/files/2022-06/DE-FAQs.pdf>

63 CPUC Order Instituting Rulemaking Regarding Revisions to the California Advanced Services Fund; <https://docs.cpuc.ca.gov/PublishedDocs/Published/G000/M479/K637/479637749.PDF>

1. Funding Programs at the State Level Cont'd

Program	Total State-Wide Funding Available	Expenditure Timeline	Eligibility
CASF Line Extension Account ⁶⁴	~\$688,000	Costs of connecting a household or property to an existing or proposed facility-based broadband providers	Within 12 months
CPUC Digital Divide Grant Program ⁶⁵	~\$200,000	Projects to reduce the digital divide in low-income, small urban and rural school districts (e.g., digital literacy, take home devices, broadband connections, teacher trainings)	Within 12 months

2. Funding Programs at the Federal Level

Program	Total Nation-Wide Funding Available	Expenditure Timeline	Eligibility
NTIA BEAD Program ⁶⁶	~\$42B nationally, \$1.86B for California	Projects completed within four years of subgrantee award receipt	Deployment uses (e.g., construction, workforce development) Non-deployment uses (e.g., digital literacy, broadband sign-up assistance)
USDA ReConnect ⁶⁷	~\$105M	Projects completed within five years of award date	Construction or improvement of facilities required to provide fixed terrestrial broadband Pre-application expenses up to 5% of the award Acquisition of an existing system that does not provide sufficient access to broadband
USDA Rural Digital Opportunity Fund (RDOF) ⁶⁸	~\$44M	Projects completed within three to eight years	Voice service and broadband service deployment at rates comparable to urban areas
E-Rate ⁶⁹	N/A	N/A	Subsidies for Category 1 service (e.g., telecommunications to a school or library) Subsidies for Category 2 service (e.g., internet access within schools and libraries)
USDA Technical Assistance grant program ⁷⁰	\$25M	N/A	Funding available for project planning and community engagement, financial sustainability, environmental compliance, construction planning and engineering, accessing federal resources, and data collection and reporting Eligible areas must be contained within a rural area or composed of multiple rural areas

64 CPUC LEP Application Requirements and Guidelines; <https://www.cpuc.ca.gov/-/media/cpuc-website/divisions/communications-division/documents/casf-infrastructure-and-market-analysis/line-extension-program/lep-rules-appendix-extracted-from-d1904022.pdf>

65 CPUC Draft Resolution for the Digital Divide Grant Program; <https://docs.cpuc.ca.gov/PublishedDocs/Published/G000/M515/K946/515946001.PDF>

66 NTIA BEAD NOFO; <https://broadbandusa.ntia.doc.gov/sites/default/files/2022-05/BEAD%20NOFO.pdf>

67 Federal Register, USDA RDOF NOFO; <https://www.federalregister.gov/documents/2024/02/21/2024-03484/notice-of-funding-opportunity-for-the-rural-econnectivity-program-for-fiscal-year-2024>

68 USDA RDOF Eligibility Inquiries; <https://www.rd.usda.gov/sites/default/files/reconnect-program-faqs-eligibility-r3.pdf>

69 BroadbandUSA E-Rate Program Overview; <https://broadbandusa.ntia.gov/resources/federal/federal-funding/federal-communications-commission-e-rate-program>

70 USDA Broadband Technical Assistance Award; <https://www.rd.usda.gov/media/file/download/bta-appguide-fy24.pdf>

3. Funding Programs at the Local Level

Program	Total Local Funding Available	Expenditure Timeline	Eligibility
Community Development Block Grant ⁷¹	Varies	Expended two years, nine months from contract execution	General operation of CDBG programs (e.g., construction reimbursement, housing services) Activity Delivery Costs (e.g., costs incurred to achieve a specific eligible activity)

F. List of Stakeholders in the S2J2 Region Mapped to Each Strategy

Stakeholder Group	Organizational Partner / Human Resource	Strategy						
		1	2	3	4	5	6	7
Government	Caltrans	✓						
	S2J2 Cities (Chowchilla, Avenal, Lemoore, Madera, Porterville, San Joaquin, Selma, Visalia)	✓	✓	✓	✓	✓		✓
	County of Fresno (including, Community development department)	✓	✓	✓	✓	✓		✓
	County of Kings (including, Community development department)	✓	✓	✓	✓	✓		✓
	County of Madera (including, Community development department)	✓	✓	✓	✓	✓		✓
	County of Tulare (including, Community development department)	✓	✓	✓	✓	✓		✓
	Kings County Office of Education	✓	✓			✓		✓
	Madera County Superintendent of Schools	✓	✓			✓		✓
	Office of the Fresno County Superintendent of Schools and Fresno County Board of Education	✓	✓			✓		✓
	Tulare County Office of Education	✓	✓			✓		✓
	County/ City Department of Housing & Community Development	✓		✓				
	County/ City Department of Public Health Services	✓						
	County/ City Public works and planning departments	✓						
	Government Operations Agency						✓	
	Governor's Office of Tribal Affairs					✓		
Digital Equity organizations	California Emerging Technology Fund					✓		✓
	Community Tech Network (CTN)					✓		✓
	Connected California Digital Navigators					✓		✓
	Education SuperHighway					✓		✓
	EveryoneOn					✓		✓
	Office of Community and Economic Development at California State University, Fresno					✓		✓
	Rural Counties Representative of California	✓						✓

71 HCD's CBDG NOFA Amendment (November 2023); <https://www.hcd.ca.gov/sites/default/files/docs/grants-and-funding/cdbg/cdbg-nofa-amendment-1-2023-09.pdf>

F. List of Stakeholders in the S2J2 Region Mapped to Each Strategy Cont'd

Stakeholder Group	Organizational Partner / Human Resource	Strategy						
		1	2	3	4	5	6	7
Private sector	Technical SMEs			✓	✓			
	Internet Service providers (refer to Appendix G)	✓	✓	✓			✓	
	MDU property owners			✓				
	New infrastructure projects (e.g., solar farms)	✓						
	Private companies (that could participate in refurbishment programs or hire local talent)					✓	✓	
	Hospitals and healthcare organizations	✓	✓			✓		
Utilities	Electricity companies	✓						✓
Regional Coalitions	Fresno Coalition for Digital Inclusion			✓		✓		✓
CBOs & Nonprofits	Nonprofits that may conduct broadband-related activities (refer to Appendix B.3)	✓		✓	✓	✓	✓	✓
	Rural Development organizations (Refer to Appendix B.4)	✓		✓	✓	✓	✓	✓
Education institutions	California State University, Fresno		✓		✓	✓	✓	✓
	Chancellor's Office of Community Colleges		✓		✓	✓	✓	✓
	Corporation for Education Networks in California				✓	✓	✓	✓
	Education and Leadership Foundation				✓	✓	✓	✓
	First 5 Fresno County				✓	✓	✓	✓
	First 5 Madera County				✓	✓	✓	✓
	Focus Forward				✓	✓	✓	✓
	Fresno Unified School district		✓		✓	✓	✓	✓
	Fresno Adult Literacy Council Inc				✓	✓	✓	✓
	Kolaiah Productions				✓	✓	✓	✓
	Literacy Learning Center				✓	✓	✓	✓
	Literacy Volunteers of America				✓	✓	✓	✓
	Madera Unified School District		✓		✓	✓	✓	✓
	Mountain Area Literacy Council				✓	✓	✓	✓
	National Digital Education Extension Team (NDEET)				✓	✓	✓	✓
	Parent Institute for Quality Education				✓	✓	✓	✓
	Porterville College		✓		✓	✓	✓	✓
	Rebel Foundation for Educational Equity				✓	✓	✓	✓
	San Joaquin Valley Library System	✓	✓				✓	✓
	The Academy of Financial Education				✓	✓	✓	✓
	The MJ Project				✓	✓	✓	✓
	University of California				✓	✓	✓	✓
	West Hills College Coalinga		✓		✓	✓	✓	✓

F. List of Stakeholders in the S2J2 Region Mapped to Each Strategy Cont'd

Stakeholder Group	Organizational Partner / Human Resource	Strategy						
		1	2	3	4	5	6	7
Workforce Development organizations	Workforce Development Organizations (refer to Appendix B.5)					✓	✓	
	Labor & Worker centered organizations (Refer to Appendix B.6)					✓	✓	
DRIVE Work Groups	Central San Joaquin Valley K-16 Partnership					✓	✓	
	Civic Infrastructure	✓						
	Permanent Affordable Housing			✓				
	Upskilling					✓	✓	

G. List of Service Providers⁷²

Type of service provider	Name of provider
Service providers with low-cost plans	Anza Electric Cooperative
Service providers with low-cost plans	AT&T
Service providers with low-cost plans	Cal.net
Service providers with low-cost plans	Charter
Service providers with low-cost plans	Comcast
Service providers with low-cost plans	Cox Communications
Service providers with low-cost plans	Cruzio Internet
Service providers with low-cost plans	Frontier
Service providers with low-cost plans	Matrix Broadband
Service providers with low-cost plans	Mediacom LLC
Service providers with low-cost plans	Ranch WiFi LLC
Service providers with low-cost plans	Spectrum Pacific West LLC
Service providers with low-cost plans	T-Mobile
Service providers with low-cost plans	Ukiah Wireless
Service providers with low-cost plans	Velocity Communications
Service providers with low-cost plans	Verizon
Service providers with low-cost plans	Zavala Communications LLC
Service providers with low-cost plans	Vast networks
Other Service providers	KingsNet
Other Service providers	Lumen

72 DEEM ISP respondents; <https://broadbandforall.cdt.ca.gov/wp-content/uploads/sites/19/2024/04/California-State-Digital-Equity-Plan-04.04.2024-Remediated-Version.pdf>

H. List of Barriers and Mitigation Pathways for each Strategy

Strategy 1: Increase Middle-Mile and Last-Mile Connectivity in the Region by Supporting Sharing of Existing Infrastructure and Building of New Last-Mile Infrastructure.

Key Activities	Barrier	Mitigation Pathway	Stakeholder for Barrier Resolution
A. Create a collaboration of municipalities, counties, cities to enable joint use of existing infrastructure, and support building of new last-mile infrastructure.	Complex and time-consuming permitting processes can delay the sharing and utilization of existing assets.	Create standardized and simplified permitting procedures to reduce the complexity and variability across different jurisdictions.	Regional infrastructure coalition with representation from all four counties.
	Legal liabilities related to the maintenance and use of shared assets can deter both public and private entities from participating.	Create a coalition with representation from the four counties of Fresno, Kings, Madera and Tulare that provides a formal structure for the counties to collaborate.	
	Limited technical know-how to leverage current assets.	Include a technical expert as a full-time staff in the coalition.	
B. Leverage new infrastructure projects (e.g., solar farms) to provide broadband to neighboring areas.	Awareness of upcoming projects is often lacking, hindering timely planning of broadband infrastructure.	Create formal communication channels between project planners and broadband infrastructure providers to ensure early notification of upcoming projects.	County departments such as - County Administrator's Office or Public Works Department or the Department of Transportation.
	Inconsistent implementation of policies like "dig once," which mandate the inclusion of broadband infrastructure during road and utility construction.	Develop and disseminate clear guidelines and standards for the implementation of "dig once" policies, ensuring they are followed by all relevant parties.	

Strategy 2: Launch a Regional Process to Increase Broadband Availability and Affordability Across the Region.

Key Activities	Barrier	Mitigation Pathway	Stakeholder for Barrier Resolution
A. Launch a regional four-county coalition that could support a multi-county collaborative process.	Challenges in securing and equitably distributing funding for multi-county projects.	Allow optional participation in projects, giving each county the flexibility to join based on its priorities and resources.	Regional infrastructure coalition with representation from all four counties.
B. Launch an RFP, to leverage economies of scale and employ a mix of technologies for optimal service across locations.	Availability of resources for project management to coordinate across multiple jurisdictions.	Hire two full-time staff members for the coalition: one for administration and one for technical support, ensuring adequate manpower.	
	Capacity at the county-level to build and operate broadband infrastructure.	Leverage public-private partnerships that allow counties to own the infrastructure but lease out maintenance and operations to private entities.	

Strategy 3: Facilitate Broadband Deployment in MDUs by Supporting Property Owners with Technical Assistance Grants.

Key Activities	Barrier	Mitigation Pathway	Stakeholder for Barrier Resolution
A. Provide property owners with planning grants or technical assistance grants that offer proof-of-concept models and technical resources. B. Connect property owners with service providers to build the necessary infrastructure.	- Limited knowledge or technical expertise with property owners about: - Infrastructure requirements for broadband installations. - Different ISPs¹ available or the specific broadband services that best meet property owners' needs. - Existing infrastructure which could be leveraged to create faster access.	Enable access to technical experts who can assist property owners with infrastructure assessment and planning, including identifying suitable ISPs and leveraging any existing infrastructure.	Grant making organization (e.g., local government, CBOs, or nonprofits)
	Funds to hire technical experts.	Provide property owners with grants to pay for technical expertise.	
	Awareness of technical or planning grants.	Leverage CBOs, nonprofits, and local governments to generate awareness about the grants.	CBOs and nonprofits

Strategy 4: Provide Centralized Technical Application Assistance to Local Entities to Access Funding Sources.

Key Activities	Barrier	Mitigation Pathway	Stakeholder for Barrier Resolution
A. Help increase regional grant competitiveness.	Mismatch between available experts and need for grant application support.	Provide centralized resources, templates, and one-on-one assistance to allow one expert to help many.	Grant making organization (e.g., local government, CBOs, or nonprofits)
B. Minimize knowledge gaps on policy changes to help organizations understand available funding opportunities.	Standardized assistance may be challenging to provide given varied and complex requirements of different grants.	Assemble teams of grant specialists with expertise in different types of grants to provide tailored and one-on-one assistance.	Grant making organization (e.g., local government, CBOs, or nonprofits)
C. Build on the "circuit rider" model, allowing organizations to pool resources.	Funds to hire experts.	Leverage the central pool of resources to reduce costs of hiring experts.	Grant making organization (e.g., local government, CBOs, or nonprofits)
	Awareness of grant application assistance programs.	Leverage CBOs, nonprofits, and local governments (e.g., Housing departments) to generate awareness about the program.	CBOs and nonprofits

Strategy 5: Establish Programs to Strengthen Digital Skills for Communities with Higher Digital Divide.

Key Activities	Barrier	Mitigation Pathway	Stakeholder for Barrier Resolution
A. Multilingual digital skills training programs. B. Multilingual helpline paired with in-person support (e.g., Digital Navigators) offering one-to-one support to guide people on accessing digital skills and devices.	- Access to culturally relevant programs for different linguistic groups. - Awareness about the availability of multilingual training programs and the helpline. - Trust within communities to participate in the programs	Partner with local cultural and community organizations to co-develop and co-deliver the curriculum, leveraging their expertise and trust within the community.	CBOs, nonprofits and educational institutions, including the San Joaquin Valley Library System.
	In-person programs with location limitations.	Hold training and offer in-person support in convenient, accessible locations like community centers, libraries, or schools to eliminate transportation barriers.	
C. Coordinated refurbishment program	Limited supply of high-quality refurbished devices.	Establish and maintain consistent quality standards for refurbished devices.	CBOs, nonprofits and private entities engaged in refurbishing programs.
	Security risks associated with recycled devices.	Ensure all security protocols are upheld to remove donor data and install relevant licenses for the recipients.	

Strategy 6: Partner with Local Workforce Development Agencies to Train Local Talent in Broadband Deployment Jobs.

Key Activities	Barrier	Mitigation Pathway	Stakeholder for Barrier Resolution
A. Create job training programs with local partners to address the skills gaps, including registered apprenticeships and pre-apprenticeships.	Limited employment guarantee at the end of training.	Secure employer commitments to hire apprentices from training programs.	Workforce training and educational organizations
	Challenges in pursuing broadband deployment jobs for certain communities/ groups.	Support historically underrepresented communities in broadband deployment training by offering special programs, such as childcare support for women.	
B. Facilitate resident access to training grants to cover tuition and fees for skills programs.	Long-term, sustainable source of funds to cover tuition costs for students.	Make partial tuition funding a part of the contract for employers.	Workforce training and educational organizations

Strategy 7: Enable Long-Term Capacity Building to Support Digital Equity Planning in the Region through a Coordinating Entity.

Strategy and Key Activities	Barrier	Mitigation Pathway	Stakeholder for Barrier Resolution
A. Establish a coordinating entity that works with the key local stakeholders across the S2J2 region.	• Limited coordination between CBOs and the government, leading to missed opportunities for residents in the S2J2 region.	• Gain buy-in from administrative bodies and ensure alignment with broader governmental goals and priorities.	Regional coalitions such as FCDI
	• Difficulty in forming a new organization from scratch, conducting outreach, and securing buy-in from various organizations.	• Expand existing coalitions such as FCDI to cover all four counties with a new name, clear mandates, governance structures, and operational procedures.	



Community-Based Health Workforce

Community Investments



Community Investments

Community-Based Health Workforce

1 Problem Statement & Opportunities

Community-Based Health Workforce

Problem Statement

Our Region experiences serious health inequities and challenges with access to healthcare. Promoting equitable health outcomes and supporting a health, climate -resilient workforce will require addressing social determinants of health. A thriving community-based health workforce is uniquely positioned to bridge gaps in healthcare access, analyze and assess underlying disparities, and help ensure that all communities can participate in and benefit from a transitioning economy.

Vision

A thriving community-based health workforce that is valued, supported, educated, well-compensated, and trained to increase equity and improve health, economic, and social outcomes for the region's most vulnerable residents.

Research

Collect information and data to better document and understand the entire community-based health workforce, including language, services, geographic coverage.



Advocacy

Support advocacy and capacity - building for services to ensure geographic equity of resources, enforcing Medi-Cal standards, and negotiating better reimbursement rates.

Living Wage

Ensure adequate living wages, benefits, and reimbursement.

Education & Training

Provide appropriate skill-based education, training opportunities, and desired career development pathways.

Good Jobs

Promote equitable access to good jobs in community-based workforce careers.

Integration

Value, support, and integrate community-based health workers within the healthcare system.

Mental Health

Ensure equitable access to affordable physical & mental health care.

1.1 Problem Being Addressed

Our region experiences serious health inequities and challenges with access to health care. Promoting equitable health outcomes, and supporting a healthy, climate-ready workforce will require addressing social determinants of health. A robust, community-based health workforce, specifically Community Health Workers, Promotores, Representatives, and Doulas, is uniquely positioned to bridge gaps in health care access, analyze and assess underlying disparities, and ensure that all communities can participate in and benefit from a new climate economy.

A robust community-based health workforce will require:

- Quality research and data
- Proper advocacy and capacity building,
- Equitable access to good jobs,
- Living wages, benefits & appropriate reimbursement,
- Appropriate education, training opportunities, and opportunities for desired career development,
- Equitable access to affordable physical and mental health care,
- Recognition, support and integration within the health care system.

1.1.1 Rationale for Prioritization

This investment area focuses on “Community-based health Workforce” specific to Community Health Workers (CHWs), Promotores, Doulas, and Representatives. Current challenges to health care delivery, affordability, and training center this workforce as a critical component to mitigation. While we recognize the need for investment in the broader health care workforce in our region as well, the more specific focus is aligned with previous and ongoing community feedback gathered by S2J2 and other initiatives, leverages alignment with state initiatives, and conforms with S2J2 principles. Efforts within the community-based health Workforce may also be used as a model for investment in the broader health care workforce in the future.

1.1.2 Community Feedback

To effectively plan and prioritize investments, S2J2 worked with 10 community-based organizations in a transformative community engagement effort to gather the experiences of community members in the region regarding workforce, community infrastructure, climate, and education. The key findings related to health revealed that residents identified accessing quality, timely and affordable health care as a major issue and that environmental degradation, pollution, and climate change pose risks to workers’ health and safety and limit opportunities for employment. A community-based health workforce is well-equipped to address these concerns expressed by the community.

Across counties in the region, accessing quality and affordable health care is a priority for residents. In a 2023 survey of Fresno County residents (n = 492), 49% of respondents reported having health care but facing barriers to accessing care, and 8% did not have health care. In another regional survey, some community members expressed that they had not sought out medical attention due to their undocumented status because of the fear of being deported. The results from focus groups in the region highlighted the lack of access to specific health care services, such as pediatric and mental health services. Studies suggest that the community-based health workforce effectively helps patients navigate and access complex medical service systems, increasing access to care.

Air pollution and water pollution were identified as the biggest environmental concerns across multiple counties. Farmworkers in the region expressed explicit concerns about how air quality contributes to unsafe working conditions. One farmworker in Fresno County conveyed this impact;

“Air pollution is so much that I could barely breathe sometimes. I feel that air pollution is more than water pollution. Water pollution is still manageable as we can get clean water from the stores while clean air is more important for us to breathe. I see less trees and green spaces around my zip code.”

Community-based health workers effectively build trust and communicate with specific populations, including farmworkers, by combining their skills with cultural awareness and nuances. They also often act as community organizers who can empower people to pursue change for their communities. This workforce is well-positioned to help farmworkers and other community members mitigate the effects of environmental concerns, advocate for safe work environments, and, in turn, ensure a healthier workforce for the future.

1.2 The Vision /Opportunity

Potential Positive Impacts:

A healthy, supported, and thriving community-based health workforce means a healthy, supported and thriving community. We can invest in supporting and further developing a unique and dynamic health care workforce that is not separate from the community they serve--but rather is intimately connected with and invested in the health of that community. The long-term success of various S2J2 climate initiatives depends on the existence of a healthy and socially supported workforce that is able and willing to engage in new climate jobs. Investing in creating an equity-centered, robust, community-based health workforce is an opportunity to ensure that S2J2 centers equity in this regional economic plan.

Vision/Opportunity:

We envision a community-based health workforce that is able to increase equity and improve both health and social outcomes for the region’s most vulnerable residents. A community-based health workforce that is able to make this kind of impact is able to do so because they are paid thriving wages and benefits, because they can access good and culturally congruent jobs, because they are equitably reimbursed for the critical services they provide, because they have access to appropriate education, training opportunities, and opportunities for desired career development, because they are recognized by and integrated into the health care system, and because they themselves have access to affordable physical and mental care.

Alignment with S2J2 Principles:

Developing a strong regional, community-based health workforce to address social determinants of health and fill system gaps will help our community, tackle pressing health equity issues, and support a healthy workforce transitioning to a new climate economy. This aligns with the S2J2 principles, specifically the principles of equity, good jobs/resilient economy, data-based planning, and reflecting community benefits considerations.



Strategy Alignment with S2J2 Principles



1.3 Overview of the Investment Area

1.3.1 Workforce and Market Trends

The Health Resources and Services Administration (HRSA)¹ estimates demand for CHWs in California in 2023 to be 6,930. Workforce estimates from the Bureau of Labor Statistics (BLS)² indicate that the state is meeting this demand, with about 8,730 CHWs employed in California in 2023. 2022 Census Population Totals³ indicates there is approximately 1 CHW for every 4,471 people in the state. However, there are no estimates of CHW workforce demand and limited workforce supply data is available for the S2J2 region. BLS estimates that there are a total of 330 CHWs employed in the MSAs of Fresno, Hanford-Corcoran, and Visalia-Porterville. Again, using Census data to identify the population in these areas, results in an approximate ratio of 1 CHW for every 4,987 people. This indicates an unequal distribution of CHWs between the state and these areas, and a higher caseload for CHWs in our region than in the state overall. This disparate caseload is very likely exacerbated by other regional factors such as health care provider shortage, rurality, linguistic diversity, and existing health outcome disparities. Without intervention, this workforce disparity is likely to worsen due to the limited pathways for training CHWs in the region. Paired with overall provider shortage, it is a missed opportunity for a community-based and efficient mitigation strategy. While some local training, statewide or online opportunities for CHW training do exist, most active training programs are concentrated in the Bay Area and the Greater LA Area and lack alignment with regional priorities (California Health Care Foundation).⁴

Data limitations make estimating the supply and demand for the Doula workforce very challenging. A comprehensive public or private database does not exist for the Doula workforce in the U.S., resulting in the inability to describe the size, distribution, or characteristics of the workforce. However, research literature provides some insights about access to and demand for Doulas. For example, findings⁵ from a major survey of mothers in the U.S. indicated that only about 6% of mothers received support from Doulas, although many more women said they would have liked to have had Doula care.

1 <https://data.hrsa.gov/topics/health-workforce/workforce-projections>
2 <https://www.bls.gov/oes/current/oes211094.htm>
3 <https://data.census.gov/table/ACSDT1Y2022.B01003?q=Population%20Total&g=040XX00US06>
4 <https://www.chcf.org/wp-content/uploads/2023/02/UnderstandingCHWPWorkforce.pdf>
5 <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3894594/>

Similar data limitations exist within the Community Representative and Promotores workforce. However, due to the flexible nature of the role and definitions of “Community Health Worker,” it is unknown if Community Representatives and Promotores are fully or partially represented in the existing CHW workforce data.

The described data limitations indicate ample opportunities for data strengthening. This includes implementing standard collection and availability of workforce data on occupations that currently are not represented in the OMB’s Standard Occupational Classification⁶ system, such as Promotores, Community Representatives, and Doulas. It will be important to involve the workforce in any efforts to strengthen data practices to ensure that practices do not limit the key strengths of this workforce, such as their flexible roles and scope of practice.

1.3.2 Alignment with State Initiatives

Investing in the community-based health workforce aligns with existing state initiatives, new legislation, and recommendations. Leveraging shared goals and resources will drive systemic change more effectively. Examples of alignment are listed below.

In 2019 the California Future Health Workforce Commission recommended a focus on scaling “the engagement of Community health workers, Promotores, and peer providers through certification, training, and reimbursement” as a strategy to build a robust, future workforce

The California Health Care Foundation CHW/P/R Policy Agenda identifies 15 policy recommendations alongside CHWs, Promotores, and Representatives that prioritize workforce development, economic development, effective integration into care teams, and equitable access to services for Medi-Cal enrollees.

CA Medi-Cal Innovations, including new billing schedules for CHWs and Doulas, and through California Advancing and Innovating Medi-Cal (CalAIM) are creating new opportunities for reimbursement of care coordination services provided by CHWs.

CA Medi-Cal Fee for Service changes are allowing State Legislation, AB 2697 which recognizes the importance of CHW services, but is not yet fully enforced.

While state level initiatives recognize the importance of the community-based health workforce, the full potential of this workforce will likely not be realized by relying on current state level initiatives alone, and local and regional advocacy and planning is required.

6 https://www.bls.gov/soc/2018/soc_2018_manual.pdf

1.3.3 Regional Assets

The majority of CHWs/Promotores/Community Representatives and Doula infrastructure at the state and national levels primarily serve as advocates and trainers. Regionally, the majority of the infrastructure and coordination of service providers are concentrated in Fresno and Madera counties, while a need exists for more coordinated use of resources, training opportunities, technical support, and employers within Tulare and Kings counties. Additionally, it highlights the opportunity to leverage existing infrastructure in Fresno to act as a hub for the Central California region. Lastly, when it comes to training, traditionally resources have gone to organizations and academic institutions outside Central California. Thus, it is important to invest in and support trainers who are developing training and resources within Central California, as they understand the health equity issues of this region and can adequately equip the community health workforce accordingly.

The Assets Map⁷ provides an overview of infrastructure for CHWs/Promotores/Community Representatives and Doula in the Central California region, and includes the following sections:

The Assets Map is a working document and will be updated on an ongoing basis.

2 Investment Strategies

Despite experiencing significant economic and population growth, Central California remains the poorest region of the state. It fares the worst on 87 out of 98 indicators of social determinants of health and health outcomes, alongside growing challenges related to health care provider shortages. Data shows health disparities by race and ethnicity compared to the rest of the state. For example, Black women have a higher preterm birth rate (March of Dimes)⁸.

Partners in the region are engaging in initiatives to promote the growth of primary care providers, specialists, and nurses. Data and stakeholders recognize the essential role that these providers play in delivering health care. Partners also recognize that health is impacted by factors outside the doctor's office. These factors are known as social determinants of health (SDoH), and according to the Department of Health & Human Services they affect health outcomes by as much as 50%.

To address SDoH and develop a resilient health care workforce in the region, it is necessary to invest in a workforce that enables flexibility, effectiveness, and efficient delivery of health care. During COVID-19, the Centers for Disease Control and Prevention (CDC) launched the Community Health Workers for COVID-19 Response and Resilient Communities initiative as a strategy to strengthen community resiliency. Research has shown that Doula support improves birth outcomes by enhancing resiliency, primarily among women at higher risk of adverse birth outcomes.

The following investment strategies have been identified as essential elements of a resilient community-based health workforce. Diversified investment in these strategies would strengthen the infrastructure of a diverse community-based health workforce in our region, supporting both the current workforce and a future climate-ready workforce.

7 https://docs.google.com/spreadsheets/d/1eYthV2d_-HhUbd1YxrYBBROxJZ81N6eW/edit?gid=1982114692#gid=1982114692

8 <https://www.marchofdimes.org/peristats/data?reg=99&top=3&stop=63&lev=1&slev=1&obj=1>

2.1 Strategy A: Research Agenda

A cross-cutting research agenda is foundational to ensuring that key strategies C-G are aligned with the long-term vision of the community-based health workforce. Several research and data-strengthening projects are proposed, and projects under this strategy will follow typical research implementation protocols (identifying key research questions and objectives, determining appropriate research methodologies, potentially establishing partnerships with relevant stakeholders, conducting research or gathering data, analyzing data, and disseminating results.) Expected outcomes will be a greater understanding of the cost-benefit of strengthening the community-based health workforce, successful models and best practices of the workforce, and the local workforce landscape. Data-strengthening efforts will require establishing partnerships with the community-based health workforce and other relevant stakeholders. It may also require advocacy, in partnership with the current workforce, in order to change current data collection practices at the national level. The expected outcomes of these efforts are the standardization of data collection for the community-based health workforce at multiple levels; regionally, statewide, and nationally.

2.2 Strategy B: Advocacy Agenda

Our Advocacy Agenda is a multifaceted strategy that leverages various tactics and partnerships to promote the essential roles of Community Health Workers, Promotores, Community Representatives, and Doulas, and foster a resilient and robust community-based health workforce. We recognize the importance of collaborative efforts and community mobilization in achieving our advocacy goals.



This comprehensive advocacy approach aims to create a supportive environment that recognizes, values, and supports the community-based health workforce, ultimately leading to improved health care access and outcomes for entire communities.

2.3 Strategy C: Living Wages, Benefits, and Reimbursement

To bolster the community-based health workforce, we envision resourcing community-based organizations (CBOs) and other employers to hire full-time, benefited CHW/P/R/Ds. This strategy will be largely informed by research findings, and the way strategy C is executed will depend on the success of advocacy efforts. See Strategy A and B for more details on proposed research and advocacy activities that will support Strategy C.

2.4 Strategy D: Skill-Based Education & Training

We plan to champion the development of a career pipeline or pathway in partnership with CBOs, health care industry stakeholders, and workforce investment boards. This collaborative effort seeks to create clear avenues for initial education and training opportunities, career advancement, skill enhancement, and specialized training to pave the way for upward mobility within the workforce.

To further enhance recognition and support for community-based health workers, we propose the creation of a standardized training or certification program that is recognized by the community and health care system alike, which also aligns with Key Strategy F. This involves defining training levels, creating certificates in partnership with schools and universities, and honoring community training curricula to provide pathways for career advancement and professional development within the health care system. Central to our strategy is that the development of the standardized curriculum is done in collaboration with Community Health Workers, Promotores, Community Representatives, Doulas, and pertinent agencies.

2.5 Strategy E: Equitable Access to Good Jobs

We aim to remove barriers and create opportunities for increased access to good jobs. By partnering with the K-12 system, we will prioritize increasing job readiness early in education, enhancing students' skills and preparedness for the workforce. We will collaborate with community health care employers to change hiring practices, recognizing diverse skills and experiences from non-traditional pathways. We will allocate resources to support workforce development initiatives tailored to the needs of underserved populations, encouraging employers to value diverse skills and reduce disparities in skill valuation. Additionally, we will support policies and programs that provide safe and affordable childcare, enabling individuals to pursue education, training, and employment opportunities. This involves collaborating with childcare providers, community organizations, and policymakers to ensure the availability of high-quality childcare options for working families.

2.6 Strategy F: Health Care Integration

This strategy focuses on several key initiatives aimed at educating stakeholders, building trust, and fostering collaboration. These efforts will happen along and complement the creation of a standardized training or certification program that is recognized by the community and health care systems (see Key Strategy D). It is critical to educate and build trust between the health care workforce and the community about the roles and contributions of community-based health workers. Through the implementation of several projects that increase awareness and understanding, we aim to establish strong partnerships and facilitate the integration of these workers into the health care system.

Our initiative also aims to address the expressed need for better connectivity and networking opportunities among community-based health workers, clinics, and other community resources. This includes building an inter-agency community network and directory to facilitate collaboration and resource-sharing. Recognizing the value of creating a supportive community of practice, we also envision establishing a dedicated space or platform where community-based health workers can network, exchange knowledge, and access professional development opportunities. This platform will serve as a hub for fostering connections, sharing best practices, and facilitating ongoing learning and skill development within the community-based health workforce.

2.7 Strategy G: Affordable Physical and Mental Health Care

In order for the community-based health workforce to effectively address health inequities, we need to support broader efforts to address inequities in access to affordable physical and mental health care within our community. In support of these efforts and specifically helpful to the community-based health workforce is the creation of a comprehensive resource that provides individuals with information on available health care services in their community, as well as the types of insurance accepted. In addition, this effort will be supported by multiple points in our advocacy agenda (Key Strategy B) including advocating for programs that bring services in rural areas, and advocating for the enforcement of Medi-Cal state standards in regard to walk-in availability at medical provider offices.

2.8 Opportunity to Increase Economic Diversification and Resilience

By promoting the roles of Community Health Workers (CHWs), Promotores, Community Representatives, and Doulas, these strategies support a diverse array of health workers. This not only enhances the resilience of the community-based health workforce but also fosters inclusivity and cultural competency in health care delivery, ensuring that the overall workforce in the region is healthy, diverse, and resilient.

The community-based health worker model has been widely utilized formally and informally among many communities across the world, particularly to facilitate access to care in rural and underserved communities. Parallely, Doulas are showing early success in health care systems locally. Given this landscape, there is growth potential around increasing awareness and recognition of community-based health workers. This can lead to increased demand for their services and potential expansion of their roles within the health care system.

CHWs/Promotores/Community Health Representatives and Doulas' flexibility is one of their greatest assets and strengths, enabling them to adapt to emerging trends. This workforce is often hired by CBOs as part of a multipronged strategy to deliver services and resources to targeted populations. The broader scope of services the community-based health workforce offers while addressing SDoH through tailored programs for diverse communities fosters diversification and strengthens resiliency of the overall population and workforce.

Given the current living costs in California and the low wages that CHWs, Promotores, Community Health Representatives, and Doulas receive, there are ample opportunities for investment to address wage inequities to better support this workforce. Additionally, access to health care insurance is essential to ensure that this workforce has access to health care themselves. Moreover, data indicates that CHWs, Promotores, Community Health Representatives, and Doulas frequently lack retirement benefits, leaving this workforce without the opportunity to save for their future. Investment in retirement plans would contribute to a resilient economy by providing financial support for this workforce when their work hours are reduced, or they decide to stop working. To ensure resilience of these efforts, one avenue of sustainable funding is an increase in reimbursement rates by Medi-Cal due to their new Medi-Cal services. According to the 2024 CHW/P/R Policy Agenda, the proposed payment rate starts at \$26.66 for a 30-minute interaction and only covers 38% of the actual cost of providing these services.

There is significant growth potential for the community-based health workforce through expanded partnerships with various stakeholders, including health care providers, community-based organizations, policymakers, and funders. These partnerships can generate new revenue streams, diversify funding, and strengthen workforce resilience. Diversifying the funding portfolio will facilitate the scaling up of advocacy efforts and the adoption of supportive policies and programs. Partnerships with K-12 will open opportunities for new generations of talent to be part of the career pipeline, where community-based health could serve as an introduction to other health care professions. These alliances will also provide mutual support, shared resources, and collective advocacy power, bolstering the resilience of advocacy efforts against challenges and setbacks.

Lastly, research and data continuously underscore the significant information gap regarding CHWs/Promotores/Community Health Representatives, and Doulas, particularly in the Central California region. Investing in research would enable partners and investors to make informed decisions using local data. This will be particularly important for evaluating investments and outcomes.

2.9 Alignment with Job Quality & Access, Equity, and Climate

Providing support to the community-based health workforce will increase job satisfaction and ensure these workers can provide for themselves and their families. Supportive strategies include living wages, benefits, and adequate reimbursement for the essential community-based health workforce. In addition, providing appropriate education, training opportunities, and desired career development pathways for essential community-based health workers ensures adequate capacity building to adequately deliver services and support families. These measures will enable skillful workers from this region to enter the growing health care workforce industry and increase retention rates, creating a robust and resilient workforce. Investing in tailored training programs and inclusive recruitment practices that this community-based health workforce fosters advances equity in disinvested communities by offering opportunities for career growth and economic stability. Training and empowering this workforce to advocate for, implement, and monitor environmentally sustainable practices will help limit the negative impacts of economic development. Due to the unique skills and abilities this workforce possesses, including close relationships with underserved communities, they are also well-positioned to capture and, with research training, assess the health impacts of economic development.

Providing equitable access to good jobs in community-based health workforce careers ensures that talent from underserved communities can be part of the needed workforce, particularly skilled in addressing gaps in our traditional health care systems. These measures will enable systematic changes by fostering partnerships with the education system and employers. These partnerships will shape how this new workforce can be integrated into the health care system and establish best practices that foster retention and professional development. This approach has the potential to develop clear pathways for attaining the necessary skills.

By supporting an advocacy agenda and supporting integration of this workforce into traditional health care systems, we will uplift the critical role of the community-based health workforce to various stakeholders and attract investments to foster a healthy workforce in the region. The advocacy agenda will allow other stakeholders who design and support the health care system to better understand how the skill sets of community health workers, Promotores, Community Health Representatives, and Doulas provide support to the traditional health care system and enable it to address evolving and complex challenges that occur beyond the health care providers' offices. Providing recognition, support, and integration of community-based health workers within the health care system ensures that talent from underserved communities can be integrated into the traditional health care workforce. Their valuable skills and knowledge of the social determinants of health (SDoH) history that impact individuals' and families' health are essential to the holistic delivery of care. Their integration would benefit and strengthen

the resilience of the existing health care workforce, as the shortage of health care providers often prevents close follow-up with their patient population. By engaging health care providers and current decision-makers, we also ensure that any emerging discussions about new or unmet needs in the community—including, but not limited to, emergency responses to climate crisis events—place the community health-based workforce at the forefront as part of the solution.

2.10 Alignment with State Strategies

State agencies and state-funded initiatives, particularly those related to climate, economic development, or health care, are strongly encouraged to pursue data-driven programs, solutions, and innovations. This aligns with our overarching research agenda strategy, which, in turn, supports many other strategies in this chapter. The state relies on a variety of data dashboards to inform investment decisions, and it is critical to any initiative to develop foundational data infrastructure. California is in the midst of implementing Cal-Aim, comprehensive and community-oriented managed care that aims to support the most vulnerable populations. In order to understand the opportunities or limitations of Cal-Aim, we need better data and an understanding of the current community-based workforce. Additionally, DHCS has implemented Doula and CHW benefits under managed care plans, and while DHCS will likely have state-level data soon, it will benefit from a more local understanding of the workforce accomplished through this strategy.

Robust, statewide advocacy related to many of the strategies included in this chapter is occurring; we have a regional responsibility to participate in and shape those efforts, and to advocate for solutions specific to the needs of the region. This aligns with our overarching advocacy agenda strategy, which, in turn, supports many other strategies in this chapter. State advocacy groups are actively working towards increasing reimbursement rates for C/P/R/D services, and are working to center these professionals in conversations and state decision-making mechanisms. A variety of state policy initiatives are considering the benefit of providing workers across a variety of sectors a more livable wage, including AB 1228 (establishes a minimum wage for fast food workers), and SB 525 which establishes a minimum wage for health workers, defined as anyone working for a health care organization. There is state momentum toward ensuring that workers across sectors, even those traditionally underpaid, are able to provide for themselves and their families. It is also important to note that there is an opportunity for the community-based health workforce to be more involved in climate change efforts, as this workforce is not currently centered in those efforts.

There are several significant state investments that include the community-based health workforce and the services they provide as a component of comprehensive health care, and legislation is developing that aims to support this integration (AB 2697).

As mentioned in Chapter 1, California's Medi-Cal program is currently undergoing transformations that aim to further integrate health care and social services to improve health outcomes; this initiative is known as California Advancing and Innovating Medi-Cal (CalAIM). Some counties in the region have already aligned with the CalAIM initiative. For example, Fresno County has partnered with Fresno Community Health Improvement Partnership to implement the Fresno HOPE Pathways Community HUB that uses Community Health Workers (CHWs) to coordinate care and diminish linguistic and cultural barriers for Medi-Cal enrollees, who make up more than 50% of the population (according to March 2023 enrollment data and U.S. Census Bureau Population Division July 2022 population statistics). The HUB model is an excellent example of leveraging this state initiative, i.e., Community Health Worker benefit, and how the integration of a community-based health workforce can aid in improving health outcomes.

As of January 1, 2022, CHW, Promotores, and Doula services are billable services through Managed Care Plans and through Medi-Cal Fee for Service. While state policies, such as AB 2697, and new Medi-Cal billing guidelines indicate state-level recognition of the importance of the community-based health workforce, the full potential of this workforce will likely not be realized by relying on current state-level initiatives alone, and local and regional advocacy and planning is required. The current reimbursement rate under Medi-Cal for CHW services is not sufficient to provide this workforce with good jobs, and though the governor committed funding to support CHW workforce development in 2023, cuts to workforce development for CHWs are included in proposed budget cuts for the 2024-2025 state budget.

However, there is a place for CHWs in helping to bring people back into health care through local health plans. Since the Medi-Cal redetermination for eligibility started this year, many people have lost access to critical coverage. Early reports indicate that this is due to trouble navigating complicated paperwork. CHWs can be trained and quickly respond to this need as well.

3 Funding Models & Sources

3.1 Potential Funding Models

A variety of models will need to be employed to achieve the proposed strategies, and innovative models will be necessary. Funding models may include institutional research funding models, traditional health care funding, government funding or investments, philanthropic investment, dues-based/member-generated investments, community benefit funding mechanisms, state and local education investments, employer-based investments, county-level agency funding mechanisms, and local workforce and education investments. These models are further detailed in the *Appendix B*.

Braided funding models are recommended whenever possible to ensure adequate and sustainable funding. Braided funding models involve the strategic blending of multiple funding streams to support a cohesive project or strategy. This approach maximizes resources and, by combining different funding sources, can address different aspects of a project's financial needs. For example, a braided funding model could integrate government grants and Medi-Cal reimbursement to provide living wages and benefits to the community-based health workforce. International examples of innovative funding models for a community-based health workforce do exist and may inform the strategies of this work group in the future.¹⁻³

3.2 Potential Funding Sources

Summary

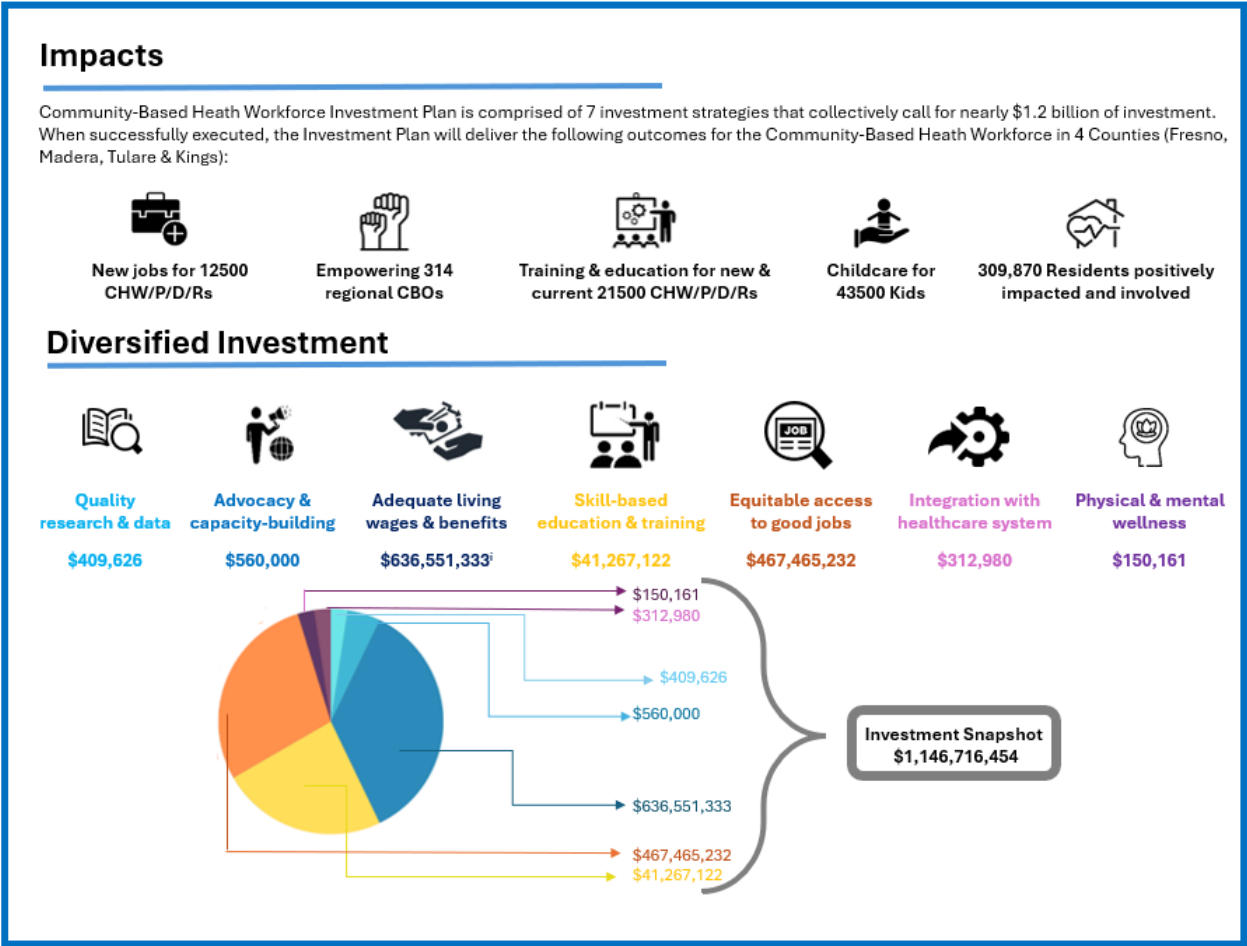
Sources of funding are organized by strategy and by funding model in the Appendix. Many sources apply across multiple strategy areas. It is worth noting that many of the sources listed do not have an extensive history of directly funding or investing in strategies proposed by this group, however, their priorities may align or overlap with the proposed strategies of the community-based health workforce working group. Specific grant-based funding opportunities are indexed in the *Appendix C*. Significant investment in the region's community-based health workforce will require adapting traditional funding models to the unique needs of this workforce, will require innovating new funding models, and will require strategically leveraging existing funding sources alongside new, and more dynamic sources of funding.

Funding Already in Place and Funding Gaps

Traditional health care funding models are in place, but there is inconsistency in method and level of investment across sources, and these funding sources fall short of adequately funding a robust workforce. Insurance reimbursements are currently limited to specific populations and specific services and are at low rates. For example, DHCS includes CHW services as a reimbursable benefit at \$26/unit, but only Medi-Cal managed care insurance carriers provide the CHW benefit reimbursement. If CBOs desire reimbursement for the C/P/R/D services they provide, they must contract with Managed Care plans in order to receive reimbursement. It is part of our strategy to advocate for better and more timely reimbursement from Medi-Cal, which will support the wages of community-based health workers. Grants and philanthropic investments, while useful for supporting initial infrastructure development, are limited in duration and do not provide a sustainable, long-term solution. Currently, no funding model exists to support the necessary administrative, supervisory, and ongoing training needs of the community-based health workforce. Funding is not known to be in place for any components of Strategy B, E, F, and G.

Investment into the region's community-based health workforce is patchwork and relies, in part, on inconsistent grant funding. For example, one of Fresno's promising models, the Hope Hub, is mostly grant-funded, but is working to braid other funding, including the Medi-Cal CHW Benefit reimbursement, funding available through Cal-Aim, and philanthropic and private investments. Additionally, existing funding through health care reimbursement models does not typically cover the true cost of providing services, which will be especially relevant to address for Strategy C. Few health plans (if any in our region) utilize capitation, PBP or private pay to fund CHW activities.

Total Expected Cost and Total Investment Required: \$1,146,716,454



Potential Additional Sources of Funding: None of the potential additional sources of funding identified for each strategy are specifically designed for community-based health workers. However, if utilized strategically, these sources of funding may facilitate the critical infrastructure needed to advance the community-based health workforce in this region.

3.3 Potential Funding Models & Sources by Strategy

For each of the proposed Strategies, cost by activity can be found in Appendix D.

Strategy A: Research Agenda

There is a critical need for research and data on the community-based health workforce.

Key Activities	Total: \$409,626
Documents the community-based health workforce, languages spoken, services offered, and geographic coverage in 4 counties.	Average salary for a research analyst in the region is ~\$68,271/year For one year of research & documentation and analysis and 5-10 years of data update The numbers are defined for about 6 researchers The total excludes the research provided by the experts in the S2J2 Community Health based workgroup
Cost-benefit analysis of community-based health workers in 4 counties informed by community stakeholders.	
Evaluate hiring practices for the community-based health workforce within health care facilities and CBOs.	
Compile research findings and analytics that support the efficacy of utilizing community-based health workers to improve access, reduce costs, and improve the health and well-being of underserved populations.	
Implement standard collection and availability of workforce data on occupations that currently are not represented in the OMB's Standard Occupational Classification system, such as Promotores, Community Representatives, and Doulas.	

Strategy B: Advocacy Agenda

There is a pressing need for advocacy and capacity-building to develop a resilient and robust community-based health workforce.

Key Activities	Total: \$560,000
Advocate for programs that bring services in rural areas to ensure geographic equity of resources and ensure there is a place to receive referrals to the services in collaboration with CBOs.	Lobbying, coordination and advocacy among CBOs for a cost of ~\$40,000/ year Over 14 major stakeholders organizing pro bono informative sessions in forms of tabling, seminars, etc.
Advocate to enforce Medi-Cal state standards in regard to walk-in availability at medical provider offices.	
Develop advocacy strategies to negotiate better reimbursement rates using results from the cost-benefit analysis (see Key Strategy A); Strengthen advocacy with DHCS.	

Strategy C: Living Wages, Benefits & Reimbursement

To build a robust community-based health workforce, we must address the problem of inadequate living wages, benefits, and reimbursement for these essential workers.

Key activities	Total: \$636,551,333*
Resource community-based organizations to hire Promotores full-time, provide benefits, and retire.	Grants to provide the CBOs the support to hire the new 12500 CHW/P/D/Rs For the 9000 current CHW/P/D/Rs an additional \$4 salary adjustment which includes a factor of 20% benefits Numbers calculated based on the average salary ~\$21.45/ hour

*This amount would be reduced based on reimbursement rate

Strategy D: Skill-Based Education & Training

A robust community-based health workforce is currently hindered by a lack of appropriate skill-based education, training opportunities, and desired career development pathways

Key activities	Total: \$41,267,122
Develop career pipeline or pathway in partnership with CBOs, health care industry stakeholders, and workforce investment boards.	The governor's office projects allocation of \$281.4 million to provide the training and certification for CHWs in CA %5 of the above budget to be approximately allocated for the 4 counties based on population Plus \$27,146 per year for the pathways for at least 10750 This number is calculated as half of the total CHW/P/D/Rs
Develop a standard curriculum in partnership with CHW/P/D/Rs, and agencies that employ this workforce.	
Create a Best-Practices Brief to acknowledge training and the type of work that may fall outside traditional practices already adopted within reimbursable care or within the health care industry.	
Create a standard of training or certificate that can be recognized by the community and recognition of knowledge of language and culture.	

Strategy E: Equitable Access to Good Jobs

There is a lack of equitable access to good jobs in community-based health workforce careers.

Key activities	Total: \$467,465,232
Provide safe and affordable childcare. Childcare is a critical and fundamental basis for being able to access any mobility pathway opportunity, be it an education, training, or work opportunity.	This budget provides a subsidy for childcare for an average of 2 kids per household approximately costs \$243.25/ week Panels and information sessions to raise awareness on equitable access to jobs for an approximate cost of \$1500 per session Technical support provided by the stakeholders (i.e. venue, snacks, promotional materials, etc.) is pro bono
Increase job readiness by working with the K-12 system to ensure graduates are ready to go on to post-secondary education and/or already have acquired technical skills and training before graduating.	
Work with community health care workforce employers to change hiring practices.	

Strategy F: Integration Within Health Care System

Community-Based Health Workers Need Recognition, Support, and Integration into the health care System.

Key activities	Total: \$312,980
Educate and build trust between the health care workforce and the community.	Providing awareness campaigns at an average of \$15,649 in 4 counties for approximately 5 agencies per year The directory for the 3rd key activity is part of the research agenda (Strategy A)
Raise awareness about the community-based health workforce.	
Build an inter-agency community that includes networking and building a directory for the community-based health workforce, clinics, and other community resources.	

Strategy G: Affordable Physical and Mental Health Care

Community-Based Health Workers Need Access to Affordable Physical & Mental Health Care.

Key activities	Total: \$150,161
Create a resource that allows CHW/P/D/Rs to know what health care services are available in their community and what types of insurance are accepted through bi-annual fairs and trainings.	Tabling to raise awareness in the 4 counties, charges for booth rental and supplies Establishing a workgroup between health care providers and CHW/P/D/P/Rs leaders to strategize on emerging needs by county

Stakeholder Map, Commitments, Needs, Challenges & Insights from Community

The Stakeholder Map provides an overview of the stakeholders involved in the Community-based Health Workforce Workgroup. The map includes the required stakeholders for the discussion, highlights both committed local stakeholders and missing ones by strategy. For a detailed Stakeholder Map, please see Appendix E.

In addition to the Stakeholders Map, Chapter 1 contains an Asset Map⁹ that offers an overview of the infrastructure for CHWs/P/R/Ds in the region. Stakeholders are categorized into the sections listed below to holistically capture the various organizations involved in critical components of the infrastructure. Appendix F provides a detailed description of each of these sections.

- Legislation and Advocacy Group
- Statewide Programs
- Research Institutions/Collaboratives
- Central Valley Resources and group by county
- Technical Assistance, Training and Professional Support
- CHW/P/R/Ds Serving Central Valley/Employers
- Other organizations

Appendix F also lists additional crucial stakeholders with critical information based on their experience implementing policies and providing services to the Central Valley's underserved and marginalized workforce. Some of these stakeholders, although not located in this region or do not primarily serve Central California, they do provide training, advocate for the institutionalization of community-based health workers, and provide support to Central California programs and organizations

The Community-based Health Workforce Workgroup identified several overarching needs for advancing strategies. These include prioritizing the strategies identified by this workgroup, honoring stakeholders' time, input, and collaboration. Other needs included: ensuring that time investment is impactful and aligns with stakeholders' goals, utilizing community-centered models that prioritize investments in community well-being, and opportunities for connectedness. Additionally, they emphasized strategy-specific needs, for example, centering community-based health workers' needs to develop adequate training. Appendix G provides the list of identified stakeholders needs. Stakeholders' needs are continuously evolving, necessitating ongoing collaboration.

Stakeholders' commitment is crucial for advancing this work. We developed a list¹⁰ of stakeholders needed to move the work forward, functioning as a starting point that will expand as more stakeholders join the efforts of the investment plan. The table lists the stakeholders who are part of the Community-based health Workforce Workgroup and contributed to this investment plan. Additionally, the table reflects the current commitments that stakeholders have signed up for, and an overview of their role in enhancing the community-based health workforce in Central California. See Appendix H for the detailed list.

⁹ https://docs.google.com/spreadsheets/d/1eYthV2d_-HhUbd1YxrYBBROxJZ81N6eW/edit?gid=1982114692#gid=1982114692

¹⁰ <https://docs.google.com/document/d/1FGp7s8WC96jZyHkELn-YpXugk1mefUos/edit#heading=h.1t3h5sf>

Several factors influence the limitations of this Stakeholder Map such as the evolving policy, legislative, and funding landscape that directly and indirectly impacts the community-based health workforce. Additionally, it does not capture all the stakeholders identified as critical. To address this particular limitation, we aim to understand engagement barriers faced by stakeholders by:

- Establishing a personal connection at critical organizations not yet involved
- Understanding their individual and organizational priorities.
- Identifying alignment with Workgroup priorities and mutual support and capacities.
- Identify goals and past accomplishments of collective impact work.

Insights from previous community engagements help identify knowledge gaps. One of the significant learnings is the recognition of limitations in the existing data on the current and future development of the community-based workforce. Collaboration is needed to conduct comprehensive data collection and analysis to better understand and support this workforce. The impact of the recent state-wide policy and advocacy coalition on behalf of the CHW/P/D/R workforce is also unknown. The work must be expanded in smaller geographic areas to fully engage the stakeholders of this region and advance the integration of this crucial workforce in the local health care infrastructure. Additionally, the need for living wages has been identified. Additionally, the need for living wages has been identified. Based on an analysis of the Urban Institute, more needs to be done to ensure that residents can earn wages that would enable them to spend less than 30% of their income on housing, which is essential for their fiscal stability and general well-being. Further research to ensure the current living wage estimates in our region reflect the experiences of the people living in our community. In addition, more research on the wages of the community-based workforce is needed to ensure a living wage for these workers is achieved.

4 Barriers, Plans for Addressing, & Policy Updates

Barrier 1: Funding Limitations	
Securing adequate and sustained funding to support our strategies is a potential barrier	
Path to Addressing Funding Limitations	Key Enablers
Funding models and proposals to address funding gaps can be found in Chapter 3.	• Traditional health care funding agencies, such as DHCS • local or state governments • organizations that can receive research funding, such as academic institutions • Advocacy-oriented organizations • health care facilities • CBOs, who may fund services and trainings <i>Stakeholders are specified in Chapter 4.</i>
Sphere of Influence: Initial funding limitations should be addressed by S2J2 and collaborating partners within 1 year of the project launch. Ongoing funding limitations should be addressed by partners over multiple years. The exact time frames would be project-specific.	

Barrier 2: Stakeholder Engagement and Effective Coordination and Collaboration.

The success of initiatives relies on active engagement from CBOs, health care providers, policymakers, educators, employers, and the communities themselves. Without strong stakeholder engagement, efforts may face resistance, lack of buy-in, and limited impact. Effective coordination and collaboration is essential, yet challenging due to differing priorities, limited resources, and the complexity of the issues at hand

Path to Addressing	Key Enablers
Invest in building strong, trust-based relationships with all stakeholders. This includes regular meetings, transparent communication, and mutual benefit. Develop clear, consistent communication channels. Work with stakeholders to identify and align common goals and objectives. Provide training and support to stakeholders to enhance their capacity for collaboration. Advocate for dedicated funding to support collaborative initiatives and stakeholder engagement activities.	Mitigating this barrier relies on identifying and supporting one or more backbone agencies that can take charge of stakeholder engagement and coordination. These organizations ideally have experience with coordinating collaborative groups and executing strategic plans. These types of organizations do exist within our region, such as Fresno Community Health Improvement Partnership (FCHIP) (created the Fresno HOPE¹¹ Hub initiative), Immigrant Refugee Coalition (who created the COVID-19 Equity Project Model), and BLACK Wellness and Prosperity Center who have a black doula network.¹² Key stakeholders that should be engaged to support various strategies are outlined in Chapter 4.
Sphere of Influence: Mitigation of this barrier is ongoing and should be addressed throughout the lifespan of the initiative by S2J2 or established and funded backbone organizations with experience convening multi-sector partners.	

Barrier 3: Political and Policy Challenges

Multiple strategies depend on advocating for or addressing policy changes. This includes organizational policy changes, government organization policy changes, as well as local, state, and national government policy changes. Challenges related to political climate and policy include navigating the complexities of regulations and internal policies, addressing opposition, and securing the support for the necessary policy changes to support our goals. The dynamic and often unpredictable nature of political and organizational environments can create instability and uncertainty, hindering long-term planning and execution.

Path to Addressing	Key Enablers
Key enablers can create a more favorable environment for our initiatives through strategic advocacy, building political will and regulatory support, supporting organizational reforms, broad-based coalition-building, and educating the public and the workforce.	Key enablers to mitigate this barrier include a wide range of stakeholders, including advocacy organizations, community-based health workers, employers of the community-based health workforce, policymakers, those with legal expertise, community members, and key organizations in which policy changes are desired such as health care facilities. Local employers of the workforce have documented success and have data available to make the political and policy case for investment, if activated.
Sphere of Influence: Due to the complexity of political challenges, the timeline for mitigation is uncertain. Mitigating this barrier will require influence from both S2J2 and external local and state partners.	

¹¹ <https://www.fchip.org/hope/>

¹² <https://www.blackwpc.org/bdn>

4.1 Strategy-Specific Barriers

Barriers to initiating specific strategies and associated projects were identified and discussed by the work group, and most fall within the categorical barriers identified above; funding, stakeholder engagement, and political challenges.¹³

Examples of strategy-specific barriers for funding challenges include a lack of time and opportunities to collect or analyze data for research projects and a lack of “backbone funding” to support administrative, leadership, and training support for CBOs who hire community-based health workers and support living wage strategies. Pathways to mitigate these barriers include securing funding to support the time partners are contributing to implementing the strategy and applying for funding opportunities that can support backbone activities. Initial funding opportunities identified or supported by S2J2 would be pivotal in initiating these strategies. Stakeholders identified in Chapter 4 can conduct research and receive funding for that work, should the opportunity arise. Additionally, dependent on funding, a number of partners could serve as backbone organizations, including local public health departments or other regional collaboratives.

Examples of strategy-specific barriers related to stakeholder engagement and effective coordination and collaboration include the lack of collaboration among stakeholders currently collecting and reporting data on the community-based health workforce to support the research agenda and a lack of partners with legislative expertise to support advocacy efforts. Mitigating these barriers includes identifying partners who are collecting data, identifying opportunities for data sharing among those partners, and partnering with legislative experts. As mentioned above, continuous stakeholder engagement should be ongoing and the responsibility of S2J2 or established and funded backbone organizations.

An example of a strategy-specific barrier related to political and policy challenges is the challenges in navigating the public health care billing systems which leads to a lack of Medi-Cal reimbursements for community-based health services to support the strategy related to living wages, benefits, and reimbursement for this workforce. Mitigation efforts may include supporting community-based health workers in being certified for reimbursement, providing detailed instructions for setting up Medi-Cal billing, or supporting partnerships with an intermediary that has the capability to do billing on behalf of community-based health workers. Overcoming this barrier could involve multiple stakeholders including, the Department of Health Care Services, Managed Care Plans, Federally Qualified Health Centers, and Community Based Organizations.

4.2 Recommended Changes to Local, State, and Federal Policies, and Laws

The primary policy change recommended by this workgroup is an increase in reimbursement rates for services rendered by community-based health workers. These rate increases impact multiple projects and strategies proposed in this plan. Various local and state investments may also help to mitigate the funding limitations of the proposed strategies and projects. Desired and necessary policy changes at local, state, or federal levels are likely to be discovered through research and robust stakeholder engagement. Areas where policy changes will likely be identified include policies governing human resources and hiring practices and policies guiding data collection practices at multiple levels. Additionally, it is likely that existing policies will need evaluation to ensure the integrity of implementation and enforcement and to assess whether they are yielding the intended results.

13 <https://docs.google.com/document/d/1PewoIcU4ZRB0r0Fy-WBQKbh-jFiOucDS/edit>

5 Next Steps

Community-Based Health Workforce

Investment Strategies by Phase and Funding Source

PHASE 1 Start-up Strategy	PHASE 1 Startup Funding Required	PHASE 2 Public Execution Strategy	PHASE 2 Public Execution Funding Required	PHASE 2 Private Execution Strategy	PHASE 2 Private Execution Funding Required
Strategy A Quality research & data	\$409,626	Strategy C Adequate living wages & benefits	\$636,551,333	Strategy D Skill-based education & training	\$20,633,561* *Divided equally between public and private execution funding sources
Strategy B Advocacy & capacity-building	\$560,000	Strategy D Skill-based education & training	\$20,633,561* *Divided equally between public and private execution funding sources	Strategy F Integration into health care system	\$156,490 *Divided equally between public and private execution funding sources
		Strategy E Equitable access to good jobs	\$467,465,232	Strategy G Physical & mental wellness	\$150,161
		Strategy F Integration into health care system	\$156,490* *Divided equally between public and private execution funding sources		
Total funding required by phase	\$969,626		\$1,124,806,616		\$20,940,212

The Community-Based Health Workforce Workgroup identified the objectives that can be addressed in the next 6 months.

- A. Identify the community-based health workforce providing services in Central California and analyze the actual cost and expenses associated with hiring Promotores as part of the comprehensive cost analysis.
- B. Identify funding opportunities to accomplish the research agenda.
- C. Capture and join advocacy efforts to uplift Central California's needs. Capture the existing career pathways for community-based health workers in Central California and share them with community-based organizations.
- D. Identify priorities and collaborate with stakeholders advocating for childcare.
- E. Communicate with education institutions to assess the availability of CHW/P/R/D training programs and spark collaboration efforts.
- F. Organize a regional community of practice to share learned lessons and available collaboration opportunities.
- G. Collaborate with health care stakeholders to capture access to primary care and mental health services, primarily in unincorporated areas, in partnership with community-based health workers.

Additionally, workgroup partners discussed key activities that need to be advanced in six months.¹⁴ For example, to achieve objective A, a landscape analysis needs to be launched, that includes information about how data is being obtained and platforms that are used and should capture the number of community-based organizations that employ community-based health workers by sector. Advancing activities require similar key resources to be in place such as funding, personnel, time, equipment and software, information and data, knowledge and expertise and network resources. Appendix I for a detailed description of each key resource.

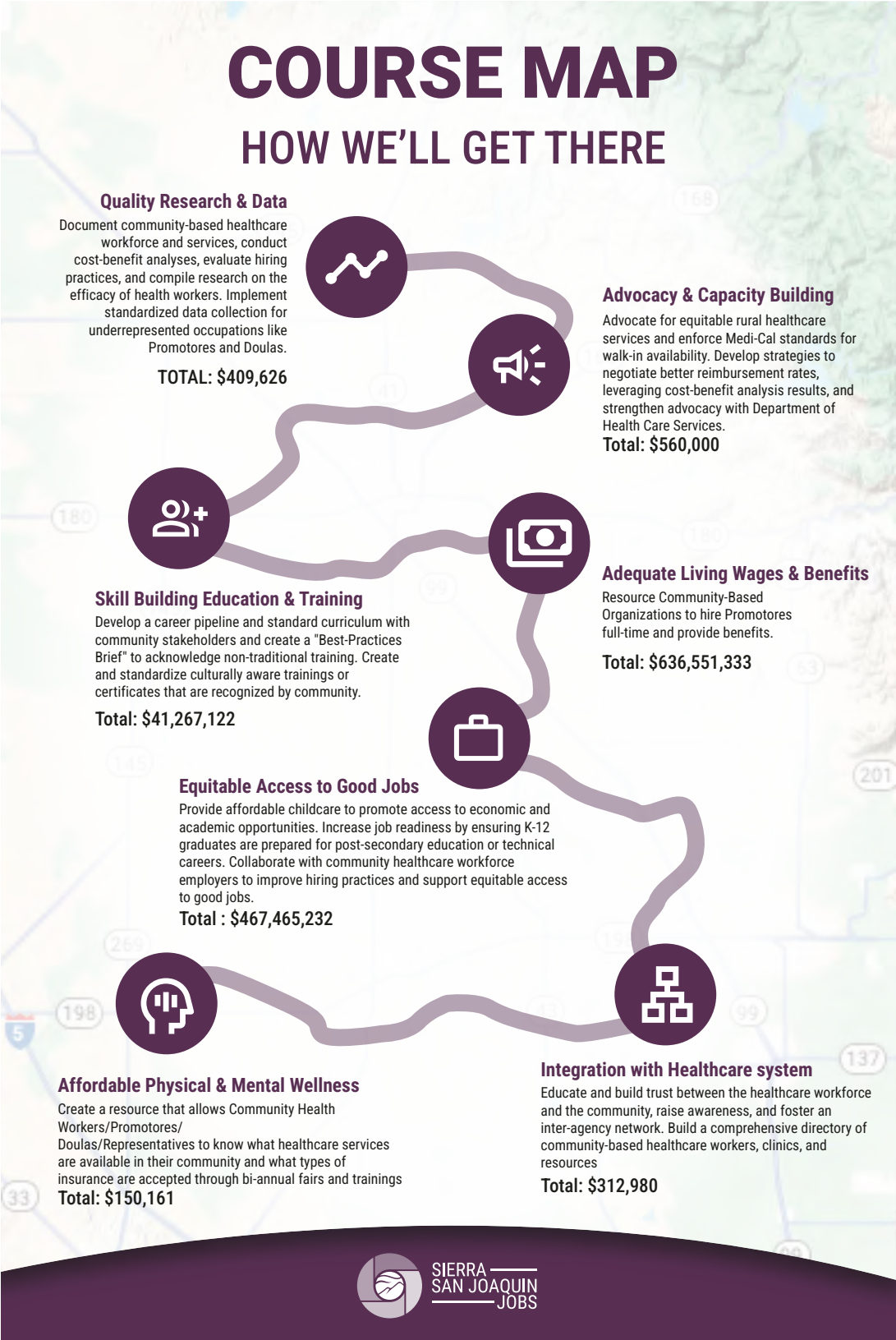
Stakeholders listed in this table¹⁵ have resources and expertise needed to accomplish the key activities identified by this workgroup. This involves statewide governmental entities, health care services, public health departments, the health care system, community-based organizations, tribal or Urban Indian Health entities, managed care plans, academic institutions, researchers, and consortia of public health experts. These partners play a key role as they have critical information regarding the employment and support that community-based health workers provide and their needs to operationalize at large scale in Central California.

Multiple activities identified by workgroup partners function as contingencies that need to be completed to advance the objectives, such as connecting with key stakeholders that can open the door for collaboration with various sectors, or securing resources for these projects. The majority of the identified activities are the initial steps that, once accomplished, will serve as milestones for the following stage toward our identified strategies. An example of a milestone activity is identifying career pathways in Central California for community-based health workers, which once compiled can be shared widely with regional partners and inform the development of additional pathway opportunities. Another example is establishing collaboration with educational institutions that have health pathways to learn about if they offer community-based health worker programs. This will inform our approach and potentially allow us to strategize in partnership with local academic institutions to include it as an option, making these opportunities widely available across the region.

14 <https://docs.google.com/document/d/1PewoIcU4ZRB0r0Fy-WBQKbh-jFiOucDS/edit>

15 <https://docs.google.com/document/d/1PewoIcU4ZRB0r0Fy-WBQKbh-jFiOucDS/edit>

6 The Path Forward



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2. Pesec M, Ratcliffe H, Bitton A, et al. Building a thriving primary health care system: the story of Costa Rica 2017. Google Scholar
3. Ballard, M., Westgate, C., Alban, R., Choudhury, N., Adamjee, R., Schwarz, R., Bishop, J., McLaughlin, M., Flood, D., Finnegan, K., Rogers, A., Olsen, H., Johnson, A., Palazuelos, D., & Schechter, J. (2021). Compensation models for community health workers: Comparison of legal frameworks across five countries. *Journal of global health*, 11, 04010. <https://doi.org/10.7189/jogh.11.04010>

Appendix A: Proposed Work Plan for Strategy A

Key activity	Expected cost	Funding in place	Total investment required	Timing of investment required
Document the community-based health workforce, languages spoken, services offered, and geographic coverage in 4 counties	\$100,000	\$0	\$100,000	6-12 Months
Cost-benefit analysis of community-based health workers in 4 counties	\$250,000	\$0	\$250,000	12-24 months, for initial research, then ongoing research in order to build out the cost-benefit model.
Evaluate hiring practices for the community-based health workforce within health care facilities and CBOs	\$80,000	\$0	\$80,000	6-24 Months
Compile research findings and analytics that support the efficacy of utilizing community-based health workers to improve access, reduce costs, and improve the health and well-being of underserved populations.	\$60,000	\$0	\$60,000	6-12 months

Appendix B: Funding Models: Examples and Opportunities

Research and Advocacy Models:

Funding models for research and advocacy are generally established and could be applied to research and advocacy related to the community-based health workforce. Research and assessments are typically funded through academic/institutional sources, private foundations, government grants, or through an organization's community benefits. Academic institutions often secure funding to support research projects. In the case of research related to the community-based health workforce, it would be beneficial for academic institutions to partner with nonprofit or community-based organizations to launch assessments and conduct studies, combining academic rigor with a community-focused approach to gather comprehensive and impactful data.

Local Investment Models:

Local, state, and federal education investments could be used to prepare people to enter the community-based health workforce, create more equitable access to jobs, and further develop the skills of the workforce. For example, a significant portion of California's general fund¹⁶ is allocated to K-12 and higher education. This type of funding aligns with our strategy to increase access to equitable jobs through investment in education and certain amounts could be allotted to workforce development within K-16 school systems. Local investments can also be made by schools in the region to include support for the community-based health workforce such as expanding pipeline opportunities through CTEs in high school and creating apprenticeship programs or paid internship opportunities. Again, these types of investments are not currently being targeted toward community-based health workers but could be aligned with many of our strategies to support this workforce.

State Workforce Funding Models:

Workforce investments from various sources may also be further applied to the community-based health workforce. For example, the California Labor and Workforce Development Agency¹⁷ has led a significant amount of work related to access to work and workforce development for California workers using state and federal funds. Another example is the 2022/2023 AB 178 which gave Health Care Workforce Advancement Funding, amounting to \$25 million from the general fund, to the Employment Training Panel (ETP)¹⁸ to train health and social workers (called "Health Care Workforce Advancement Funding"). These types of investments are not currently specifically targeted toward community-based health workers, but this type of investment could be utilized in the future for strategies related to training and job access. Another potential investment could be made by employers, who could integrate community-based health services into Workforce Wellness Programs.

International Funding Models:

Costa Rica developed a high-functioning Primary Health Care (PHC) model.¹ In the model, an initiative centered on EPIS, (Exploration, Preparation, Implementation, and Sustainment). Strategies to develop the PHC model required external funding from The World Bank and other multilateral organizations. Eventually, the model became successful once reform took place which required Governance restructuring, Geographic Empanelment, Multidisciplinary Teams, and Sustainment. It then centered funding into the CCSS (Costa Rica Social Security Funds). As a result, CCSS utilizes Cooperatives, which are paid by capitation in the health geographic region.^{1,2} As a result, a key multidisciplinary group such as the creation of technical working groups (TWGs) were established as a model that had key stakeholders to their EBAIS model. Community health workers were then used as key informants to the community that cultivated buy-in. This model did include various health sectors, but CHWs were important to ensure and expand consistent community buy-in, especially if community residents were hesitant to embrace this level of health care. Brazil implements a type of compensation model that reflects a public sector model.³ Their workers are defined as full-time employees (40/week), state employees, and qualify for minimum wage that is updated annually. The compensation model is enacted into law, in which national professional salary is warranted. Lastly, South Africa focuses on a hybrid approach that utilizes funding from both the public and private sectors (sub-contracting).³

16 <https://calbudgetcenter.org/resources/a-guide-to-the-california-state-budget-process/>

17 <https://ebudget.ca.gov/2021-22/pdf/BudgetSummary/LaborandWorkforceDevelopment.pdf>

18 https://etp.ca.gov/wp-content/uploads/sites/70/2022/10/ETP_HealthcareWorkforceAdvancementFundGuidelines.pdf

Appendix C: Potential Additional Sources of Funding Index

Strategy A: Research Agenda

Preventive Health and Health Services Block Grant – 2024 CDC-RFA-PW-24-2400¹⁹

The Preventive Health and Health Services (PHHS) Block Grant Program enables recipients (state government) to address their unique public health needs and challenges through innovative, community-driven approaches. Recipients decide their own goals and plans and use local strategies to meet the Healthy People 2030 objectives.

Multi-sectoral preventive interventions that address social determinants of health in populations that experience health disparities²⁰

This NOFO aims to fund projects that try new ways to prevent health issues by addressing social factors in communities with health disparities. Projects will be part of a research network that shares methods and data and works with the NIH. Projects start with a first phase to show they are ready, and if successful, move to a second phase for further work.

The Role of Work in Health Disparities in the U.S.²¹

Funding Opportunity Announcement (FOA) supports research on how work affects health, especially in groups with health disparities. It aims to find out how different jobs influence health outcomes and how work acts as a social factor affecting health.

Health Care Models for Persons with Multiple Chronic Conditions from Populations that Experience Health Disparities: Advancing Health Care towards Health Equity²²

This initiative aims to support innovative research that studies how to effectively apply recommended care guidelines for people with multiple chronic conditions, particularly in populations facing health disparities. Projects will explore integrating these guidelines across various levels of health care systems. The ultimate goal is to improve treatment outcomes and advance health equity for all.

A Cultural Approach to Good Health and Wellness in Indian Country (GHWIC)²³

The GHWIC initiative focuses on improving health and wellness in Native American communities through culturally-driven approaches. It combines:

1. Community-chosen cultural practices to strengthen resilience and community connections.
2. Policy, systems, and environmental changes to link clinical care with community support for chronic disease prevention and management.
3. Programs addressing non-medical factors influencing health outcomes in a culturally appropriate manner.

¹⁹ <https://www.grants.gov/search-results-detail/354190>

²⁰ <https://www.grants.gov/search-results-detail/350886>

²¹ <https://www.grants.gov/search-results-detail/334380>

²² <https://www.grants.gov/search-results-detail/337319>

²³ <https://www.grants.gov/search-results-detail/349788>

It consists of three competitive components:

- Component 1 involves implementing culturally appropriate strategies to prevent chronic diseases and establish clinical-community linkages.
- Component 2 allocates funds to support multiple tribal entities within an Indian Health Service (IHS) area, enhancing technical assistance and partnership development.
- Component 3 establishes a Tribal Coordinating Center for national coordination, evaluation, and peer support among GHWIC recipients.

Recipients include federally recognized Tribes, Alaska Native Villages, and Urban Indian Organizations (UIOs), fostering collaboration across multiple CDC divisions to promote holistic health solutions.

Model Continuums of Care Initiative (MCCI) to Advance Health Equity and End Health Disparities Among Women and Girls in Racial/Ethnic Minority and Other Underserved Communities (U34 Clinical Trials Required)²⁴

This initiative supports planning for the Model Continuums of Care Initiative (MCCI), aimed at reducing health disparities among women and girls in minority and underserved communities. MCCI focuses on integrating health care services to address mental health, substance use, chronic stress, and chronic diseases like diabetes and cancer. It aims to improve overall health outcomes for women and girls aged 15-44 through comprehensive care approaches and better access to health care in underserved areas.

Community Level Interventions to Improve Minority Health and Reduce Health Disparities²⁵

This funding opportunity supports research to create and test ways to improve health for minorities and reduce health differences.

Understanding the Impact of Health Care System and Clinician Factors on Disparities in Maternal Morbidity and Mortality²⁶

This funding opportunity aims to support innovative research that addresses the health challenges faced by pregnant women in the United States, especially those from minority groups, low-income backgrounds, and rural areas. The focus is on understanding and improving factors that contribute to severe health issues during and after pregnancy. The goal is to reduce maternal deaths and improve health care outcomes for all women, with a special emphasis on those facing the greatest health disparities.

Comprehensive Care for Adults with Type 2 Diabetes Mellitus from Populations with Health Disparities²⁷

This Funding Opportunity Announcement (FOA) supports research to develop and test new ways to improve care for people with Type 2 diabetes from populations facing health disparities. These populations include racial and ethnic minorities, socioeconomically disadvantaged groups, sexual and gender minorities, and underserved rural communities. Projects should focus on patient-centered strategies that not only manage blood sugar levels effectively but also meet other health care guidelines like regular eye and foot exams, blood pressure control, and recommended medications and vaccinations.

²⁴ <https://www.grants.gov/search-results-detail/352827>

²⁵ <https://www.grants.gov/search-results-detail/354833>

²⁶ <https://www.grants.gov/search-results-detail/350644>

²⁷ <https://www.grants.gov/search-results-detail/333817>

Transforming Maternal Health (TMaH) Model²⁸

CMS is launching the Transforming Maternal Health (TMaH) Model to improve care for Medicaid and CHIP enrollees over 10 years. It tests whether targeted assistance and payment reforms can enhance pregnancy, childbirth, and postpartum care while cutting program costs. Up to 15 state Medicaid agencies will be selected, each receiving up to \$17 million in funding, totaling \$255 million. The model aims to lower C-section rates, maternal complications, and low birthweight births while improving care experiences, ultimately reducing Medicaid and CHIP spending on high-cost procedures.

Health and Health Care Disparities Among Persons Living with Disabilities²⁹

This funding opportunity aims to support innovative research that investigates and addresses the various causes and factors negatively affecting the health and well-being of people with disabilities in populations facing health disparities.

Addressing Health and Health Care Disparities among Sexual and Gender Minority Populations³⁰

This funding opportunity aims to support innovative research that studies how and why health disparities happen among sexual and gender minority groups who are also from racial/ethnic minority or low-income backgrounds.

Intervention Research intervention Research to Improve Native American Health (R01³¹ and R34³² Clinical Trial Optional)

This funding opportunity aims to support research on improving health among Native American populations. This includes:

1. Studying causes of health issues to develop new interventions.
2. Developing, adapting, or testing health promotion and disease prevention programs.
3. Testing culturally tailored treatment or recovery programs.
4. Studying how to spread effective interventions in Native American communities.

Native American populations face unique health challenges due to historical, environmental, and social factors. This research seeks to build on community strengths and knowledge to develop culturally appropriate solutions that can be sustained and spread across different Native American communities.

Strategy B: Advocacy Agenda*Assessing and Addressing Community Exposures to Environmental Contaminants (R01 Clinical Trial Optional)³³*

This announcement encourages research that involves communities to study health risks from environmental exposures they're worried about. It aims to create a plan to improve public health based on what's found, aiming to prevent or lower harmful exposures and boost community health.

28 <https://www.grants.gov/search-results-detail/354874>

29 <https://www.grants.gov/search-results-detail/350330>

30 <https://www.grants.gov/search-results-detail/351268>

31 <https://www.grants.gov/search-results-detail/350160>

32 <https://www.grants.gov/search-results-detail/350162>

33 <https://www.grants.gov/search-results-detail/342465>

*Understanding the Intersection of Social Inequities to Optimize Health and Reduce Health Disparities:
The Axes Initiative³⁴*

The Axes Initiative aims to fund research that explores how various social factors like race, ethnicity, income level, sexual orientation, and ability influence health, including the roles played by social and other health determinants.

Addressing the Impact of Structural Racism and Discrimination on Minority Health and Health Disparities³⁵

Center for Maternal and Child Health Medicaid Partnerships³⁶

The purpose of this initiative is to support intervention research that addresses structural racism and discrimination (SRD) to improve minority health or reduce health disparities.

Tribal Self-Governance Negotiation Cooperative Agreement Program³⁷

This agreement supports Tribes in covering costs for negotiations under the Tribal Self-Governance Program (TSGP). It enables Tribes and the federal government to collaboratively plan and share information to address specific health care needs. The outcome is legally binding agreements, called Compacts and Funding Agreements, which define how Tribes take on responsibility for Indian Health Service programs and can be renegotiated by Tribes as needed.

Tribal Self-Governance Planning Cooperative Agreement Program³⁸

This agreement offers resources to Tribes interested in joining or expanding within the Tribal Self-Governance Program (TSGP). It supports essential planning phases required by law, helping Tribes prepare to manage health care programs effectively. Participation is optional, and Tribes can decide based on their planning outcomes whether to proceed with assuming new responsibilities.

Strategy C: Living Wages, Benefits & Reimbursement

Preventive Health and Health Services Block Grant³⁹

The Preventive Health and Health Services (PHHS) Block Grant Program enables recipients (state government) to address their unique public health needs and challenges through innovative, community-driven approaches. Recipients decide their own goals and plans and use local strategies to meet the Healthy People 2030 objectives.

Strategy D: Skill-Based Education & Training

AstraZeneca⁴⁰

Community Investment funding includes financial and non-financial (in-kind) support given to registered charity and non-profit organizations.

34 <https://www.grants.gov/search-results-detail/353790>

35 <https://www.grants.gov/search-results-detail/345671>

36 <https://www.grants.gov/search-results-detail/353825>

37 <https://www.grants.gov/search-results-detail/353227>

38 <https://www.grants.gov/search-results-detail/353228>

39 <https://www.grants.gov/search-results-detail/354190>

40 <https://www.astrazeneca-us.com/sustainability/Request-Support/medical-education-office.html>

Refugee Career Pathways Program⁴¹

The Refugee Career Pathways (RCP) program by the Office of Refugee Resettlement (ORR) funds support for refugees to gain skilled employment. It helps participants explore career options, plan their career paths, and receive training, mentoring, and English language instruction. Financial aid for credentials and certifications is available. Programs must partner with educational institutions and refugee-focused organizations.

Native American Research Centers for Health (NARCH) Planning Grants⁴²

The Native American Research Centers for Health (NARCH) Planning Grants program helps American Indian/Alaska Native Tribes and related entities prepare to apply for competitive NARCH⁴³ grants.

Occupational Safety and Health Education and Research Centers⁴⁴

The National Institute for Occupational Safety and Health (NIOSH) invites applications for grants to establish Education and Research Centers (ERCs) focused on occupational safety and health training. These centers provide graduate and postgraduate training, research, and outreach in key occupational health disciplines. ERCs conduct research on national occupational health issues and collaborate with various organizations to improve worker safety and health across the country.

Strategy E: Equitable Access to Good Jobs*Child Care and Development Fund (CCDF) Lead Agency Data and Research Capacity Grants⁴⁵*

The Office of Planning, Research and Evaluation (OPRE) plans to offer grants to help improve data systems for child care policy decisions. These grants will support partnerships between Child Care and Development Fund (CCDF) Lead Agencies and researchers to assess and enhance their data and research capabilities. Projects will focus on evaluating current data systems, developing questions to guide child care policies, identifying and linking relevant data sources, and overcoming barriers to data use. This 18-month planning phase aims to create a research plan, with the potential for further funding to execute these plans. Collaboration within a Consortium will facilitate sharing information and expertise among projects.

Refugee Family Child Care Microenterprise Development Program⁴⁶

The Office of Refugee Resettlement (ORR) is funding the Refugee Family Child Care Microenterprise Development Project (RFCCMED). This program helps refugees start licensed family childcare (FCC) businesses by providing training in child care, microenterprise development, and financial literacy. It also aids refugees in navigating the child care licensing process and offers financial assistance to set up their homes for child care. The main goals are to help refugees achieve economic self-sufficiency, provide access to licensed FCC businesses for refugee families, and teach refugees how to use mainstream childcare services.

41 <https://www.grants.gov/search-results-detail/349715>

42 <https://www.grants.gov/search-results-detail/351183>

43 <https://www.ihs.gov/dper/research/narch/>

44 <https://www.grants.gov/search-results-detail/343164>

45 <https://www.grants.gov/search-results-detail/351794>

46 <https://www.grants.gov/search-results-detail/349736>

Center for Home-based Child Care Research⁴⁷

This agreement will establish a Center for Home-based Child Care Research to study and support home-based child care (HBCC) in states, territories, tribes, and local communities. The Center aims to improve understanding of HBCC settings and providers, support local research, and enhance access for families. It will focus on factors affecting HBCC availability, engagement in public programs, and quality improvement efforts. The Center will build research capacity and inform local initiatives to strengthen HBCC, particularly for low-income and working families. It will involve experienced teams to investigate HBCC and address related needs and policies.

OJJDP FY24 Supporting Tribal Youth: Training and Technical Assistance and Youth Leadership Development⁴⁸

With this solicitation Office of Juvenile Justice Delinquency Prevention (OJJDP) seeks to provide funding for the development and implementation of comprehensive and culturally relevant training and technical assistance designed to support Tribal efforts to create, enhance, and/or sustain programs, services, and supports for youth in Tribal communities.

Strategy F: Health Care Integration*Patient-Clinician Relationship: Improving Health Outcomes in Populations that Experience Health Care Disparities⁴⁹*

NIMHD plans to support innovative research that examines how improving patient-clinician relationships and communication can enhance health outcomes for people from populations with health disparities. This research will involve various disciplines and focus on multiple levels, such as patient, clinician, and community.

Systems-Based Approaches to Improve Patient Safety by Improving Health Care Worker Safety and Well-Being⁵⁰

This funding opportunity aims to improve patient safety by enhancing the safety and well-being of health workers. It supports AHRQ's goal of revitalizing patient safety efforts with new insights from health care professionals.

Strategy G: Affordable Physical & Mental Health Care*Effectiveness of Implementing Sustainable Evidence-Based Mental Health Practices in Low-Resource Settings to Achieve Mental Health Equity for Traditionally Underserved Populations⁵¹*

This funding opportunity supports studies to develop and test strategies for implementing effective mental health treatments in underserved and under-resourced U.S. areas. It aims to overcome barriers to using evidence-based practices and improve mental health outcomes for underserved populations. Research on factors affecting mental health equity and disparities is strongly encouraged, addressing needs across all ages.

47 <https://www.grants.gov/search-results-detail/351948>

48 <https://www.grants.gov/search-results-detail/354250>

49 <https://www.grants.gov/search-results-detail/336579>

50 <https://www.grants.gov/search-results-detail/351315>

51 <https://www.grants.gov/search-results-detail/345276>

Occupational Safety and Health Education and Research Centers (T42)⁵²

NIOSH/CDC is seeking grant applications for Education and Research Centers (ERCs) focused on occupational safety and health training. ERCs, based in academic institutions, provide advanced training, research, and outreach in fields like industrial hygiene and occupational safety. They conduct research aligned with NIOSH's agenda to improve workplace safety and collaborate with diverse groups to enhance worker health and safety nationwide.

Strategic Prevention Framework – Partnerships for Success for Communities, Local Governments, Universities, Colleges, and Tribes/Tribal Organizations⁵³

This program aims to reduce substance misuse and its impact by funding community-based prevention and mental health promotion services. It supports local providers in expanding their capacity to deliver evidence-based prevention programs effectively.

Appendix D: Impacts and Investment

Strategy A: Research agenda	
Potential funding models	Potential funding sources
Institutional Research Government Grant Funding Philanthropic Funding Initiatives Example: PHI's Together Towards Health Initiative Community Benefit Funding Mechanisms	Academic/Institutional Research Sources: - PCORI (Patient-Centered Outcomes Research Institute) Philanthropic Foundations with aligned priorities: - California Health Care Foundation - Blue Shield of CA Foundation - Kaiser Family Foundation - Robert Wood Johnson Foundation - Public Health Institute Federal and State Government Grant Funding: - HRSA Grants - National Institute of Health Grants - USDA grants around health care and access for farmworker communities - Department of Health and Human Services Community Benefit: - Kaiser Community Benefit
Total Expected Cost: Research capacity does exist within the region, and would likely not have to be contracted out. Local organizations can partner as necessary with state and national experts.	
Funding in Place: Currently, there are several state organizations (First 5 Association, California Health Care Foundation) supporting state-level research on the community-based health workforce. The details of the sustainability of these efforts is unknown. There is no funding specifically dedicated to the regional research proposed under this strategy, though there may be opportunities to align portions of this research with other regional work, such as regional health care assessments, and community health assessments.	
Total Investment Required: Unknown, but estimated at \$490,000. See proposed work plan in Appendix A.	
Timing of Investment Required: Due to the foundational nature of the research strategy to the other strategies, the activities proposed should occur within the next 1-2 years.	

52 <https://www.grants.gov/search-results-detail/343164>

53 <https://www.grants.gov/search-results-detail/347282>

Strategy B: Advocacy agenda	
Potential funding models	Potential funding sources
Philanthropic Investment Traditional Health Care Funding Dues-Based/Member Generated Investments	Philanthropic Foundations with aligned priorities: • The California Endowment • Sierra Health Foundation–The Center Health Care Organizations: • Health care plans—they have a stake in community-level capacity building and integration Dues-Based/Member-generated Investments: • Dues-based union and broad-based organizing models
Total Investment Required: \$560,000	
Timing of Investment Required: Advocacy should receive significant investment within the first 1-4 years, but should continue to receive investment as needed throughout the duration of strategy implementation. Advocacy investment needs will likely vary over the course of the project depending on the actions of state agencies, health plans, state budget allocations, and related legislative initiatives.	

Strategy C: Living wages, benefits, and reimbursement for the community-based health workforce.	
Potential funding models	Potential funding sources
Traditional Health Care Funding Community Benefit Funding Mechanisms State Level Investments	Health Care Organizations • Managed care plan negotiations • DHCS Federal Sources: • Centers for Medicare & Medicaid Services⁵⁴ Community Benefits • Managed care plan community benefit State Level Workforce Investments • Workforce investments through the California Labor and Workforce Development Agency
Funding in Place: Unknown and variable based on units of service provided. Sources of current funding include Medi-Cal and Cal-Aim reimbursement mechanisms.	
Total Investment Required: \$636,551,333	
Timing of Investment Required: Addressing strategy C will require significant initial, and long-term investment. Creating systems level and policy changes to ensure adequate wages, benefits, and reimbursements will require working across systems and across multiple levels of both public and private sectors. The work group anticipates investing in this strategy for a minimum of 7-10 years.	

54 <https://www.grants.gov/search-results-detail/349644>

Strategy D: Appropriate skill-based education, training opportunities	
Potential funding models	Potential funding sources
State and Local Education Investments Employer-Based Investment - Integrating C/P/R/D Services into Workforce Wellness Programs State Level Investments - Education Investments - Workforce Investments	Local Education Investments - Community Schools - Apprenticeship programs/paid internships State Level Education Investments - State funding around workforce Development for K-16⁵⁵ State Level Workforce Investments - Workforce investments through the California Labor and Workforce Development Agency - Health Care Workforce Advancement Funding from Employment Training Panel (ETP) - Various health care workforce funding initiatives
Funding in Place: There is some state level funding that had been previously allocated for developing trainings for the community-based health workforce, but the future of these funds is uncertain, and the way these funds may be allocated to the region is unknown, and likely would not be allocated to local efforts.	
Total Investment Required: \$41,267,122	
Timing of Investment Required: 5-7 years. The implementation of Strategy D depends, in part, on the progress in Strategy A and Strategy B. It typically takes 1-3 years to fully develop, test, and launch training curriculums, and the work group anticipates that additional time will be necessary to adapt trainings, delivery methods, and supportive infrastructure to the needs of this diverse workforce. Furthermore, as the needs of communities change, additional training may be necessary to fully meet community needs.	

Strategy E: Equitable access to good jobs	
Potential funding models	Potential funding sources
Local Workforce and Education Investments	Local Workforce and Education Investments - Workforce Investment Boards in each county - Expanding pipeline opportunities through CTEs in high school - CalJobs
Total Investment Required: \$467,465,232	
Timing of Investment Required: 7-10 years. The implementation of Strategy E depends, in part, on the progress of Strategy B and Strategy C. This strategy proposes a series of projects that will result in systems change in both education and health care industries. Changes at the systems level require significant time and resource investment.	

55 <https://www.ppic.org/publication/californias-higher-education-funding-landscape/>

Strategy F: Integration of community-based health workers in the health care system:

Potential funding models	Potential funding sources
Traditional/Existing Health Care Funding Philanthropic Investment Hospital-Based Community Benefit Funding Mechanisms	Traditional/Existing Health Care Funding • CHW Benefit Anthem/Health Net • Medi-Cal • CMS Philanthropic Investment • Anthem Foundation • California Health Care Foundation • Hospital Council Hospital-Based Community Benefit • Individual hospitals or hospital systems
Total Investment Required: \$312,980	
Timing of Investment Required: 7-10 years. The implementation of Strategy F depends, in part, on the progress of Strategy B and Strategy C. This strategy proposes a series of projects that will result in systems change in health care industries, and relies on the ability to create true behavior change across health care systems. Changes at the systems level require significant time and resource investment.	

Strategy G: Affordable physical and mental health care: To effectively serve the community, inequities in access to affordable physical and mental health care need to be addressed

Potential funding models	Potential funding sources
Philanthropic Investment Institutional Research Community Benefit Funding Mechanisms County Agency Investment	Philanthropic Investment • California Health Care Foundation • Blue Shield of CA Foundation • Kaiser Family Foundation • The Robert Wood Johnson Foundation • Sierra Health Foundation Institutional Research • PCORI (Patient-Centered Outcomes Research Institute) Community Benefit Funding Mechanisms • Kaiser Community Benefit • National Institute of Mental Health • National Institutes of Health⁵⁶ County Agency Investment • County Department of Public Health • County Workforce Investment Board
Total Investment Required: \$150,161	
Timing of Investment Required: 7-10 years. The implementation of Strategy G depends, in part, on the progress of Strategy B and numerous initiatives related to access to care that are outside of the scope of S2J2. This strategy proposes a series of projects that will result in systems change; changes at the systems level require significant time and resource investment.	

56 <https://grants.nih.gov/grants/guide/pa-files/PA-21-291.html>

Appendix E

Stakeholders Map

The Stakeholder Map here provides an overview of the profile of required stakeholders that need to be part of the discussion. It lists the local stakeholders committed to each of the strategies we identified, and it outlines the stakeholders who need to be included going forward.

Strategy	Available/Committed Stakeholders	Stakeholder Gaps	Required Stakeholders (Profile)
A. Research Agenda	Fresno County DPH Madera County DPH Tulare County DPH Central California Public Health Consortium (CCPHC) Central Valley Health Policy Institute (CVHPI) 2 Doula representatives FIRM Fresno Community Health Improvement Partnership (FCHIP)/HOPE CalViva Promotora Jakara Movement Black Wellness & Prosperity Center (BW&PC) Vision y Compromiso	Kings County DPH UC Merced, Labor Statistics School of Public Health Centro La Familia West Fresno Family Resource Center Latino Central CA Asthma Collaborative <i>Unidad Popular Benito Juarez</i> <i>Fresno Building Healthy Communities</i> <i>Fresno American Indian Health Project</i> <i>RISE-INC</i> <i>Los Promotores Comunitarios</i> <i>National Latino Farmers and Ranchers</i>	Schools of Public Health County Public Health Depts. Region-wide public health collaboration Region-wide policy agency Language/culture-aligned CBOs Language/culture-aligned research agencies
B. Policy/Advocacy Agenda	CCPHC CVPHI CHW/P/R Coalition CHW representatives Promotora representatives Doula representatives S2J2 Tribal Representative FIRM CalViva Promotora Jakara Movement BW&PC Vision y Compromiso	Community-based workforce Tribal Representatives (CHW/P/D/R) Centro La Familia West Fresno Family Resource Center <i>National Latino Farmers and Ranchers</i> <i>Familias Empoderadas</i> <i>Latino Equity Advocacy and Policy Institute</i> <i>Central CA Asthma Collaborative</i> <i>Unidad Popular Benito Juárez</i> <i>Fresno Building Healthy Communities</i> <i>Fresno American Indian Health Project</i> <i>RISE-INC</i>	Region-wide public health collaboration Region-wide policy agency State-wide policy agency Community-based workforce representatives (CHW/P/D/R) Language/culture-aligned CBOs Language/culture-aligned policy agencies

Strategy	Available/Committed Stakeholders	Stakeholder Gaps	Required Stakeholders (Profile)
C. Living Wages, Benefits, Reimbursement Rates	CHW/P/R Coalition CHW representatives Promotora representatives Doula representatives Representative—S2J2 Tribal Representative FIRM FCHIP/HOPE CalViva Promotora Jakara Movement BW&PC Vision y Compromiso	Futuro Health Centro La Familia Central CA Asthma Collaborative (LoS) West Fresno Family Resource Center <i>Workforce Development Boards—Madera, Fresno, Kings, Tulare</i> <i>Fresno American Indian Health Project</i> <i>RISE-INC</i> <i>Another Level Training Academy</i> <i>Community Services Employment Training</i>	Employment training programs Community-based workforce representatives (CHW/P/D/R) Language/culture-aligned CBOs Workforce Development Boards—Madera, Fresno, Kings, Tulare
D. Equitable Access to Good Jobs	CHW/P/R Coalition CHW representatives Promotora representative Doula representative Representative—Tribal Rep Savannah Tash FIRM FCHIP/HOPE CalViva Promotora Jakara Movement BW&PC Vision y Compromiso County Workforce Development Boards	Community Services Employment Training (LoS) Futuro Health Centro La Familia West Fresno Family Resource Center Workforce Development Boards—Madera, Fresno, Kings, Tulare Central CA Asthma Collaborative <i>Fresno American Indian Health Project</i> <i>RISE-INC</i> <i>Another Level Training Academy</i>	Language/culture-aligned CBOs Community-based workforce representatives (CHW/P/D/R) Workforce Development Boards—Madera, Fresno, Kings, Tulare
E. Education, opportunities	CSU CHW/P/R Coalition CHW representatives Promotora representative Doula representative Representative—Tribal Rep Savannah Tash FIRM FCHIP/HOPE CalViva Promotora Jakara Movement Black Wellness & Prosperity Center Vision y Compromiso	<i>Sequoias Adult Education Consortium</i> <i>Centro La Familia</i> <i>Education and Leadership Foundation</i> <i>County Offices of Education—Fresno, Tulare, Kings, Madera</i> <i>Madera Community College</i> <i>Fresno American Indian Health Project</i> <i>West Fresno Family Resource Center</i> <i>Central CA Asthma Collaborative</i> <i>RISE-INC</i> <i>Another Level Training Academy</i>	CSU Fresno, CSU Merced Allied Language/culture-aligned CBOs Community-based workforce representatives (CHW/P/D/R) County Office of Education—Fresno, Tulare, Kings, Madera Madera Community College (LoS) Adult education programs

Strategy	Available/Committed Stakeholders	Stakeholder Gaps	Required Stakeholders (Profile)
F. Integration Within Health Care System	Camarena Health CalViva Promotoras con Alma FCHIP/Fresno HOPE Black Wellness & Prosperity Center Nurse CHW/P/R Coalition CHW representatives Promotora representative 2 Doula representatives (T. Manning, S. Finch) FIRM/HOPE FCHIP CalViva Promotora Jakara Movement BW&PC Vision y Compromiso	Hospitals CC Asthma Collaborative CHW/P/D/R-serving CBO's Centro La Familia West Fresno Family Resource Center Central CA Asthma Collaborative <i>Fresno Building Healthy Communities)</i> <i>Fresno American Indian Health Project</i> <i>RISE-INC</i> <i>Medi-Cal Health Plans</i>	Hospitals FQHCs Health plans Language/culture-aligned CBOs Training/Certification agencies Facility-based health Community-based workforce representatives (CHW/P/D/R)
G. Physical and mental health support/access	CHW representatives Promotora representative Doula representative Representative—Tribal Rep Savannah Tash FCHIP/HOPE CalViva Promotora Jakara Movement FCHIP/Fresno HOPE Vision y Compromiso	County Behavioral/Mental Health Depts Centro La Familia West Fresno Family Resource Center Central CA Asthma Collaborative <i>Fresno Building Healthy Communities</i> <i>RISE-INC</i>	County Behavioral/Mental Health Depts. Community-based workforce representatives (CHW/P/D/R) Language/culture-aligned CBOs

Appendix F

Required Stakeholders

In chapter 1 we describe the Assets Map⁵⁷ that provides an overview of infrastructure for CHWs/Promotores/Community Representatives and Doulas in the Central California region, and includes the following sections:



Legislation and Advocacy Group

These stakeholders underscore and elevate the critical role of community-based health workers in improving the health and well-being of the communities they serve. In addition to providing services, and education, they advocate for systemic change to address systemic inequities, particularly impacting immigrants, BIPOC communities, and low-income individuals by addressing economic, racial, and health equity through their initiatives. Part of the advocacy is policy changes that improve the health outcomes of the community-based health workforce and the communities they serve primarily. These organizations are community-led and use community-informed approaches and seek sustainable changes that improve health outcomes.



Statewide Programs

These initiatives/programs serve underserved communities that experience increased health disparities, and they describe the role the community-based health workforce plays in improving the health outcomes of these populations. These initiatives describe counting on federal funding and legislative support and how it plays a crucial role in their sustainability. All initiatives use evidence-based interventions. The Community Health Representatives underscore the importance of using culturally appropriate approaches, while the Community Health Workers underscore the importance of integrating them into the traditional health care team.



Research Institutions/Collaboratives

These research institutions and collaboratives advance evidence-based research about community-based health workers and share best practices that adequately equip and enable this workforce to improve the health outcomes of underserved and marginalized communities. In addition to research, they conduct program evaluations to inform policy about the community-based health workforce. They often use the data to inform their strategies. They provide insights into community-based approaches, develop frameworks, and advocate for the integration and sustainability of community-based health workers.

57 https://docs.google.com/spreadsheets/d/1eYthV2d_-HhUbd1YxrYBBROxJZ81N6eW/edit?gid=1982114692#gid=1982114692

**Resources and Groups by County**

We listed the stakeholders that are service providers, advocates, and/or organizers of community-based health workers by county (Kings, Fresno, Madera, Tulare).

**Central Valley Resources**

We listed the stakeholders that are service providers, advocates, and/or organizers of community-based health workers across the Central Valley.

**Technical Assistance**

We listed the stakeholders that provide organizational support to entities interested in advocating, training, and institutionalizing community health workers and promotores in traditional health care and community-based organizations. Part of the support involves assessments. They elevate the key role of career pathways, living wages, and benefits for community health workers and promotores.

**Training and Professional Support**

The stakeholders listed provide training in the Central Valley for community health workers, promotores, community health representatives, and doulas. This includes both online and in-person training. Some of these resources offer pathways for employment and support job readiness. This section also includes details regarding language accessibility and the cost of training.

**CWs/Promotores/Community Representatives and Doulas Serving Central Valley/Employers**

These stakeholders are community-based health providers to communities in the Central Valley and employers of community-based health workers.

**Other Organizations**

These are stakeholders that contribute to the community-based health workforce infrastructure either directly or indirectly.

The stakeholders listed below are crucial as they are part of the existing infrastructure and have critical information based on their experience implementing policies and providing services to the Central Valley's underserved and marginalized workforce. Many of these stakeholders, although not located in and do not primarily serve Central California, provide training, advocate for the institutionalization of community-based health workers, and provide support to Central California programs and organizations.

Advocacy Groups

- Vision y Compromiso
- Black Women for Wellness
- Black Women for Wellness Action Project
- Western Center on Law & Poverty
- National Health Law Program
- California Association of Community Health Workers
- National Association of Community Health Workers
- The Community Health Workers, Promotores, and Representatives (CHW/P/R) Coalition

Statewide Programs

- Black Infant Health Program
- Perinatal Equity Initiative
- Indian Health Service (IHS) Community Health Representative (CHR) Program
- California Health Workforce Alliance

Professional Associations

- Central Valley Black Nurses Association
- California Association of Community Health Workers
- California Primary Care Association
- American Public Health Association

Research Institutions/Collaboratives

- Central Valley Health Policy Institute
- California Preterm Birth Initiative
- California Maternal Quality Care Collaborative
- California Association of Community Health Workers
- National Association of Community Health Workers (NACHW)
- Community Health Worker, Promotores, and Community Health Representatives (CHW/P/R) Workforce Resource Hub
- California Health Care Foundation

County-Specific Resources and CHWs/Promotores/Community Representatives and Doula Groups

Madera

- Vision y Compromiso
- Wave's Embrace Doula Services LLC
- Centro Binacional para el Desarrollo Indígena Oaxaqueño

Fresno

- Cultiva la Salud
- Black Wellness & Prosperity Center
- The Fresno Center
- Centro la Familia
- Valley Center for the Blind
- Vision y Compromiso
- Centro Binacional para el Desarrollo Indígena Oaxaqueño

Kings and Tulare

- Vision y Compromiso
- Valley Voices

Central Valley Resources

- BLACK Wellness and Prosperity Center
- Fresno Birth Collective
- Fresno Community Health Improvement Partnership
- Harmony Doula
- Kaweah Health
- Tulare Network of Care
- Fresno Birth and Baby Doula Group
- Central Valley Health Policy Institute

Local Public Health Departments

- Fresno County Department of Public Health
- Kings County Department of Public Health
- Madera County Department of Public Health
- Tulare County Health and Human Services Agency

Academic Organizations in Madera, Fresno, Kings, and Tulare

- K-12 School Systems
- CSU, Fresno
- Community Colleges
 - Fresno City College
 - Reedley College
 - Clovis Community College
 - College of the Sequoias
 - West Hills College Coalinga
 - Porterville College
 - West Hills College Lemoore
- California Health Science University
- University of California San Francisco's regional campus in Fresno

Other Organizations

- Central California Public Health Consortium
- First 5 Association
- Fresno County Department of Public Health Community Health Worker Network

Training and Professional Support

- Berkeley Health Initiative of the Americas
- Indian Health Services
- Vision y Compromiso
- Doulas by the Bay
- Nurtured Endeavors
- Sacramento Breastfeeding Coalition
- Birth Education Center
- Frontline Doulas
- Doulas Association of Southern California
- Sierra Childbirth Institute
- Mighty Community Advocacy
- California Association of Community Health Workers
- Central Valley Health Policy Institute
- Futuro Health (education provided by Mercy College of Health Sciences)
- Northern ACEs Collaborative/Population Health Innovation Lab, a program of the Public Health Institute
- Promotores con Alma
- Fresno Building Healthy Communities

Employers of CHWs/Promotores/Community Representatives and Doulas and Doula Groups in the Central California Region

- Health Plans
- Anthem Blue Cross
- CalViva Health
- Health Net
- Clinics or Health Care Facilities
- Camarena Health
- Trinity Health - FQHC
- Aria Community Health Center - FQHC
- Altura Community Clinics - FQHC
- Kaweah Delta
- Adventist Health
- Valley Health Team - FQHC
- Family Health Care Network -FQHC
- Clinica Sierra Vista -FQHC
- Vision y Compromiso
- Cultiva la Salud
- Reading and Beyond
- Black Wellness & Prosperity Center
- The Fresno Center
- Centro la Familia
- Valley Center for the Blind
- Exceptional Parents Unlimited
- Building Healthy Communities
- Fresno Interdenominational Refugee Ministries
- Jakara Movement
- Centro Binacional para el Desarrollo Indígena Oaxaqueño
- Fresno HOPE PCH
- Promotores con Alma
- Indian Health Service
- Fresno American Health Program
- Tule River Indian Health Center, Inc. (Porterville)
- North Fork Indian Health Center
- Tule River Alcoholism Program (TRAP)
- Central Valley Indian Health, Inc
- Kings United Way
- Saint Agnes Medical Center
- Elevate Health - Health Insurance Provider (operate as Anthem Blue Cross or Anthem Blue Cross and Blue Shield in their 14 Blue-licensed markets)

Employers of CHWs/Promotores/Community Representatives and Doulas and Doula Groups in the Central California Region Cont'd

- United Way Fresno and Madera
- Sierra Vista Clinic
- Duchess of Doula
- Peaceful Passages Birthing Support Center
- Mighty Community Advocacy
- Monalisa Doula & Childbirth Educator
- Her Yonisty
- Wave's Embrace Doula Services LLC
- Central California Asthma Collaborative
- California Health Collaborative
- Central California Environmental Justice Network
- Valley Voices

CHWs/Promotores/Community Representatives and Doulas Serving Central Valley

- All Families Doula Services
- Fresno Birth
- Fresno Birth and Baby
- Quetzani Sevilla
- Joytonia Jackson Duchess of Doula
- Bethany Chavez
- Free Birth Babies
- Love & Labor Birth Services
- Coleen Salazar
- Monalisa Orduno Birth Doula
- Peaceful Passages Birthing Support Center
- Mighty Community Advocacy
- Her Yonisty Feminine Wellness
- Wave's Embrace Doula Services LLC

Appendix G

Stakeholder Needs

The Community-based Health Workforce Workgroup identified the following overarching needs that require consideration while advancing the strategies identified. Stakeholders' needs are continuously evolving thus continuous collaboration and discussion are needed to ensure needs to reflect the landscape changes.

Integrating Community-Based Health Workforce in Federally Qualified Health Centers: Stakeholders highlighted the critical role of Federally Qualified Health Centers as health care providers and the importance of incorporating them into the discussion.

- Importance of Strategies: Stakeholders highlighted the importance of prioritizing the strategies already identified by this working group.
- It's crucial to address the strategies identified by this workgroup and prioritize them, recognizing the time and effort partners (including CPRs) are putting into developing this investment plan.
- Local health departments need to be integrated into this work.
- Stakeholders can be integrated as part of the multidisciplinary team, alongside strategically working with CPR's/ Doulas/CHWs/Promotores.

Investment in People: Stakeholders underscored the importance of honoring individuals' time, input, and collaboration.

- Invest in people's time and ensure they are included in discussions.
- Invest in effective coordination of projects and stakeholder groups.

Highlight the Importance and Impact of the Work: Stakeholders need assurance that they are investing time in efforts that make an impact and that align with their goals.

- Show the meaningful impact of the work, demonstrating that partners and investors are supporting a good strategy that aligns with their goals. For example, highlight improvements in patients' health indicators, and improve patient health care experience.

Welcoming Partners: Stakeholders underscore the importance of continued stakeholder engagement in meaningful ways.

- Welcome people to the coalition to avoid isolation. Make sure partners are included in a way that makes sense for them.
- Recognize the diverse cultures and languages spoken by the people in our community and leverage their cultural expertise and lived experience.
- Be intentional about personal invitations to get involved.

Community-Centered Models: Stakeholders emphasized the importance of using models that prioritize the investment in the well-being of the community and facilitate opportunities for connectedness.

- Focus on sustainable funding.
- Provide qualified interpretation and translation services to train the community-based health workforce.
- Recognize tribes in Fresno County, especially those not federally recognized, and the challenges this poses such as they cannot access certain funding streams.
- Create space to develop interagency relationships for cultural exchange among diverse populations, such as engaging indigenous communities that are part of the workforce in Central California.
- Community Models will ensure continuous community buy-in and strengthen trust with community residents.

Stakeholders identified the following strategy specific needs.

Living Wages, Benefits, and Reimbursement: Stakeholders underscored reimbursement increase as one of the priorities.

- Reimbursement increase

Appropriate Skill-Based Education, Training Opportunities: Stakeholders highlighted the importance of centering community-based health workers' needs to develop adequate training.

- Better educate CHWs/Promotores/Community Health Representatives and bring them to the workforce.
- Adoption of community center models for training to equip existing and future talent with adequate skills in a fashion that is culturally and linguistically appropriate.
- Adoptions of community center models to increase retention of qualified and skilled talent.
- Qualified interpretation and translation that can train a community-based health workforce.

Equitable Access to good jobs: Stakeholders underscored the key role of learning and adopting new hiring practices to identify and retain the skillful community-based health workforce in the Central Valley.

- Adoptions of community center models in hiring practices to ensure that we enable job opportunities for community members who have critical skills to provide crucial services as community-based health workers.

Appendix H

Available / committed strategy-specific stakeholders

In the tables below we provide information about some of the stakeholders who are part of the Community-based health Workforce Workgroup and contribute to this investment plan. Additionally, the tables reflect the current commitments that stakeholders have signed up for, and an overview of their role in enhancing the community-based health workforce in Central California. This is a partial list of stakeholders necessary to move the work forward. It functions as a starting point that will expand as more stakeholders join the efforts advanced through this investment plan.

Organizational Partner	Strategy(ies)	Role
Arizona State University-College of Nursing & Innovation	Education/Training	Provide standard curriculum for the health workforce.
Black Wellness & Prosperity Center	Education/Training Advocacy	Serve as a social enterprise to address the doula provider deficit by developing the required backbone infrastructure to train, support, and sustain doulas, and provide birthing persons with access to health care services previously demonstrated to decrease health disparities. In addition, provide advocacy, research, and strategy development for evidence-informed decision making to impact programs and policies.
CalViva Health	Education/Training, Mental & Physical Health Care	Inform health plan members and community on Medi-Cal benefits with a focus on establishing a medical home.
Camarena Health	Living Wages/Benefits, Education/Training, Health Care Integration	patient engagement and increase access to preventive health care
California Farmworker Foundation (CFF)	Research, Advocacy, Living Wages, Education/Training, Good Jobs, Health Care Integration, Physical & Mental Health Care	Provide resources to community members who are in need of education and health services through collaboration with other local organizations.
Centro Binacional para el Desarrollo Indígena Oaxaqueño	Advocacy, Living Wages, Education/Training	CBDIO has advocated for and aided indigenous communities by providing interpreting services to monolingual populations, delivering education on health issues, and providing assistance accessing health and social services programs.
Central California Public Health Consortium (CCPHC)	Research, Advocacy, Health Care Integration, Physical & Mental Health Care (and potentially others)	Research and advocacy; collaboration with public health and health care stakeholders, collaboration with regional CBOs, regional coordination,
Central Valley Health Policy Institute (CVHPI)	Research, Advocacy, Education/Training	Health Policy Research, consult, assessment, Health literacy, language literacy, and enhance CHW training for an equitable workforce and diverse workforce, leadership-coalition, support, apply to philanthropic, federal, state, and local funding,
Central Valley IAF	Advocacy	Community organizing, relational power building, civic leader development
Central Valley Health Network	Advocacy, Health Care Integration	Leverage FQHC network to advocate for increased reimbursement rates and integration into the health care teams.

Organizational Partner	Strategy(ies)	Role
Centro La Familia	Advocacy, Living Wages, Education/Training	CHWs in Fresno and western Fresno County, maybe a little in eastern portion; Has 4 Neighborhood Resource Centers (3 in Fresno, 1 in Kerman); In Fresno HOPE Network; Spanish and Hmong bilingual available. in Home Visitation Network (co-lead); Employer.
The Children's Movement	Advocacy	Community organizing, relational power building, civic leader development; Youth involved
Cradle to Career Fresno County	Advocacy, Living Wages, Mental & Physical Health Care	Advocacy, inclusion of CHWs in collaborative work and pilots, connect with California Cradle to Career Coalition for advocacy, connection to FCSS Community Schools work, connection to Home Visitation Network
Community Health System	Health Care Integration	Employer, larger health care system to integrate CHWs into.
Comprehensive Youth Services	Living Wages, Education/Training, Health Care Integration	Provide 2-3 Neighborhood Resource Centers and employs CHWs (although may not be called that).
Cultiva La Salud	Advocacy, Education/Training, Health Care Integration, Mental & Physical Health Care	CHWs in eastern Fresno County. Bilingual Spanish. Employer.
Easter Seals of Central California	Living Wages, Education/Training	Has CHWs to provide services to clients who receive targeted developmental needs support conducted by Behavioral Analysts, who cannot bill for CHW work (nor have the time.) In Fresno HOPE network. Employer.
Exceptional Parents Unlimited (EPU)	Health Care Integration, Mental & Physical Health Care	Has CHWs through Fresno HOPE; CHWs through DPH Health Disparities; has Home Visitors. Has two Neighborhood Resource Centers that use CHWs. Employer.
First 5 Fresno County	Advocacy, Living Wages, Education/Training, Good Jobs, Health Care Integration	Connect with statewide association of First 5s for advocacy efforts, connect network of First 5 funded partners to this work, connect First 5 Center for Children's Policy support pilots/efforts for C-F related to young children and their families in Fresno County
First 5 County Commissions in other Central Valley Counties (Madera, Tulare, Kings)	Advocacy, Living Wages, Education/Training, Good Jobs, Health Care Integration	Convene, partner, help lead the movement through advocacy for California's children prenatal through age 5 and their families for these 3 counties.
Fresno American Indian Health Project (FAIHP)	Research, Advocacy, Living Wages, Education/Training, Health Care Integration, Physical & Mental Health Care	Provide health education, public health, behavioral health, youth prevention services, referrals for transportation, medical, and social service programs for the native community.
The Fresno Center	Advocacy, Living Wages, Education/Training, Good Jobs, Health Care Integration	Southeast Asian and Hispanic staff who function as CHWs, although may not be called that.
Fresno Community Health Improvement Partnership (FCHIP)	Research, Living Wages, Education/Training, Health Care Integration, Physical & Mental Health Care	Lead, convene, support, and align partners to avoid duplication and best use of resources. Partners with local CBOs (Care Coordination Agencies) to support Fresno County residents with identified SDOH needs and access to health care and mental health using the Pathways Community Hub Institute Model.
Fresno County Division of Health Policy and Wellness	Education/Training	Facilitate Cultural and Linguistically Appropriate Standards Training

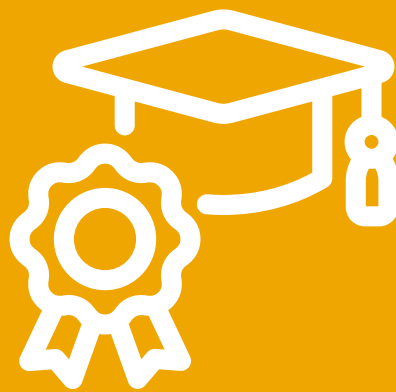
Organizational Partner	Strategy(ies)	Role
Fresno County Community Health Worker Collaborative	Education/Training	CHW Collaboration with local partners, Linkage to local services and resources, etc.
Fresno Co. Dept of Social Services	Living Wages, Education/ Training, Good Jobs, Health Care Integration	Works with navigators, contracts with CBOs to provide navigation services usually through Neighborhood Resource Centers
Fresno County Superintendent of Schools Community Schools department	Advocacy, Living Wages, Education/Training	Schools are/may be developing CHWs for their neighborhoods; they could contract with CHWs but they are looking to grow their own for sustainability purposes. There are more than 14 districts involved with more than 50 schools. They will need to expand their MediCal billing but they are interested and investigating. Potential employers will need training services.
Fresno Interdenominational Refugee Ministries (FIRM)	Advocacy, Education/Training	Community advocacy work, developing skills and education training for CHWs in our communities. Specialize in training CHWs fluent in languages other than English, esp. Southeast Asian, and recent arrivals. CLAS Standards. Help systems understand who is being excluded by their standardizations.
HealthForce	Education/Training	Developer of standardized training, Provider of standardized training, Creator of career ladders, Collaborator with CHW/Promotores/Doula/ Representative employers.
Health Net	Education/Training	Insurance provider for Medi-Cal individuals and families
Jakara Movement	Living Wages, Physical & Mental Health Care, Education/ Training,	Community organizing, hire Cultural and Linguistically Appropriate CHWs to serve in region
Kings County Public Health	Advocacy, Living Wages, Education/Training	Hires CHWs and contracts with CBOs to address identified health issues
Madera County Department of Public Health	Living Wages	Employs CHWs and contracts with CBOs to address identified health issues
Madera Workforce Investment Board	Living Wages, Education/Training, Good Jobs, Health Care Integration	Provide training and help find equitable work for CBHW
The Leap Institute	Living Wages, Education/Training,	Hires CHWs for systems navigation and support with transportation for rural area residents
Promotoras Con Alma	Living Wages, Physical & Mental Health Care	Engage with community partners to strengthen the capacity of CHW/Promotores/Representatives, boost the uptake of the CHW/P/R Medi-Cal benefit for eligible populations. Provides training, support, and certification programs for CHW/Promotores/ Representatives.
Proteus Inc	Living Wages, Education/Training, Good Jobs	Provide education, workplace training, job placement, and other support services to farm worker families to foster self-sufficiency in Fresno, Kings, and Tulare counties.
Reading and Beyond	Advocacy, Education/Training, Health Care Integration, Physical & Mental Health Care	Uses CHWs for seniors and starting a program as they transition from services from Group Prenatal Care - Glow! for pregnant moms and infants. Employer - Hmong and Spanish. Also run a Wellness Wednesday Class run by CHWs

Organizational Partner	Strategy(ies)	Role
Saint Agnes Medical Center	Advocacy, Living Wages, Education/Training, Health Care Integration	Employer; Utilizes and supports CHWs within their system; an OB hospital that may utilize doulas in the future
Tulare County Public Health	Advocacy, Education/Training,	Raise awareness about the importance of community-based health workforce. Grant writing Provide training and support to other organizations regarding how to grow/develop CHW program
Visión y Compromiso	Research, Advocacy, Living Wages, Education/Training, Good Jobs, Health Care Integration, Physical & Mental Health Care	Provide leadership development, advocacy training, capacity building and support to Promotores and CHWs.
Westside Family Preservation Services Network	Research, Living Wages, Education/Training; Physical & Mental Health Care	Hire, train and provide community health workers in the rural West Fresno County and Eastern Madera counties and deploy them out of our 8 centers in Huron, Coalinga, Kerman, Firebaugh, Mendota, San Joaquin, Oakhurst.
West Fresno Family Resource Center (WFFRC)	Advocacy, Education/ Training, Health Care Integration, Physical & Mental Health Care	Hires and trains CHW to provide housing, translation, education, transportation, food, health, and other supportive services to achieve economic empowerment, educational advancement, health literacy and reduce health disparities.
Whole Person Caring	Education/ Training, Health Care Integration, Physical & Mental Health Care	Provide a holistic perspective for community-based health - program development, infrastructure and grass roots.
Workforce Investment Board of Tulare County	Living Wages, Education/Training, Good Jobs	Serve as a connector between the U.S. Department of Labor and local job centers to workers and employers and develop regional strategic plans and funding priorities for Tulare County.
Youth Leadership Institute	Advocacy, Education/ Training	Hires CHWs to engage youth to address health impact of social media
Valley Voices	Advocacy	Identify and engage residents of Kings, Tulare, and Fresno counties to develop local frameworks for civic engagement and voter education to advocate for worker rights, and socioeconomic and health equity.

Appendix I

Key Resources

- **Funding:** Financing resources are needed to cover the direct and indirect costs associated with carrying out the identified activities, such as personnel time, equipment, and software costs. The cost of each activity depends on the amount of resources it will require to accomplish it within six months.
- **Personnel:** Experts with experience in collaborating with key stakeholders are needed to achieve these activities within the next six months. Personnel with data analysis, collaboration, community engagement, and management are essential to collect and analyze data for the next six months.
- **Time:** Designated time in the personnel work plan will be required to ensure that they use the necessary resources, knowledge, and skills to carry out the activities identified by the workgroup partners.
- **Equipment and Software:** Equipment and software are required for communicating with partners, conducting research, collecting, and analyzing data critical to the activities outlined by partners for the next six months.
- **Information and data:** The majority of the activities rely on the information and data owned by stakeholders and partners of this workgroup. This is a critical resource that will enable the workgroup to achieve several of the identified activities.
- **Knowledge and expertise:** Knowledge and expertise from the various stakeholders, such as those involved in workforce development, health care access, and childcare, are essential to access the level of information that partners in this workgroup identified as critical for the next six months.
- **Network resources:** Network resources such as information, connections, and partnerships are crucial for achieving many of the identified activities. Examples include an existing network of community health workers/promotores/community health representatives and doulas serving Central California residents, who can provide information about best practices.



Education and Skill Building

Community Investments



Community Investments

Education and Skill Building

1 Problem Statement, Opportunity, & Area Overview

For the Sierra San Joaquin region’s economy to thrive, it must train and prepare a diverse, culturally competent pipeline to enter a workforce ready to fill quality jobs in growing industries, ultimately reducing racial and ethnic economic disparities. It must also invest in strong infrastructure and resources to support whole-human development from prenatal, K-16 education, career growth and transition, to retirement. A healthy, thriving workforce must go hand-in-hand with healthy, thriving communities.

While there are many resources and assets in the four-county region that are aligned with the S2J2-identified investment themes – one water, broadband, responsible food and agriculture, climate solutions, and circular manufacturing – the existing education and workforce development systems can be better coordinated and integrated to meet the local workforce needs of these industries.

Specific challenges requiring investment include:

- A mismatch between workers’ skills and available jobs;
- Inefficient existing training systems that are slow to change and unable to respond to changing labor market needs;
- Inconsistent system-level partnerships depending on factors such as incentive and capacity to collaborate between K-12, adult education, postsecondary education, industry, and community-based organizations;
- Insufficient or inaccessible knowledge and guidance on career pathways for high school and college students;
- Difficulty knowing what resources exist in the community for workforce or skills development, and how to access the resources;
- Pathways into occupations in the emerging sectors (e.g., climate solutions and circular manufacturing) have yet to be clearly defined;
- Insufficient “prevention and early intervention” efforts to promote children’s early growth and development, particularly ages 0-3; and
- Lack of culturally relevant resources that enable equitable access to education and training.

These system-level deficiencies have considerable impact on local communities and individual residents and, if not addressed, will limit the region's prospects for economic prosperity in the identified industries. The region needs coordinated systematic action that creates opportunities such as *work-based learning*, *paid internships*, *on-the-job-training*, *CTE pathways*, and *higher education degrees*, while minimizing the very real barriers – like access to affordable childcare and reliable transportation – that hinder individuals' ability to continue their education. Without it, the region will continue to experience high rates of unemployment and lack of upward mobility for its most marginalized residents.

- **Equity:** Ensure that all individuals, families, and communities in the region have equal opportunity and access for health, education, and economic advancement. It is imperative that we design and build training programs that reach everyone in the region.
- **Environmental Stewardship:** Ensure that economic advancement is responsible and done in a way that is green and safe for the environment.
- **Good jobs:** Prioritize education, training, and infrastructure for local workers so they can participate in high-demand, living wage jobs with chances of equitable access to quality jobs that promote career ladders with upward mobility, support ongoing training, and provide accessible educational opportunities.
- **Data-based planning:** Build a plan for ongoing data collection across K-12, higher education, and industry to support new investment models and pathways.

All told, the emerging workforce is underprepared for employment and experiences barriers when seeking upskilling and retraining in an ever-changing employment environment. Addressing this problem will require strategic investment at the systems level to facilitate broad improvements in the education and workforce development landscape. These investments will have to balance the tension between the immediate, real-time education and workforce needs while holding long-term, sustainable efforts that will significantly advance the economic mobility of the region.

1.1 Rationale for Prioritization

Limited resources and educational disparities hinder the development of a foundation for young learners, impacting their long-term academic success and future opportunities in the region (Valley CERF Regional Plan).

Data from Fresno County Cradle to Career suggests that public school students in the region consistently miss achievement targets in math, reading, and early social-emotional development that predict future success in higher education and the workforce (Valley CERF SWOT Analysis). At the high school level, CTE pathways are inequitably distributed across the region and tend to be expensive. A recent study highlights how dual enrollment is inequitably accessed, with lower participation among English learners, youth in foster care, homeless students, certain counties (including Madera where virtually no 9th graders participated in dual enrollment), and other students from disadvantaged backgrounds (California Education Lab¹).

There is a mismatch between workers' skills and available jobs, resulting in a chronically high unemployment rate despite a high number of job openings. Fresno, for example, has an unemployment rate nearly double the national average, with a higher proportion of Latino and Black residents out of work. Nevertheless, some 30,000 jobs went unfilled in 2017, suggesting a mismatch between skills and open jobs (Fresno Drive). Similar trends exist across the four-county region (Urban Institute Baseline Assessment).

1 <https://education.ucdavis.edu/leg-college-0>

The existing trusted regional platforms are not expansive across all industries, employers, K-16 institutions, and community-based organizations. Efforts to coordinate action around regional education barriers, drive alignment, achieve leverage, attain scale, change policies, and share best practices are often disjointed and siloed. The region has not come together to develop a shared vision and an agreed-upon framework for accountability that outlines who is responsible for what and how progress will be measured. As a result, education, training, and other support services are disjointed, leaving individuals to navigate a complicated landscape to find the opportunities they need. Workers in the region encounter difficulties with navigating the maze of education and skill-building resources, as well as those holistic wrap-around services (such as transportation and childcare) that make continuing education possible (Fresno Drive). These challenges are compounded for workers and learners who are immigrants, undocumented, or have limited English language skills – communities that make up a sizable portion of the population of the region – limiting their ability to achieve family-sustaining wages and contribute meaningfully to the region’s economy (Urban Institute Baseline Assessment).

The education and training systems that do exist are slow to change, hard to manage, and unable to react quickly to the demands of evolving and emerging industries. Public agencies, non-profit organizations, community-based organizations, and other providers of education and skill training in the region rarely have the financial capacity or infrastructural support to adapt quickly to real-time changes in industry needs. Industry, meanwhile, lacks the time and capacity to create meaningful partnerships with education providers, resulting in a lack of well-informed, high-quality pathways (Fresno Drive).

1.2 The Vision / Opportunity

Addressing these barriers would create a skilled workforce that meets the demands of evolving and emerging industries, leading to higher earning wages and improved quality of life for residents of the Sierra San Joaquin region. We envision a cohesive and accessible ecosystem of education and workforce development opportunities that systematically ensures all Sierra San Joaquin residents are adequately prepared for high-demand good jobs.

Specifically, we envision an education and workforce system that is:

- Accessible to all learners and workers in the education and workforce pipeline, which also accounts for the wrap-around services that make continuing education feasible
- High-quality and closely aligned to labor market indicators
- Collaborative, inclusive, and leverages the expertise of diverse stakeholders
- Adaptable to real time changes in both worker needs and industry environments
- Equitable and prioritizes the needs of the region’s most disinvested communities
- Built on competitive wages and creates opportunities without requiring advanced degrees, potentially through skills-based hiring
- Able to accelerate workforce development through on-the-job education to strengthen skills
- Producing and supporting lifelong learners who are meeting developmental milestones, beginning at birth, and performing at grade level throughout K-12

These efforts will connect the emerging and existing workforce with new learning opportunities and remove barriers to employment. They will help the region realize a future where the training and employment ecosystem better serves the skilling, reskilling, and upskilling needs of all residents (Greater Fresno Region Drive, 10/31/19, pp 53-55), ultimately resulting in a stronger regional economy for all.

1.3 Regional Assets

Collaborative coalitions: There are existing collaborative coalitions and consortia (such as Central San Joaquin Valley K-16 Partnership, Tulare-Kings College and Career Consortium, Fresno Cradle to Career Partnership, Fresno-Madera K-16 Collaborative, Fresno DRIVE, Central Valley Mother Lode Regional Consortium, San Joaquin Valley Manufacturing Alliance, South Valley Industrial Collaborative, Sequoias Adult Education Consortium, State Center Adult Education Consortium, West Hills Adult Education Consortium, the four-county Good Jobs Challenge Grant Coalition, and others) with high-functioning people-to-people relationships.

History and track record of tackling systems-change work: Stakeholders across the region can boast a successful track record of activating network resources to plan and implement regional initiatives. Through the Fresno DRIVE initiative, for example, stakeholders developed an economic mobility plan and a 10-year vision to transform the county.

Financial investments: Though not evenly distributed across its four counties, the Sierra San Joaquin region has experienced substantial private and public investments in support of the region's economic development.

Promising practices and programs: There are a number of initiatives already in place that could serve as models for future strategic investments. For example, the Tulare County Workforce Investment Board is experiencing success implementing the Talent Pipeline Management framework, a demand-driven strategy to create career pathways for students and workers with talent pipelines aligned to dynamic business needs. They have also recently launched the Training Resources Aligned to Industry Needs (TRAIN) Network, an initiative aimed at aligning education with industry needs and fostering meaningful collaboration, to create sustainable talent pipelines and drive regional growth.

1.4 Innovation Ecosystem

The region must invest in education and skill building efforts that are aligned to the economic development strategies driving growth in the region. To grow the priority industry clusters – one water, broadband, responsible food and agriculture, climate solutions, and circular manufacturing – the region needs to establish pathways into them, leverage local education and training stakeholders to prepare workers. Investment in systems will give workers the skills they need to fill these jobs or create related businesses. The result of this investment will be a region with an inclusive, resilient, and sustainable economy that attracts businesses and demonstrates innovative entrepreneurship

2 Investment Strategies

We're working toward a future in San Joaquin Valley where everyone's needs are met; children grow up in a safe, loving environment where they progress through all developmental stages; children and youth explore jobs and find ones that spark their excitement; adults grow in and move between quality jobs that pay well, keep them safe, and give them agency; educators bring culturally relevant and immediately valuable knowledge and skills training to those they teach; new and existing industries move forward a climate economy and find highly trained and ready workers to fill emerging jobs; and the region has a strong infrastructure and culture for education that will drive forward an inclusive, resilient, and sustainable economy. The strategies below can help us get there.

Each of the growing sectors outlined throughout this document has different workforce needs. (See **Appendix A** for a comprehensive list of each sector’s investment strategies related to education and skill building.) To support this growth, our region needs to train and prepare a diverse, culturally competent pipeline to enter a workforce ready to fill quality jobs in these growing industries, ultimately reducing racial and ethnic economic disparities. By “quality jobs,” we mean jobs that provide family-sustaining wages, benefits, worker advancement opportunities, and collective worker input and are stable, predictable, safe, and free of discrimination (definition influenced by The California High Road: A Road Map to Job Quality², Organisation for Economic Co-operation and Development, Jobs for the Future, and Aspen Institute).

1. In short, the region needs to strengthen its education and skill-building infrastructure in order to provide the workforce the region will need in the next 10-20 years. It can do so through four key strategies:
2. Create a robust, four-county infrastructure for stakeholders to work together strategically around a shared vision, goals, and outcomes and develop region-wide capacity to meet emerging workforce needs
3. Reimagine ways for employers and industry partners to work hand-in-hand with other education and workforce stakeholders to develop training opportunities that simultaneously serve their workforce needs and lead workers to quality jobs
4. Design flexible pathways to quality, high-wage, in-demand jobs and entrepreneurship opportunities so workers can attain multigenerational economic mobility
5. Ensure communities can access programs and supports to thrive at all stages of their education and career, and equip community-based-organizations to support them

2.1 Key Strategy A

Create a robust, four-county infrastructure for stakeholders across sectors to work together strategically around a shared vision, goals, and outcomes and develop region-wide capacity to meet emerging workforce needs

2.1.1 Strategy-Specific Problem Statement

The region has many examples of strong partnerships and collaboration within each county. Yet there are challenges: There isn’t a strong history of all-encompassing four-county collaboration. There are so many assets across such a wide region that stakeholders don’t know about them all. Some partnerships fall apart when the individuals holding the relationships leave the institutions. And funding proves challenging as institutions find themselves competing with one another for funding or are unable to use restricted funds to support their collaboration.

2.1.2 Outline of Proposed Strategy

The region needs stronger cross-sector partnerships and collaboration to ensure that pathways leverage – rather than duplicate – existing efforts and partnerships, such as collective impact initiatives and education-business partnerships led by Chambers of Commerce and workforce boards. S2J2 proposes the following to strengthen regional collaboration:

2 https://cwdb.ca.gov/wp-content/uploads/sites/43/2020/08/OneSheet_Job-Quality_ACCESSIBLE.pdf

Identify an entity or method to strengthen coordination across the four counties (e.g., a four-county coalition).

While there are strong examples of collaboration within a county or between two counties, there's a need for stronger, all-encompassing, four-county collaboration. Specifically, there's a need beyond resource sharing for the four counties to develop shared vision, goals, and outcomes, align programs, share data, learn together, track impact, work together strategically, and seek funding for coordination across the region. At the same time, this must be done in ways that allow counties and stakeholders to maintain their own priorities, methods, and identities. This should not be "one more table" or "one more meeting" but an effort that leverages and complements existing regional collaborations. This coordinating function can be provided in various ways:

- A networked leadership approach³, perhaps formalized by an MOU, in which existing coalitions come together and decide on roles they'll each play, how they'll leverage one another's skills, how they'll make decisions, how they'll hold one another accountable, etc. A networked leadership approach would require time, trust, clear communication, and strong accountability mechanisms to keep the work moving forward.
 - A Joint Powers Authority, if there is political will, to create a formal tapestry of roles, responsibilities, and funding of the K-16, community-based organizations, workforce development boards, and adult education consortiums.
 - A neutral consultant hired to facilitate this process across the region. The consultant would serve a network weaver role, coordinating and catalyzing action across the region. This might be through facilitating a "coalition of coalitions" in which the region's existing coalitions, consortiums, etc. gather to do this strategic work. Existing coalitions across the region include Cradle to Career Fresno County, Fresno-Madera K-16 Collaborative, Good Jobs Challenge Grant Coalition, Tulare-Kings College and Career Collaborative, F3 Initiative, Central San Joaquin Valley K-16 Partnership, and other coalitions.
 - An existing stakeholder or set of stakeholders to serve this "network weaver" role. To do this successfully, the stakeholder(s) would need to identify how their current role and work in the region would change, how they'd approach accountability and equitable distribution of resources, how they'd build or deepen relationships with stakeholders they aren't currently engaged with, etc.
- **Engage Relevant Stakeholders on Training and Access Issues.** Relevant stakeholders include employers, industry associations, K-12, adult education, postsecondary institutions, Chambers of Commerce, economic development groups, workforce development boards, government, and community-based organizations. Access issues include wraparound support, transportation, childcare, and language accessibility. There are good models of regional collaboratives increasing access. For example, the Fresno EDC with the Good Jobs Challenge has been engaging with four-county community-based organizations to provide case management services for participants in their workforce training. Fresno-Madera K16 is also providing limited case management services.
 - **Collect and Share Data Across Sectors and Counties.** Accurate and consistently updated data can help stakeholders understand what jobs are needed, and therefore, what training and education might prepare the workforce to fill those roles. A four-county collaborative can establish a set of data-sharing protocols, ensure buy-in from leaders of participating institutions, and create a platform to share data across sectors and counties.
 - **Strengthen Partnerships Between Institutions.** To avoid losing partnerships when individuals leave, organizations can institutionalize those partnerships by establishing MOUs and providing regular touchpoints between key organizational leaders and staff.

3 <https://scholarworks.gvsu.edu/cgi/viewcontent.cgi?article=1009&context=tfr>

2.1.3 Opportunity to Increase Economic Diversification and Resilience

Strong collaboration and communication between stakeholders will enable educators and trainers to provide offerings that meet diverse workforce needs and will increase the region’s resilience to navigate, adapt to, and thrive amid change.

2.1.4 Workforce Development & Alignment with Job Quality & Access, Equity, and Climate

By aligning their work and committing to a shared vision and goals, stakeholders can strengthen and speed up the region’s transition to an inclusive, resilient, and sustainable regional economy. It will be critical that the group prioritize not only creating strong education and skill-building opportunities, but ones that lead to quality jobs.

2.1.5 Alignment with State Strategies

This strategy aligns with various state strategies including:

- Central San Joaquin Valley K-16 Partnership⁴, a collaboration of the Fresno-Madera K-16 Collaborative and the Tulare-Kings College & Career Collaborative
- Golden State Pathways Program⁵. The Central Valley Region comprises Amador, Calaveras, Fresno, Kern, Kings, Madera, Mariposa, Merced, Stanislaus, Tulare, and Tuolumne Counties; Kern is the Regional Technical Assistance Center.
- Strong Workforce Program, created to support California Community Colleges and K–12 local education agencies in creating, improving, and expanding career technical education courses (see California Community Colleges⁶ and Central Valley Mother Lode)⁷
- Regional planning units that bring together county workforce boards (see California Workforce Development Board’s 15 Labor Regions⁸ and San Joaquin Valley & Associated Counties Regional Planning Unit⁹)
- California Adult Education Program¹⁰ (CAEP) Regional Adult Education Consortia¹¹. Many members of the regional consortia are also Workforce Innovation and Opportunity Act (WIOA) core partners.
- Across the region’s counties, there are seven adult education consortia composed of adult schools, community colleges, regional occupational programs, and centers of excellence. Consortia are also mandated partners of workforce boards.

4 <https://k16collaborative.org/>

5 <https://www.cde.ca.gov/ci/gs/hs/gspg.asp>

6 <https://www.cccco.edu/About-Us/Chancellors-Office/Divisions/Workforce-and-Economic-Development/Strong-Workforce-Program>

7 <https://crconsortium.com/k12-strong-workforce-program/>

8 https://cwdb.ca.gov/wioa_regional_planning_units_map/

9 <https://frwdb.net/wp-content/uploads/2022/11/RegionalPlan-Sjvac-Py21-24-Final-3.15.21.pdf>

10 <https://caladulthood.org/>

11 <https://caladulthood.org/ConsortiumDirectory>

2.1.6 Project Catalog

- Twenty-three (23) Central San Joaquin Valley K-16 Partnership¹² (Fresno-Madera K-16 Collaborative¹³, fiscal and programmatic lead): Regional K-16 grant funded projects (in education-to-career pathways of business, education, economic, & health and recovery with equity)
- Tulare Kings College and Career Collaborative K12 Strong Workforce Project: “Advancing Tomorrow’s Workforce: Bridging the Skills Gap in the Tulare-Kings Region through Enhanced Secondary Education”
- Good Jobs Challenge with Fresno EDC¹⁴ for workforce pipeline development of living wage, in demand jobs in manufacturing, business, transportation, and construction.
- Other Strong Workforce Community College and K12 Projects
- Efforts to bring a FAME manufacturing program to the Central Valley (Manufacturing Institute¹⁵ and the San Joaquin Valley Manufacturing Alliance¹⁶)
- Career Internship Center project with Career Nexus¹⁷ and FUSD (partial funding provided by the Fresno-Madera K-16 Collaborative)

2.2 Key Strategy B

Reimagine ways for employers and industry partners to work hand-in-hand with other education and workforce stakeholders to develop training opportunities that simultaneously serve their workforce needs and lead workers to quality jobs

2.2.1 Strategy-Specific Problem Statement

There’s a mismatch between what industries need and the training options currently available (Fresno Drive). This gap leads community members to invest time and resources in training that doesn’t directly translate into employment. The gap exists in part because industry partners are not working hand-in-hand with other stakeholders to inform or shape training opportunities. Another cause for this gap is that changing training opportunities has sometimes taken years, and needs have changed by the time they are implemented.

2.2.2 Outline of Proposed Strategy

Developers of education, training, and re/upskilling opportunities need to work closely with employers and industry partners who can articulate their current and anticipated workforce needs. This strategy is about both how employers engage with K-16 to develop curriculum and how employers upskill/reskill their own employees. S2J2 proposes the following to deepen engagement with industry partners in education/training:

12 <https://www.fresnomaderahigheredforall.org/central-san-joaquin-valley-k-16-partnership/>

13 <https://www.fresnomaderahigheredforall.org/about/>

14 <https://www.eda.gov/funding/programs/american-rescue-plan/good-jobs-challenge/awardees/Fresno-County-Economic-Development-Corporation>

15 <https://themanufacturinginstitute.org/>

16 <https://sjvma.org/collaboration-with-education/>

17 <https://careernexus.org/>

- **Incentivize Deeper Engagement by Employers.** This could include:
 - Compensate employers and participants
 - Provide stipends for internships
 - Have an ombudsman fill out required paperwork for employers, or have Career Nexus be the employer of record
 - Engage a neutral facilitator to convene the industry and surface key priorities of what they need from the workforce
 - Identify an S2J2 liaison for each sector. Their role would be to stay looped into sector needs and ensure training/education partners are aware of those needs.
 - Seek out a media presence around this work, especially on behalf of the state, which will benefit engaged employers by bringing attention to their businesses.
- **Strengthen Connections Between Industry Associations and Education/Training Opportunities.**
Examples include:
 - The Federation for Advanced Manufacturing Education¹⁸, a group of employers working together across sectors to foster manufacturing skills, hosts the FAME Academy, an apprenticeship program providing manufacturing workforce development.
 - San Joaquin Valley Manufacturing Alliance¹⁹ works with regional educators and students – as well as with workforce re-entry and remediation candidates – and their manufacturing members to help facilitate internships and externships.
 - The Good Jobs Challenge Built 4 Scale²⁰ unites dozens of employers and organizations to, among other goals, create paid training opportunities in a variety of industries.
 - South Valley Industrial Collaborative²¹
 - Tulare-Kings Healthcare Partnership²²
- **Develop and Expand Earn-and-Learn Strategies like Registered Apprenticeships and Pre-apprenticeships.**
Earn-and-learn strategies like on-the-job training, paid internships, and apprenticeship programs allow employers to develop and prepare a workforce to fill their needs while providing participants with paid work experience, education, and a recognized credential. The region has strong examples it can build upon, such as Valley Build. Several sectors identified the need for programs like this, including broadband, circular manufacturing, and clean energy (see Appendix A).
- **Equip K-16 to Work Closely with Industry Partners to Develop Curriculum.** This might mirror the F3 Initiative²³ model of providing a hub for sectors to make concrete training requests and co-develop curriculum for both skills training and research and development. There may also be a need for industry councils or other models of industry engagement in sectors that don't yet have many (e.g., climate solutions). Industry partners can also play a key role in upskilling trainers and educators, so they can teach effectively (see more details in section 2.3 "Strengthen the capacity and pipeline of local instructors"). Education partners can play a key role in planning for how to fit new and evolving training programs into current education systems including K-12, community colleges, and adult education.

18 <https://fame-usa.com/>

19 <https://sjvma.org/collaboration-with-education/>

20 <https://www.eda.gov/funding/programs/american-rescue-plan/good-jobs-challenge/awardees/Fresno-County-Economic-Development-Corporation>

21 <https://www.southvalleyindustrialcollaborative.org/>

22 <https://www.tularewib.org/tkhp-about>

23 <https://centralvalleycf.org/community-impact/f3-fresno-merced-future-of-food/>

- **Engage Employers in the Decision-making Process for the Design and Implementation of Efficient Pathways.** Their engagement can ensure the pathways lead to employment opportunities.
- **Regularly Gather and Share Employer input on Current and Emerging Workforce Needs Across Agencies.** The region can develop written processes or policies to ensure this happens regularly.
- **Coordinate Employer Engagement Activities Such as Identifying Necessary Funding.** This can help formalize regular engagement.

2.2.3 Opportunity to Increase Economic Diversification and Resilience

Currently, there are 29 employers with more than 1000 employees in the region (20 in Fresno, six in Kings, two in Tulare, and one in Madera). These employers are concentrated in public administration, education, health care, and social assistance industries. All three employers with over 5000 employees are also in those sectors: the Community Regional Medical Center in Fresno, State Center Community College in Fresno, and Naval Air Station Lemoore. Five of the largest employers have some role in the food economy (agriculture, food manufacturing, and retail).

To increase economic diversification and resilience and ensure program participants are supporting diverse workforce needs, the region will need to deepen engagement with industry partners across sectors.

2.2.4 Workforce Development & Alignment with Job Quality & Access, Equity, and Climate

To participate in programs, community members will need broad support (above-living-wage payments or stipends, transportation support, language training, etc.). Programs will need to be designed and funded with this in mind.

2.2.5 Alignment with State Strategies

This plan aligns with all the strategies listed in 2.1.5 (see above), as well as these state strategies:

- Unified Strategic Workforce Development Plan²⁴
- The Three Year Comprehensive Plans of the Adult Education Regional Consortia
- English Language Learner Healthcare Pathways Grant²⁵

2.2.6 Project Catalog

- F3 AgTEC is a workforce development program that aims to upskill farmworkers into more job pathways in the agricultural industry. It's a community-based education, interdisciplinary certificate program (part of the Build Back Regional Challenge) that advances the industry's cluster strategy for agricultural technology.
- Next Generation Sector Partnerships²⁶, an industry-led, community-supported partnerships that strengthen regional economies and connect people to jobs
- Talent Pipeline Management²⁷, a tool to identify and address critical occupations

24 https://cwdb.ca.gov/wp-content/uploads/sites/43/2024/01/DRAFT-Title-II-Section_Final-2024-27-Version_ACCESSIBLE.pdf

25 <https://www.cccco.edu/-/media/CCCCO-Website/docs/rfa/caep-130m-ell-healthcare-pathways-funding-loi-final-a11y.pdf?la=en&hash=E82BE65BB8AC15C5327D9A1A5DD076E084091B4A>

26 <https://www.nextgensectorpartnerships.com/>

27 <https://www.uschamberfoundation.org/solutions/workforce-development-and-training/talent-pipeline-management>

- See 2.2.2 above for details about the Federation for Advanced Manufacturing Education²⁸'s FAME Academy, the San Joaquin Valley Manufacturing Alliance²⁹, the Good Jobs Challenge's Built 4 Scale³⁰, the South Valley Industrial Collaborative³¹, and the Tulare-Kings Healthcare Partnership³².

2.3 Key Strategy C

Design flexible pathways to quality, high-wage, in-demand jobs and entrepreneurship opportunities so workers can attain multigenerational economic mobility

2.3.1 Strategy-Specific Problem Statement

The region's economy has historically consisted of agriculture and local-serving industries that can create low-wage and low-skill jobs. Many workers find themselves stuck in those jobs, unable to advance into roles or new jobs that promote upward mobility, support ongoing training, and provide accessible educational opportunities. For long-term, inclusive economic growth, workers need pathways from low-wage, low-skill, and entry-level jobs to well-paying, higher-quality, good jobs. At the same time, there aren't clear, tried-and-true pathways into all occupations in each of the growing sectors, leaving stakeholders to build the plane while flying it, so to speak.

2.3.2 Outline of Proposed Strategy

Learners need pathways to high-quality jobs.

Work-based learning is one key element of the proposed strategy. Work-based learning (WBL)³³ is a continuum of intentional activities and experiences – such as mock interviews, job shadowing, internships, practicum experiences, and other capstone experiences – designed to expand the boundaries of the classroom and prepare learners for future career opportunities. At the same time, it allows employers to build a talent pipeline, and many report that they benefit from learners' knowledge of technology, creativity, and innovative ideas.³⁴ Currently, there are inconsistent WBL opportunities in the region.

S2J2 proposes the following to provide pathways to high-quality jobs:

- **Increase Hands-on and Work-based Learning Opportunities.** Work closely with employers, industry, and K-12 partners to provide more work-based learning opportunities. This can be done by developing toolkits and other support for implementation and building the capacity of education and workforce system stakeholders to develop effective and efficient systems for brokering connections among industry, education, and workforce partners.
- **Develop or Strengthen Pathways Programs in Key Sectors.** While each stakeholder might define "pathways" differently, for this document we define "pathways" as a series of educational courses with work-based learning experiences and support services that prepares learners for high-wage careers in identified sectors (definition influenced by California Community Colleges³⁵, among others). Program areas of focus might include circular

28 <https://fame-usa.com/>

29 <https://sjvma.org/collaboration-with-education/>

30 <https://www.eda.gov/funding/programs/american-rescue-plan/good-jobs-challenge/awardees/Fresno-County-Economic-Development-Corporation>

31 <https://www.southvalleyindustrialcollaborative.org/>

32 <https://www.tularewib.org/tkhp-about>

33 https://drive.google.com/file/d/1HQ-IF3eM0qdIwQI9C7R_WpIKXt1iDZKK/view

34 https://docs.google.com/document/d/1hSOKL-uDeP8tPcalBHyQ7vrzr90MNDBZ_5XnFW_XdPo/edit

35 <https://www.cccco.edu/-/media/CCCCO-Website/docs/presentation-slides/k12swppd3623cca11y.pdf?la=en&hash=6D90D5D9238D8FECCD9BEC4CD8782160B150E29D>

manufacturing; broadband deployment and technology; water management, including water treatment operators; zero-emission vehicle sector employment; carbon capture and storage employment; urban forestry; restoration and stewardship; environmental management; disaster planning and mitigation; fire prevention; urban planning and conservation; and sustainable agriculture and food business. (See details in Appendix A.)

- **Invest in Entrepreneurship Education Paired with Pathways Training.** Community members can face barriers to employment because of their language skills or immigration status. An alternative pathway can include starting or running a small business. Support learners to develop entrepreneurship skills and access startup funds.
- **Prioritize Education and Training that Leads to Quality Jobs.** Ensure trainers, educators, and industry partners develop programs for skills and credentials that will lead participants to jobs with family-sustaining wages, benefits, worker advancement opportunities, and collective worker input and are stable, predictable, safe, and free of discrimination.
- **Increase Awareness of and Access to Training Opportunities.** See section 2.4 below.
- **Strengthen the Capacity and Pipeline of Local Instructors** – i.e., foster and “train the trainers.” To develop effective education and training opportunities, the region needs a strong field of local educators and trainers who are well-equipped to provide those opportunities. Promoting and supporting high-quality teaching can be done by: 1) recruiting, supporting, and retaining a pipeline of skilled teachers, including providing financial supports; 2) improving instructional models; 3) strengthening professional development to promote effective instructional models and use of technology in teaching and learning; 4) supporting bilingual education and dual language immersion strategies; and 5) equipping educators to be culturally competent and understand the communities they educate in, so that they can better evaluate and foster the strengths of the students. Examples include the Teachers of Color Pipeline and teacher pipeline programs. This also includes upskilling teachers and trainers in new technology and industry needs. They can’t teach new material unless they, themselves, understand it.
- **Invest in Strong pre-K-12 Education that Gives Students Opportunities to Explore Potential Careers.** It takes an entire community to support and educate a thriving, healthy child. Social and emotional development in a child’s earliest years provides “a critical foundation for lifelong development and learning” (Head Start’s Early Childhood Learning & Knowledge Center³⁶). Then, students must read proficiently by third grade to avoid greater challenges with remediation and completing their education (Obama Foundation³⁷). Because of this, a strong base of learning in pre-K-12 is critical for students to effectively participate in future training and education. It’s also critical to provide students with opportunities to explore different occupations and find types of jobs that align with their interests. When students seek out training/education opportunities after K-12, enthusiasm for the subject can motivate them to complete those programs.

2.3.3 Opportunity to Increase Economic Diversification and Resilience

These strategies will support the regional economy’s resilience by equipping people with transferable skills, building skill clusters to equip people for growth and leadership, increasing workforce employability, and more.

36 <https://eclkc.ohs.acf.hhs.gov/school-readiness/effective-practice-guides/social-emotional-development>

37 <https://www.obama.org/programs/my-brothers-keeper-alliance/about/6-milestones/reading-grade-level/>

2.3.4 Workforce Development & Alignment with Job Quality & Access, Equity, and Climate

The region has demonstrated a commitment to transitioning to an inclusive, resilient, and sustainable regional economy. To do so, it must prioritize jobs that enable workers to work in a safe, supportive environment and live a healthy, stable life.

2.3.5 Alignment with State Strategies

This plan aligns with all the strategies listed in 2.1.5 and 2.2.5.

2.3.6 Project Catalog

Some of these projects are detailed in Appendix A.

- Training program for water treatment operators
- Apprenticeships sponsored by anchor institutions connected to digital infrastructure needs (e.g., fiber optic splicing, cybersecurity)
- Central Valley Support Core: Establish a 12-month fellowship program for recent graduates and early career professionals to assist small business owners in the Central San Joaquin Region (*see Small Business & Microenterprise investment strategies*)
- Culturally and linguistically appropriate certificate programs, access to affordable higher education and technical schools, such as “Scholars Launchpad,” “Mujeres in Agriculture y mas” and “Parent University.”
- Fresno State University’s Bulldog Bound program, which guarantees admission to high school students from partnering school districts who meet the minimum requirements
- Central Valley Mother Lode Regional Consortium’s FindItBeIt Lookbook³⁸, which listed programs at the colleges
- Central Valley Mother Lode Regional Consortium’s 2023 Overview³⁹
- Collective regional leadership across the K-16 institutions have worked together, directly and indirectly due in part to the Central San Joaquin Valley K-16 Partnership, to create articulation agreements that helped simplify the complexity of determining what courses to take and eliminate the guesswork regarding transferability.
- Regional community college students benefit from the Associate Degrees for Transfer (ADT) articulated agreement which are designed to provide a clear pathway to a CSU major and baccalaureate degree. The region’s community colleges offer ADTs in the following pathways: business, education, engineering/computing, and health.
- College and Career Access Pathway Partnerships (CCAP): Regional K-12 districts have agreements with the community colleges within their service areas that enable high school students to take college courses at their high school, free of tuition, and receive both college credit and high school credit
- Fresno State’s Bulldog Bound program⁴⁰ is a guaranteed admissions for high school students offering a clear pathway to Fresno State.
- The Transfer Success Pathway program⁴¹ provides guaranteed admission for community college students to transfer within three years.

38 https://crconsortium.com/wp-content/uploads/2019/09/FindItBeIt_LookBook-2019.pdf

39 <https://coeccc.net/central-california/2023/09/2023-overview-central-valley-mother-lode-region-2/>

40 <https://studentaffairs.fresnostate.edu/are/bound/index.html>

41 <https://studentaffairs.fresnostate.edu/are/transfersuccesspathway/index.html>

- Fresno State and Fresno City College have a City-to-State pathway agreement⁴² that allows Fresno City College students to transfer more easily to Fresno State to continue their higher education journey.
- The UC Merced Transfer Pathway⁴³ allows Madera Community College and Las Positas College students to transfer to UC Merced.
- At the community college level, the University of California has a systemwide Transfer Agreement Guarantee that gives students priority review and/or admits them. (e.g., UC Merced⁴⁴)
- UC Merced also has the Merced Automatic Admission Program⁴⁵ that guarantees a freshman seat to eligible local students.
- Tulare-Kings Sector Summits engage education partners around specific occupations. The Workforce Investment Board finds industry hosts for an “externship-like” morning, and then TCOE/KCOE brings teachers together in the afternoon to discuss what they learned and develop better pathways.
- USGBC Central California provides climate solutions education and certificates and currently collaborates with K-16 but not yet workforce development agencies.
- Climate solutions programs like TRUE, LEED, and GPRO prepare students, trainees, employees, and employers to understand and systematically implement climate solutions.

2.4 Key Strategy D

Ensure communities can access programs and supports to thrive at all stages of their education and career, and equip community-based organizations to support them

2.4.1 Strategy-Specific Problem Statement

While many resources for workforce or skills development exist across the region, many community members shared that they did not know of any (Urban Institute). There are many reasons community members aren’t aware of or can’t access these resources, including: language barriers; inequitable distribution of programs across the region (i.e., fewer programs in smaller or more rural school districts); and lack of financial support, mentorship, and training to pursue entrepreneurship (Urban Institute). Communities also need their basic needs met before they can go through a training or education program.

2.4.2 Outline of Proposed Strategy

To successfully prepare a diverse, culturally competent pipeline to enter a workforce ready to fill quality jobs in these growing industries, community members need to have their basic needs met and be able to access and participate in training and education programs. This requires greater access to and awareness of those programs. Community-based organizations are key to meeting needs and increasing access and awareness. They deliver services to the community and have built relationships, trust, and methods of communication. As a result, they need sufficient support and resources to serve as messengers, supporters, and partners to community members at every stage of their education and career.

42 <https://www.fresnostatenews.com/2024/04/05/fresno-state-fresno-city-college-sign-mou-for-city-to-state-pathway/>

43 <https://news.ucmerced.edu/news/2024/two-community-colleges-join-uc-merced-transfer-pathway-students>

44 <https://admissions.ucmerced.edu/transfer/tag>

45 <https://admissions.ucmerced.edu/MAAP>

- **Invest in Meeting Community Members' Basic Needs.** People need a safe place to live, freedom from violence, fresh air, nutritious and culturally relevant food, and other foundational elements before they can invest their time and energy into training and education. Community-based organizations play a critical role in providing services to meet these needs, as does the local, state, and federal government.
- **Increase Access to Training by Providing Participants with Wraparound Support Services.** This includes transportation, childcare, and language support. To provide greater language access, there is a need for both English language classes and multilingual training (Urban Institute). This also means ensuring that teachers are from the community and/or culturally competent so they can create an environment in which community members feel comfortable, understood, and valued.
- **Increase Awareness of Training Opportunities.** Increasing awareness might include:
 - Basing programs in community centers or co-locating programs in places that also provide childcare, digital literacy training, or other training or supports – “go where they are”
 - Engaging trusted partners, like community leaders or community-based organizations, to spread the word
 - Engaging parents of K-12 learners to understand opportunities available to them and their children and how to navigate those opportunities
 - Partnering to develop training with community-based organizations, schools, and other institutions with deep roots and trust
 - Leading a regionwide, comprehensive, coordinated marketing and media campaign
- **Resource Community-based Organizations to Implement these Strategies and Support Community Members.** Community-based organizations are critical to implementing these strategies. They provide direct services to community members and have built trust and relationships with them. They're an invaluable asset and best positioned to increase access and awareness of training and education opportunities.
- **Utilize Existing Methods of Sharing Information with Community Members.** For example, K-12 schools can play a valuable role in sharing information with parents. Community-based organizations can also play a key role in sharing information with the community.
- **Provide Additional Educational Opportunities Alongside Skill-based Training.** For example, you might provide financial literacy training to deepen participants' understanding of retirement, savings, investment systems. You might provide digital literacy training that equip participants with relevant guidance on how to search for jobs online.

2.4.3 Opportunity to Increase Economic Diversification and Resilience

Increasing community members' access to programs and increasing community-based organizations' capacity to support them will strengthen the region's resilience.

2.4.4 Workforce Development & Alignment with Job Quality & Access, Equity, and Climate

This strategy is focused on advancing equity in disinvested communities.

2.4.5 Alignment with State Strategies

This aligns with several state strategies including:

- California Department of Community Services and Development programs to reduce poverty, like the Low Income Home Energy Assistance Program, Low-Income Weatherization Program, and Community Services Block Grant which provides funding to local non-profit and public agencies to help alleviate the causes and conditions of poverty in their communities.

2.4.6 Project Catalog

- Participants in a Tulare/Kings focus group shared that they are advocating for the establishment of a recreational center that would serve as a multifunctional entity to host educational programming and career services, while also functioning as a space for residents to wind down and participate in recreational activities. A centralized building acting as a hub for both career development and play could make programming less daunting and more accessible for community residents (Urban Institute).
- The Sequoias Adult Education Consortium has deployed the Regional Integrated Service Delivery System for almost 10 years across Tulare and Kings Counties.

Appendix A

This table is a compilation of each sector's investment strategies related to education and skill building, as detailed in each sector's chapter.

Sector	High-Level Investment Strategies Related to Education & Skill Building	Details
Climate Solutions	Clean Energy: Build on skilled workforce capabilities to meet the needs of clean energy and fuels development	Create partnerships with local institutions to develop or expand clean energy focused apprenticeship and reskilling programs. Maximize high-road job opportunities for local communities. Identify available training grants to cover the tuition and fees of qualifying workforce development programs.
	Fleet Transition/ Infrastructure: Develop workforce to enable and sustain zero-emission vehicle transition	Collaborate with local educational institutions to cultivate a pipeline of skilled workers. Implement broad-based, in-language outreach programs to inform local communities about emerging zero-emission vehicle opportunities. Ensure the community has access to the education and training required for zero-emission vehicle sector employment.
	Carbon Removal Storage: Strengthen the expertise of local workforce	Partner with local educational institutions and industry leaders to design carbon capture and storage-focused training programs that include wraparound services like transportation, language support, and childcare to increase accessibility. Conduct industry analysis to pinpoint key carbon capture and storage employment opportunities that offer substantial career growth for the local workforce. Leverage funding opportunities to finance workforce training programs and reduce development barriers for the local workforce. Assess existing training programs to refine and expand offerings where possible.
	Nature-Based Solutions: Assess impacts by land cover type related to carbon sinks, improved air quality, proximity to disadvantaged communities, biodiversity, recreation, regional versus state Impact etc.	Provides volunteer and job opportunities in urban forestry. Programs will train and educate youths in ways to fight climate change and increase biodiversity. Could create sustainable jobs in restoration and stewardship. Could provide opportunities for agricultural jobs to transition to new careers and develop the workforce currently in irrigated agriculture. Creates jobs in environmental management. Supports jobs in disaster planning and mitigation.
	Nature-Based Solutions: Implement integrated water management and sustainability programs	Supports jobs in water management. Includes vocational training, workforce development, certifications in water quality, and conservation jobs in disadvantaged communities. Water reclamation and gray-water efforts can also open up opportunities. Requires fire prevention efforts, which create steady, ongoing management work.

Sector	High-Level Investment Strategies Related to Education & Skill Building	Details
Climate Solutions	Nature-Based Solutions: Support eco- and agritourism by promoting sustainable tourism to educate the public, support local economies, and conserve land	Create outdoor education and natural resources programs to educate youth about natural resources and thus support career pathways in nature-based solutions. Supports jobs in urban planning and conservation. Can also lead to job opportunities in new technologies such as drones, water-saving measures, and X-rays to conserve valuable resources. Other potential career pathways include nonprofit farm management, community garden management, irrigation, and K-12 garden education. Prepares youth for jobs in environmental sectors. Current programs have already shown success in career development. Creates diverse job opportunities at the intersection of nature-based sources and hospitality.
	Nature-Based Solutions: Workforce development & alignment with job quality & access, equity, and climate	Creates jobs in sustainable infrastructure development. Creates jobs in sustainable agriculture and food businesses.
Responsible Food & Agriculture	Improved Food Access & Public Health	Mobile food hubs could be multi-purpose and support classes such as food safety certification in more remote areas. Training programs and workshops can teach community members and aspiring farmers about sustainable agricultural practices, business management, and food safety. Schools, community centers, and the co-manufacturing center with training facilities can offer hands-on learning experiences.
	Sustainable Agriculture	Robust education and technical support are crucial. This includes developing comprehensive training programs for farm managers and workers, focusing on sustainable farming techniques, soil health management, and integrated pest management.
	Empowered Farmworkers	Establishing clear career pathways and ladders offers farmworkers opportunities for professional growth, making agriculture a more attractive long-term career option. Differentiated labor approaches, which include training for the workforce of the future, can help farmworkers adapt to new technologies and practices, increasing their competitiveness in the evolving agricultural landscape.
Circular Manufacturing	Expand workforce development	Collaborate with local colleges, universities, and vocational schools to create curricula focused on desired skills; build a manufacturing skills training center. Establish apprenticeship and internship opportunities to provide hands-on experience for students and workers. Partner with several exemplary circular manufacturers to offer demonstrations to community college instructors and workers on best-practices. Provide comprehensive support services, such as career counseling, childcare, and transportation assistance, to help individuals successfully participate in workforce development programs, which could potentially increase the available talent pool for prospective manufacturers.
One Water	Expand the institutional capacity for career and technical education training for water treatment operators in the San Joaquin Valley	

Sector	High-Level Investment Strategies Related to Education & Skill Building	Details
Broadband	Develop workforce skills for local talent to support broadband deployment and enable career pathways in technology	Train individuals in broadband deployment roles that are expected to grow (e.g., Electrical and Telecommunications Technicians and Installers) to increase supply of workforce available for broadband deployment and potentially raise average earnings. Create job training programs with local partners across K12, community college and skill training centers to address skills gaps and increase exposure to career pathways (e.g., through registered apprenticeships or pre-apprenticeships). Facilitate resident access to training grants to support tuition and fees for programs.
Small Business & Microenterprise	Expand the Regional System of Support	Launch Central Valley Support Core: Establish a 12-month fellowship program for recent graduates and early career professionals to assist small business owners in the Central San Joaquin Region. Fellows will be responsible for helping industry and business stage cohorts navigate the system of support and solve specific business challenges.
Community- Based Health	Build capacity to develop a resilient and robust community-based healthcare workforce	Provide training and resources to community members, community-based healthcare workers, and advocates to enhance their advocacy skills and empower them to become effective advocates for the community-based healthcare workforce.
	Build appropriate skill-based education, training opportunities, and desired career development pathways	Develop a career pipeline or pathway in partnership with CBOs, healthcare industry stakeholders, and workforce investment boards in the region. Develop a standard curriculum in partnership with Community Health Workers, Promotoras, Community Representatives, Doulas, and agencies that employ this workforce. Create a standard of training or certificate that can be recognized by the community and recognition of knowledge of language and culture.
	Remove barriers and create opportunities for increased access to good jobs in community-based healthcare workforce careers	Provide safe and affordable childcare. Childcare is a critical and fundamental basis for being able to access any mobility pathway opportunity, be it an education, training, or work opportunity. Increase job readiness by working with the K-12 system to ensure graduates are ready to go on to post-secondary education and/or already have acquired technical skills and training before graduating. Work with community healthcare workforce employers to change hiring practices: Eliminate the mismatch in how employers value skills and how the community values skills. Resource CBO's to hire and train the workforce.

3 Funding Models & Sources

3.1 Potential Funding Models for the Area

These strategies can be implemented through a variety of funding models.

1. **Federal, state, or local government** (e.g., grants, tax credits)
2. **Private sector** (e.g., company investments, internal training programs)
3. **Philanthropy** (e.g., grants, donor capital)
4. **Combination of sources** (e.g., public-private partnerships, braided funding)

3.2 Potential Funding Sources for the Area

A diverse mix of sources can be leveraged to support these strategies, including but not limited to the following. Stakeholders may also share funding with one another, leverage funding together, and/or apply together for shared grants.

Federal Government Funding

- Workforce Innovation and Opportunity Act⁴⁶
- U.S. Department of Labor’s Women in Apprenticeship and Nontraditional Occupations⁴⁷ (WANTO) grant: Expands pathways for women to enter and lead in all industries.
- Refugee Career Pathways Program⁴⁸: Supports refugees to gain skilled employment through helping participants explore career options, plan their career paths, and receive training, mentoring, and English language instruction.
- Refugee Family Child Care Microenterprise Development Program⁴⁹: Helps refugees start licensed family childcare (FCC) businesses by providing training in child care, microenterprise development, and financial literacy.
- Infrastructure Investment and Jobs Act Programs and Funding: Department of Energy’s Career Skills Training⁵⁰ and Building Training and Assessment Centers⁵¹
- US Department of Education Basic Needs for Postsecondary Students Program (higher education⁵²): Provides grants to eligible institutions of higher education to support programs that address the basic needs of students and to report on practices that improve outcomes for students. Grantees: University of California, California State University, California Community Colleges
- *(from Clean Energy chapter)* State-Based Home Efficiency Contractor Training Grants⁵³
- *(from Clean Energy chapter)* Energy Auditor Training Grant Program⁵⁴ (DOE)

46 https://edd.ca.gov/en/jobs_and_training/workforce_innovation_and_opportunity_act

47 <https://www.dol.gov/agencies/wb/grants/wanto#:~:text=The%20Women%20in%20Apprenticeship%20and,and%20lead%20in%20all%20industries.>

48 <https://www.grants.gov/search-results-detail/349715>

49 <https://www.grants.gov/search-results-detail/349736>

50 <https://www.energy.gov/scep/career-skills-training-program>

51 <https://www.energy.gov/scep/building-training-and-assessment-centers>

52 <https://www2.ed.gov/programs/basic-need/index.html>

53 <https://www.energy.gov/scep/training-residential-energy-contractors-grants-formula>

54 <https://www.energy.gov/scep/energy-auditor-training-grant-program>

State and Local Government Funding

- Workforce Investment Boards in each county
- Good Jobs Challenge with Fresno EDC⁵⁵: Focused on a workforce pipeline development of living wage, in-demand jobs in manufacturing, business, transportation, construction
- Golden State Pathways Program⁵⁶: Provides local educational agencies with the resources to promote pathways in high-wage, high-skill, high-growth areas, including technology, health care, education, and climate-related fields that, among other things, allow pupils to advance seamlessly from high school to college and career and provide the workforce needed for economic growth. 2023-2027. Grantees: Local Education Agencies and Charter Schools
- California Adult Education Program⁵⁷: The California Adult Education Program (CAEP) receives funding from an interagency agreement between the California Community Colleges Chancellor's Office and the California Department of Education. CAEP funding is for those 18 years and older. The CAEP program areas include high school diploma/equivalency, ESL/citizenship/, CTE/re-entry into the workforce, K12 child success, disabilities, and pre-apprenticeships. CAEP allocates funds to regional consortia, county offices of education, school districts, community colleges, and joint powers authorities.
- California Apprenticeship Initiative⁵⁸: Seeks to create new and innovative apprenticeship opportunities in priority and emerging industry sectors or areas in which apprenticeship training is not fully established or does not exist
- Apprenticeship Innovation Funding⁵⁹: Aims to support Interagency Advisory Committee on Apprenticeships apprenticeship program sponsors to sustain and scale their programs and train apprentices
- California Opportunity Youth and Apprenticeship Fund⁶⁰: A new funding source to develop and test innovative practices to increase the participation of opportunity youth in pre-apprenticeship and apprenticeship programs, and to demonstrate the impact of apprenticeship on employment and earnings outcomes for opportunity youth
- Equal Representation in Construction Apprenticeship (ERICA) Grant⁶¹: The focus of this grant is to create career pathways for women, non-binary and underserved populations into careers in the building and construction sectors. The funds from this grant will go towards supportive resources for childcare and outreach and community building for women, non-binary and underserved populations.
- California Employment Training Panel⁶²: Provides funding to employers to assist in upgrading the skills of their workers through training that leads to good paying, long-term jobs
- California Labor and Workforce Development Agency⁶³
- State funding around workforce Development for K-16⁶⁴
- CalJobs⁶⁵
- CalWORKs⁶⁶: A welfare program that gives cash aid and services to eligible California families in need

55 <https://www.eda.gov/funding/programs/american-rescue-plan/good-jobs-challenge/awardees/Fresno-County-Economic-Development-Corporation>

56 <https://www.cde.ca.gov/ci/gs/hs/gspsp.asp>

57 <https://caladulthood.org/>

58 <https://www.cccco.edu/About-Us/Chancellors-Office/Divisions/Workforce-and-Economic-Development/apprenticeship/ca-apprenticeship-initiative>

59 <https://www.dir.ca.gov/DAS/Grants/Apprenticeship-Innovation-Funding.html>

60 <https://www.dir.ca.gov/das/Grants/California-Youth-Apprenticeship-Grant.html>

61 <https://www.dir.ca.gov/DAS/Grants/ERICA.html>

62 <https://etp.ca.gov/>

63 <https://www.labor.ca.gov/>

64 <https://www.ppic.org/publication/californias-higher-education-funding-landscape/>

65 <https://www.caljobs.ca.gov/vosnet/default.aspx>

66 <https://www.cdss.ca.gov/inforesources/calworks>

- Children and Youth Behavioral Health Initiative⁶⁷: A multiyear, multi-department package of investments that seeks to reimagine the systems, regardless of payer, that support behavioral health for all California’s children, youth, and their families. 2022-2027. Grantees: Counties, city mental health authorities, tribal entities, local educational agencies, institutions of higher education, publicly funded childcare and preschools, health care service plans, community-based organizations, and behavioral health providers.
- Learning-Aligned Employment Program⁶⁸: Offers eligible students at public colleges and universities the opportunity to earn money to help defray their educational costs while gaining education-aligned, career-related employment. 2021-2031. Grantees: University of California, California State University, California Community Colleges
- California Community Schools Partnership Program⁶⁹: Every high-poverty school in California can become a community school within the next 5 years, promoting an integrated focus on academic, health & social services, youth and community development, and community engagement. 2021-2028. Grantees: Local Education Agencies, County Offices of Education, and Charter Schools
- CaliforniansForAll Youth Jobs Corps⁷⁰: Provides grants to cities and counties to expand youth employment and work-study opportunities. 2021-2026. Grantees: City Governments
- Educator Effectiveness Block Grant⁷¹: Enacted to accelerate the preparation and support the training and retention of ‘well-prepared educators. 2021-2026. Grantees: Local Education Agencies and Charter Schools
- TK and California State Preschool Program⁷²: This initiative is focused on supporting strategies for both horizontal and vertical alignment and coherence across grades and systems and improving the coordination of policies and practices for UPK across transitions to TK and Kindergarten and through Third grade and beyond. 2022-2025. Grantees: Local Education Agencies and Charter Schools
- High Road Training Partnerships⁷³: Seeks to establish, expand, and improve workforce development programs/ high road training partnerships ranging from transportation to health care to hospitality. Grantees: Workforce Development Boards, Local Agencies, Non-profits
- Learning Recovery Emergency Block Grant⁷⁴: Assist the long-term recovery from COVID-19 pandemic for K-12 students, including addressing learning recovery, mental health, and overall well-being. 2022-2028. Grantees: County Offices of Education, School Districts, Charter Schools
- A-G Completion Improvement Grant Program⁷⁵: Provides additional supports to local educational agencies to help increase the number of California high school pupils, particularly unduplicated pupils, who graduate from high school with A-G eligibility. 2021-2026. Grantees: LEAs
- (from *Community Health chapter*) Healthcare Workforce Advancement Funding⁷⁶ from Employment Training Panel
- (from *Circular Manufacturing chapter*) New Employment Credit⁷⁷: Employer hires qualified employees (e.g., unemployed for the previous 6 months) and pays at least 150% minimum wage. Employer has a net increase in jobs.

67 <https://cybhi.chhs.ca.gov/>

68 https://leginfo.legislature.ca.gov/faces/billTextClient.xhtml?bill_id=202120220AB132

69 https://leginfo.legislature.ca.gov/faces/codes_displayText.xhtml?lawCode=EDC&division=1.&title=1.&part=6.&chapter=6.&article=

70 <https://www.californiavolunteers.ca.gov/californiansforall-youth-jobs-corps/>

71 <https://www.cde.ca.gov/ci/pl/eef2021.asp>

72 https://drive.google.com/file/d/1vZ77RDW61_1oDVKQyx8ZbAt4atrIH0n/view

73 <https://cwdb.ca.gov/initiatives/high-road-training-partnerships/>

74 <https://www.cde.ca.gov/fg/aa/ca/learningrecebg.asp>

75 <https://www.cde.ca.gov/fg/aa/ca/agcigp.asp>

76 <https://etp.ca.gov/fundingopportunities/hwaf/>

77 <https://www.ftb.ca.gov/file/business/credits/new-employment-credit/index.html>

- (from *Broadband chapter*) California Public Utilities Commission Digital Divide Grant Program⁷⁸: Four grants of up to \$250,000 each to eligible Community-Based Organizations on a competitive basis. The grants will fund digital projects that serve a beneficiary school located in an urban or rural, small school district
- (from *Broadband chapter*) California's Digital Equity Capacity Grant program⁷⁹: A plan to increase broadband and digital equity

Educational Institutions and NGOs

- California Community Colleges Workforce and Economic Development Division⁸⁰
- Strong Workforce Program, created to support California Community Colleges and K–12 local education agencies in creating, improving, and expanding career technical education courses (see California Community Colleges⁸¹ and Central Valley Mother Lode⁸²)
- Local schools in the region could invest in expanding pipeline opportunities through CTEs in high school and creating apprenticeship programs or paid internship opportunities
- The California Department of Education offers a Career Technical Education Incentive Grant⁸³. This is a significant investment to develop and maintain high-quality pathways across the state. It aligns well to the work in S2J2.
- Twenty-three (23) Central San Joaquin Valley K-16 Partnership⁸⁴ (Fresno-Madera K-16 Collaborative⁸⁵, fiscal and programmatic lead): Regional K-16 grant⁸⁶ funded projects (in education-to-career pathways of Business, Education, Economic, & Health and Recovery With Equity)
- California Regional K-16 Education Collaboratives Grant Program⁸⁷
- Career Internship Center project with Career Nexus⁸⁸ and FUSD

Private Sector

Private sector companies can partner with education and training institutions to create work-based learning opportunities, paid internships, and other programs open to community members and/or exclusive to their employees. In addition, a private sector company and state or local government can collaborate to develop a public-private partnership to finance, build, and operate projects.

Philanthropy

Several foundations invest in the region through grants for workforce development and other relevant and adjacent issues such as youth development, community development, and family economic advancement. Those foundations include the California Endowment, Kellogg Foundation, Sierra Health Foundation, James Irvine Foundation, California Wellness Foundation, Knight Foundation, and Central Valley Community Foundation.

78 <https://www.cpuc.ca.gov/consumer-support/financial-assistance-savings-and-discounts/california-teleconnect-fund/digital-divide-grant-program>

79 <https://broadbandforall.cdt.ca.gov/state-digital-equity-plan/>

80 <https://www.cccco.edu/About-Us/Chancellors-Office/Divisions/Workforce-and-Economic-Development>

81 <https://www.cccco.edu/About-Us/Chancellors-Office/Divisions/Workforce-and-Economic-Development/Strong-Workforce-Program>

82 <https://crconsortium.com/k12-strong-workforce-program/>

83 <https://www.cde.ca.gov/ci/ct/ig/>

84 <https://www.fresnomaderahigheredforall.org/central-san-joaquin-valley-k-16-partnership/>

85 <https://www.fresnomaderahigheredforall.org/about/>

86 <https://k16collaborative.org/>

87 <https://k16collaborative.org/>

88 <https://careernexus.org/>

3.3 Outline of Potential Funding Models by Strategy

Funding models for each strategy include a mix of the funding sources identified in sections 3.2 and 3.4.

3.4 Investment needed by strategy

To create a strong and thriving workforce ready to fill emerging and evolving jobs, the region needs sufficient investment in a strong and responsive education and skill-building infrastructure. Funding is necessary to implement each of the four strategies to do this. (See more activities and details about each strategy in Chapter 2: Investment Strategies.)

Over ten years, we estimate this will require a total investment of \$1.9 billion.

Strategy	Activities	10-Year Investment Needed
Strategy #1: Create a robust, four-county infrastructure for stakeholders to work together strategically around a shared vision, goals, and outcomes	This includes funding to coordinate across four counties, engage community-based organizations to provide education/training program participants with case management services, salaries for community navigators, etc.	\$290M
Strategy #2: Reimagine ways for employers and industry partners to work hand-in-hand with other education and workforce stakeholders to develop training opportunities that simultaneously serve their workforce needs and lead workers to quality jobs	This includes funding to compensate employers and program participants, hire a facilitator to engage industry partners, create and provide stipends for internship and apprenticeship participants, develop industry-aligned curriculum for K-16, etc.	\$650M
Strategy #3: Design flexible pathways to quality, high-wage, in-demand jobs and entrepreneurship opportunities so workers can attain multigenerational economic mobility	This includes funding to compensate employers and work-based learning participants, invest in entrepreneurship programs and start-up costs, recruit and train/upskill local instructors, increase career and technical education programming in K-12, etc.	\$470M
Strategy #4: Ensure communities can access programs and supports to thrive at all stages of their education and career, and equip community-based organizations to support them	This includes funding to resource community-based organizations to support program participants and implement these strategies, outreach to community members, a fund to provide wraparound services to participants, education to pair with skills training (e.g. language, digital literacy), etc.	\$500M
TOTAL INVESTMENT NEEDED		\$1.9B

In addition, several workgroups identified funding needs related to education and skill building. The table below is a compilation of what they identified. See a more detailed description, including assumptions behind the estimates, in each industry cluster's Funding section.

Sector	Estimate (if any)	Details	Potential Funding Sources
Clean Energy	~\$14M	Strategy A: Build on skilled workforce capabilities to meet the needs of clean energy and fuels development Sample activity: Create partnerships with local institutions to develop or expand clean energy focused apprenticeship and reskilling programs	- Career Skills Training - State-Based Home Efficiency Contractor Training Grants
Fleet Transition	~\$2M	Strategy A: Develop workforce to enable and sustain ZEV transition Sample activity: Collaborate with various (i.e., 15) local educational institutions to develop training programs for EV	- Clean Transportation Program (CEC) - Rural Energy for America Program (REAP) – Electric Vehicle Infrastructure Grants and Loan Guarantees (USDA) - Zero-emission School Bus and Infrastructure (CARB) - Investment for Zero-emission Transportation Infrastructure (CEC)
Responsible Food & Agriculture	\$17.9M to \$26.2M	Food processing & manufacturing center with training facilities	
Responsible Food & Agriculture	\$1.4M to \$1.7M	Farmworker Empowerment Center	
Circular Manufacturing	~\$3.5M	- Nurture adults' future careers through meaningful, paid internship experience. - Bridge gaps between academic theory and practical applications. - Train and prepare students for roles in advanced manufacturing.	
Community-Based Health	\$41M	Strategy D: Appropriate skill-based education, training opportunities: A robust community-based healthcare workforce is currently hindered by a lack of appropriate skill-based education, training opportunities, and desired career development pathways	Local Education Investments - Community Schools - Apprenticeship programs/paid internships State Level Education Investments - State funding around workforce Development for K-16⁸⁹ State Level Workforce Investments - Workforce investments through the California Labor and Workforce Development Agency - Healthcare Workforce Advancement Funding from Employment Training Panel (ETP) - Various healthcare workforce funding initiatives

89 <https://www.ppic.org/publication/californias-higher-education-funding-landscape/>

Sector	Estimate (if any)	Details	Potential Funding Sources
Community-Based Health	\$467M	Strategy E: Equitable access to good jobs: There is a lack of equitable access to good jobs in community-based healthcare workforce careers.	Local Workforce and Education Investments Workforce Investment Boards in each county Expanding pipeline opportunities through CTEs in high school CalJobs

4 Stakeholder Map

4.1 Stakeholders for the Area

4.1.1 Required Stakeholders

Across counties, interviewees shared that the dominant stakeholders in regional economic planning processes to date have been businesses (and business-focused entities), governmental entities, and organizations within the networks of established, well-funded non-profits. Marginalized stakeholders in these processes have historically been neighborhood-level organizations; smaller community-based organizations; organizations led by Black people, Indigenous people, and other people of color; Tribal Nations; organizations representing the interests of specific communities such as Hmong and Lao ethnic groups; and organizations that directly challenge the power of businesses and government.

Effective strategic planning to advance economic health and resilience, increase economic and racial equity, and advance climate action significantly benefits from robust engagement with diverse stakeholders. Governance structures that support trust-building and stewardship as well as procedural equity and equitable outcomes are critical for effective stakeholder engagement and coalition work. (CERF Regional Plan Part 1)

To effectively implement these strategies across the four counties, we'll need to engage an array of stakeholders including:

- **Education Institutions and Coalitions:** This includes early childhood institutions, K-12 schools, universities, community colleges, school districts, cradle to career coalitions, and other adult education providers.
- **Employers and Industry Partners:** This includes key employers in the five identified investment areas – one water, broadband, responsible food and agriculture, climate solutions, and circular manufacturing – workforce investment boards, chambers of commerce, economic development corporations, and other industry partners.
- **Labor and Worker-centered Organizations:** This includes unions across the five identified sectors.
- **Community-based Organizations:** This includes CBOs and NGOs focused on education, jobs, financial stability, and social services.
- **Environment and climate justice organizations:** This includes organizations working to ensure the region and sectors facilitate a just transition to a regenerative economy.
- **Relevant Government Partners:** This includes local, state, federal, and Tribal governments as well as special districts.
- **Consultants, Researchers, and Subject Matter Experts:** This includes consultants who can facilitate collaboration across the four regions as well as researchers and subject matter experts who can advise on programs and strategies.

4.1.2 Available / Committed Stakeholders

The S2J2 sprint conveners and workgroup members are critical and have already committed to this work. (See a more full list of stakeholders in 4.2.1.)

Organizational Partner / Human Resource	County	Role
California Council for Adult Education (S2J2 sprint convener)	all	Professional association serving all levels of California's adult education community, including teachers, classified, administrators, and students.
Career Nexus (S2J2 sprint convener)	all	A collaboration of aligned employers, educators, training organizations, essential support services, and job seekers working together under shared community values.
Cradle to Career Fresno County (S2J2 sprint convener)	Fresno	A backbone organization supporting cross-sector partnership, collaboration and measured improvement.
Fresno County Superintendent of Schools (S2J2 sprint convener)	Fresno	Provides educational leadership, fosters partnerships and coordinates services to districts to ensure equitable opportunities for all students.
Fresno-Madera K-16 Collaborative (S2J2 sprint convener)	Fresno, Madera	Providing pathways to college and careers for all; a signature initiative of the Governor's Council on Postsecondary Education and Fresno DRIVE; fiscal and programmatic lead for the Central San Joaquin Valley K-16 Partnership.
Sequoias Adult Education Consortium (S2J2 sprint convener)	Tulare, Kings	A regional organization covering parts of Tulare and Kings County in California whose mission is to facilitate the alignment and collaboration of adult education in the region.
Tulare County Office of Education, College and Career Department (S2J2 sprint convener)	Tulare	Provides collaborative and transformational leadership to support the regional learning community in creating innovative and sustainable approaches that are outcome-driven and empower all students to participate successfully in college, career and life.
Workforce Assistance Center (S2J2 sprint convener)	Madera	A Madera County community resource center & partnership of community agencies specializing in meeting a variety of needs from training to job placement to public housing.
Workforce Development Board of Madera County (S2J2 sprint convener)	Madera	Make investments in job training and skills development to support the economic success of residents, businesses, and communities in Madera County.
Workforce Investment Board of Tulare County (S2J2 sprint convener)	Tulare	Uses Workforce Innovation and Opportunity Act (WIOA) funds to connect Tulare County job seekers to employment and training opportunities. This is done through Employment Connection Centers, the youth@work program, and other special grants and projects.
Central San Joaquin Valley K-16 Partnership (S2J2 sprint convener)	all	The Central San Joaquin Valley K-16 Partnership is a collaboration between the Fresno-Madera K-16 Collaborative and the Tulare-Kings College and Career Collaborative, which combine resources to achieve equity-focused goals in our region.
State Center Community College District (S2J2 sprint convener)	Fresno, Madera, parts of Kings & Tulare	State Center Community College District (SCCCD) currently includes four community colleges and two educational centers: Fresno City College, Reedley College, Clovis Community College, Madera Community College, Madera Community College at Oakhurst, and the Career and Technology Center.
State Center Adult Education Consortium (S2J2 sprint convener)	all	State Center Adult Education Consortium consists of adult schools, community colleges, and other local partners that provide basic education and short-term career technical education training for adults 18 years and older in order to assist with seamless transitions into the workforce and/or post-secondary education.

4.1.3 Stakeholder Gaps

While several employers and industry partners are actively engaged in this work, the region needs deeper engagement and commitment from them, particularly in the five identified industries, to provide pathways from entry-level jobs to higher-quality jobs. This engagement from employer/ industry partner organizations needs to take place at all role levels, from the organization leadership (CEO/ED, HR Director) down to the managers and individual contributors who work with trainees.

Collaboration can be further strengthened by including more – and more balanced – representation across counties and from environmental and environmental justice groups; unions; Black residents; Indigenous and Tribal representatives; people who live in rural and unincorporated areas in the regions; and other groups across the stakeholder categories.

Though community-based organizations and unincorporated and rural communities are significant populations in the Sierra San Joaquin region, there is currently little representation from them.

Looking at the employers, business associations, and economic development groups alongside the labor and worker-centered organizations, unions appear to have an undersized role in the High Road Transition Collaboratives.

4.1.4 Addressing Persisting Stakeholder Gaps

Each of the stakeholders in the previous section can be more deeply engaged through consistent practices to invite them into participation and leadership roles, build trust with them, make spaces accessible to them, and ensure the work is bringing value to them.

There is also a gap in institutionalizing partnership across the four counties at the organizational level. Partnerships are often based on one-to-one relationships, leading to a situation where, with staff turnover, partnerships can weaken. Therefore, establishing formal, institutionalized partnerships through MOUs or other similar agreements can be beneficial. (See more in Chapter 5: Barriers and Mitigation Pathways.)

4.2 Additional Stakeholders By Strategy

4.2.1 Strategy-Specific Stakeholder Need

- Strategy #1: Create a robust, four-county infrastructure for stakeholders to work together strategically around a shared vision, goals, and outcomes and develop region-wide capacity to meet emerging workforce needs.
- Strategy #2: Reimagine ways for employers and industry partners to work hand-in-hand with other education and workforce stakeholders to develop training opportunities that simultaneously serve their workforce needs and lead workers to quality jobs.
- Strategy #3: Design flexible pathways to quality, high-wage, in-demand jobs and entrepreneurship opportunities so workers can attain multigenerational economic mobility.
- Strategy #4: Ensure communities can access programs and support to thrive at all stages of their education and career, and equip community-based-organizations to support them.

Stakeholder group	Organizational Partner / Human Resource	County	Strategy			
			#1	#2	#3	#4
Education & training institutions & coalitions	Fresno County Superintendent of Schools (S2J2 sprint convener)	Fresno	✓			✓
	Tulare County Office of Education, College and Career Department (S2J2 sprint convener)	Tulare	✓	✓		✓
	California Council for Adult Education (S2J2 sprint convener)	all	✓	✓	✓	
	Cradle to Career Fresno County (S2J2 sprint convener)	Fresno	✓	✓	✓	
	Fresno-Madera K-16 Collaborative (S2J2 sprint convener)	Fresno, Madera	✓	✓	✓	✓
	Central San Joaquin Valley K-16 Partnership	all	✓	✓	✓	✓
	Sequoias Adult Education Consortium (S2J2 sprint convener)	Tulare, Kings	✓	✓	✓	
	Good Jobs Challenge Grant Coalition	all	✓	✓	✓	
	State Center Community College District – & four member colleges: Fresno City College, Reedley College, Clovis Community College, Madera Community College	Fresno, Madera, parts of Kings & Tulare	✓	✓	✓	
	Central Valley Mother Lode Regional Consortium	all	✓	✓	✓	
	Central Valley Higher Education Consortium	all	✓	✓	✓	
	Tulare-Kings College and Career Collaborative	Tulare, Kings	✓	✓	✓	
	Valley Regional Occupational Program	Fresno, Tulare	✓	✓	✓	
	Proteus	Fresno, Tulare, Kings	✓	✓	✓	
	Able Inc.	Tulare	✓	✓	✓	
	Junior Achievement of Northern California	all	✓	✓		✓
	Uplift Valley Green Workforce Development Program	unclear	✓	✓	✓	✓
	Parent University	Fresno	✓		✓	✓
	The Mediator Mentors Program at Fresno State	Fresno				
	Another Level Training Academy	Fresno				
	Yo Soy Media Inc	all				
	USGBC Central California	all				
Employers & industry partners	Workforce Development Board of Madera County & Workforce Assistance Center (S2J2 sprint conveners)	Madera	✓	✓	✓	
	Workforce Investment Board of Tulare County (S2J2 sprint convener)	Tulare	✓	✓	✓	
	Workforce Development Board of Kings County	Kings	✓	✓	✓	
	Workforce Development Board of Fresno County	Fresno	✓	✓	✓	
	Chambers of Commerce: Madera, Tulare, Kings, Fresno, Black, Hispanic	all	✓	✓	✓	
	Farm Bureaus of Madera, Tulare, Kings, Fresno counties	all	✓	✓	✓	
	San Joaquin Valley Manufacturing Association	Fresno, all?	✓	✓	✓	

Stakeholder group	Organizational Partner / Human Resource	County	Strategy			
			#1	#2	#3	#4
Employers & industry partners	Economic Development Corporations: Visalia, California Central Valley, etc.	all	✓	✓	✓	
	Valley Community Small Business Development Center	Fresno	✓	✓	✓	
	South Valley Industrial Collaborative	all	✓	✓	✓	
	Tulare-Kings Healthcare Partnership	Tulare, Kings	✓	✓	✓	
	Apple	all	✓	✓	✓	
Labor & worker-centered organizations	Central Valley Opportunity Center	Madera	✓	✓	✓	✓
	California Farm Worker Foundation	all	✓	✓	✓	✓
	Teamsters	all	✓	✓	✓	✓
Community-based organizations & NGOs	Central Valley Health Network	all	✓		✓	✓
	LEAP (Latino Equity and Policy) Institute	all	✓	✓	✓	✓
	Familias Empoderadas de Fresno	Fresno	✓		✓	✓
	Youth Leadership Institute	Madera, Fresno	✓		✓	✓
	Madera Coalition for Community Justice	Madera	✓		✓	✓
	United Way of Fresno and Madera Counties	Madera, Fresno	✓	✓	✓	✓
	Fresno Community Health Improvement Partnership	Fresno	✓		✓	✓
	Binational of Central California Centro La Familia	all	✓	✓	✓	✓
	Local members of Community Action Partnership	all	✓	✓	✓	✓
	Jakara Movement	Fresno	✓			✓
Relevant government partners	Cities of: Chowchilla, Avenal, Lemoore, Madera, Porterville, San Joaquin, Selma, Visalia	all	✓		✓	
	Counties of: Fresno, Madera, Tulare, Kings	all	✓		✓	
	Dunlap Band of Mono Indians	Fresno	✓		✓	✓
Consultants, researchers, & subject matter experts	Central Valley Health Policy Institute	all	✓		✓	
Other partners	Central Valley Community Foundation	all	✓	✓	✓	✓

Insights from Prior Community Engagements

Previous community engagements have highlighted the need for greater transparency and follow-up communication. It is important for all stakeholders to receive timely communication about the status and impact of the initiative and how they can continue to contribute.

5 Barriers, Path to Addressing, & Policy Updates

We anticipate a few key barriers to implementing the education and skill building investment strategies.

- The “people” and management challenges of collaboration.
- Lack of deep, consistent employer engagement in working with CBOs, postsecondary, and other key stakeholders.
- Regional inequities, which prevent community members from being aware of and accessing education and skill-building opportunities.
- Regional infrastructure limitations.

5.1 The “People” and Management Challenges of Collaboration

In any context, collaboration is hard. In this region, there’s also a history of participants leaving collaborations when they feel in competition with others or when the work takes too long to implement. These stakeholders bring memories of past failures into new collaborations.

Another challenge is that relationships are often held inside of counties rather than between counties. In interviews, several stakeholders across counties noted that Fresno is perceived to “dominate” action in the region. Importantly, stakeholders from Fresno County were conscientious of this and expressed self-awareness as to how this imbalance impacts cross-county collaboration. In part, this may be because Fresno County is home to large, cross-sector anchor institutions that have the capacity to work across domains of focus and have the resources to bring together partners across the region.

In addition, there are challenges with network bandwidth for virtual collaboration; slow implementation of strategies or programs; limitations and lag time of Labor Market Information data; lack of local control with restricted funding; and extensive government reporting requirements.

5.1.1 Path to Addressing Barrier

- Commit resources to support four-county coordination through sustained, multi-year funding. All four counties will need to work together to build trust, navigate conflict and tension, ensure the right partners join and remain active, hold one another accountable to commitments and outcomes, and keep the work moving forward.
- Ensure equitable and transparent funding practices across counties. In particular, ensure that funding isn’t concentrated in Fresno but is shared across the four counties. In addition to program-specific funding, ensure participants receive unrestricted funding to grow their capacity to provide services.
- Collectively establish a set of data-sharing protocols across stakeholders.
- Formalize partnerships through MOUs, using the process of developing the MOU to deepen relationships and align on shared goals, strategies, and agreed-upon ways of working.
- Identify “quick wins” to maintain momentum, even as longer-term work will take time to implement.

5.1.2 Key Enablers

- Stakeholders have a shared vision for the region and a deep commitment to realizing it.
- Many stakeholders have built a strong foundation in their own counties and can bring their lessons learned to a four-county collaborative.

5.2 Lack of Deep, Consistent Employer Engagement in Working with CBOs, Postsecondary, and Other Key Stakeholders

Employers may be focused on the work of maintaining and growing their own business, or they may struggle to find programs that align with their industry.

5.2.1 Path to Addressing Barrier

- Create low-lift, low-risk entry points for employers to experiment with education and training opportunities.
- Create incentives to help employers implement programs like apprenticeships.
- Work with employers to create a business value proposition they can articulate to their staff, leaders, and board.
- Invest in building a strong pipeline of trainers and instructors equipped to develop relevant learning opportunities in partnership with employers and other stakeholders

5.2.2 Key Enablers

- The region has many employers with anticipated workforce needs that are eager to partner on training and education.
- The region has many successful examples to learn from and models to recreate.

5.3 Regional Inequities, which Prevent Community Members from Being Aware of and Accessing Education and Skill-building Opportunities

Roughly two-thirds of the S2J2 region is designated as disinvested, according to the state. Compared to the rest of the region, residents living in these disinvested areas tend to be even younger, more likely to be Latinx or an immigrant, and have less formal education. Compared to the rest of the region, households in these disinvested areas are even more likely to have children, be even larger in size, have even lower incomes and higher rates of poverty, use public insurance and other public assistance at higher rates, and have even less access to the internet and broadband. More than half of the people living in the S2J2 region's disinvested areas speak a language other than English at home, but not all indicate they speak English well. People living on Tribal lands, all of which are designated as disinvested areas, experience even more acute and unique challenges; for example, fewer access public assistance despite higher rates of poverty. (CERF Regional Plan Part 1)

Workers' current workplace conditions may lead workers to experience financial stress and diminished mental health (Urban Institute), limiting their capacity to engage in new learning opportunities.

Historic exploitation and exclusion, as well as performative inclusion, creates mistrust that takes considerable effort to undo. Outreach to community-based organizations not already engaged in the work may be perceived as an afterthought. The Sierra San Joaquin region is historically under-resourced; S2J2 funding offers the potential for a major investment in the region's social impact sector. While CVCF has made considerable effort to engage "non usual" players and broaden the scope of influence, it's essential that conveners not only include smaller, lower-capacity organizations, but also invest in building their capacity. Some interviewees highlighted that organizations with lean operating budgets and staff, or organizations that are volunteer-based, may not have the dedicated resources to develop the structure necessary to support plan development and implementation at the scale required by S2J2. Facilitators and conveners could identify how to build up less-resourced organizations so that they are poised for success and can grow their profile and influence through plan implementation. Investing in building capacity now is essential to ensure that future partnership is mutually beneficial. (CERF Valley Regional Plan Part 1)

5.3.1 Pathways to Addressing Barrier

- Increase awareness of education and training opportunities by basing programs in community centers, engaging trusted partners to spread the word, and partnering with community-based organizations, schools, and other institutions deeply rooted in disinvested communities.
- Create culturally competent training by engaging community members in designing them and, therefore, making them more accessible for community members to join and complete.
- Provide training participants with interpretation services, childcare, transportation, and other support.
- Provide multi-year, unrestricted funding to key community-based organizations so they can grow their capacity to better serve and connect communities with opportunities.
- Ensure disinvested communities have access to quality K-12 education. This investment can create a skilled workforce that meets the needs and demands of evolving and emerging industries, which may lead to higher earning wages and improve quality of life for residents of the Central San Joaquin Valley.
- Invest in sustainable transportation infrastructure. By ensuring all residents have affordable, accessible transportation options, we increase access to essential services, job opportunities, education, and healthcare. The region can leverage its improved connectivity to attract new business and diversify its economy.

5.3.2 Key Enablers

- The region has a strong ecosystem of community-based and social service organizations with strong relationships in various communities.
- Opportunities abound for creating pathways to good jobs that don't rely on traditional degrees. By embracing vocational training programs, online education platforms, and apprenticeships, the region can empower individuals to acquire specialized skills that align with emerging fields such as agricultural technology, renewable energy, and advanced manufacturing. This approach not only addresses the evolving needs of industries but also enhances the employability of the local workforce, fostering economic resilience and adaptability.

5.4 Regional Infrastructure Limitations

Infrastructure limitations present a notable weakness for the region. There is a lack of well-connected roads, efficient water systems, robust broadband, and proactive utility development, all of which help facilitate movement and access to opportunities. These infrastructure limitations inhibit the region's ability to attract businesses, provide quality services, and offer residents a high quality of life.

5.4.1 Pathways to Addressing Barrier

See the One Water and Broadband investment plans.

5.4.2 Key Enablers

The region is committed to strengthening its infrastructure.

5.5 Recommended Changes to Local, State, and Federal Policies and Laws

These strategies affirm the policies named in the CERF Regional Plan Part 1:

The Putting California on the High Road: A Jobs and Climate Action Plan for 2030 outlines a vision for integrating economic and workforce development into the state's major climate plans and programs. More specifically, it makes recommendations for "simultaneously promoting equity and mobility for workers, skills and competitiveness for employers and industry, and long-term environmental sustainability and climate resilience for the state" (California Workforce Development Board 2020). (CERF Regional Plan Part 1)

Additional policies that would enable the region to effectively implement these strategies include:

- Streamline government reporting requirements, so stakeholders won't decline participation because of the reporting burden.
- Create and/or fund student support roles (e.g., transition specialists, navigators, counselors, peer mentors) to ensure learners have guides to navigate the complex training/education ecosystem, even in years when school budgets are tight.
- Ensure living wages for farmworkers so they can have the capacity to explore training and education opportunities.
- Provide clarity and support to help small, local businesses implement government regulations (including environmental regulations).
- Increase funding for rural communities.

6 Path Forward

There are several things needed in the next six months to prime the region for future investment in its education and skill-building capacity.

- Address community members' basic needs and provide holistic, wraparound supports so they can participate in education and training
- Inventory and assess the region's education and skill-building landscape to understand what resources are available and what functions are needed for all-encompassing, four-county coordination
- Using the most up-to-date data, identify in-demand occupations in priority industry sectors; build new and pivot existing training programs to meet these employment priorities

6.1 Objective A

Address community members' basic needs and provide holistic, wraparound supports so they can participate in education and training. This will prepare the region to implement all four strategies, especially Strategy #4: Ensure communities can access programs and supports to thrive at all stages of their education and career, and equip community-based-organizations to support them.

6.1.1 Key Activities

Resource and activate service providers, particularly those with existing relationships and expert knowledge of community needs (e.g., community-based organizations). Specific needs that have been elevated by community members include: reliable transportation, quality and affordable childcare, and English literacy and multilingual services.

6.1.2 Key Resources

Many of the community-based organizations outlined in Chapter 4: Stakeholder Map – e.g., Central Valley Health Network, Latino Equity and Policy (LEAP) Institute, Familias Empoderadas de Fresno, Youth Leadership Institute, Madera Coalition for Community Justice, United Way of Fresno and Madera Counties, and Fresno Community Health Improvement Partnership – are well-positioned to address residents’ basic needs. In many cases, these organizations need additional financial resources and human capital to meet the demand for the services they provide. In particular, to make meaningful progress in meeting community needs and addressing root causes, they need sustained, multi-year, unrestricted funding.

6.1.3 Owners

The organizations identified in the previous section will likely lead the provision of services. Their work would benefit from a region-wide effort to coordinate both resources and action (Strategy #1). Their work could also benefit from a set of funders invested in the health of the community.

6.1.4 Timeline

Fall 2024: Inventory services provided by community-based organizations; identify funding sources to provide support.

Winter 2024/25: Spend time deepening or building relationships with the organizations’ leaders and understanding their strengths, needs, context, how they communicate with the community, and their understanding of the community’s strengths and needs.

Spring 2025: Create a fund to support community-based organizations in the form of multi-year, unrestricted funding (which allows them to invest in the areas that will make the greatest impact and pivot quickly as things change) paired with multi-year capacity building support (which will help build their capacity to continue meeting the community’s needs as the region changes over time).

6.2 Objective B

Inventory and assess the region’s education and skill-building landscape to understand what resources are available and what functions are needed for all-encompassing, four-county coordination. This includes two elements:

1. *Create an inventory/map of current activities and resources available across the education and skill-building spectrum in order to home in on gaps and specific areas for future investment.* While there have been effective efforts within a region to raise awareness of the activities and resources that exist, there is a need to do so across the four counties. Even regional education and skill-building professionals aren’t aware of all the good work that’s happening. On top of that, many community members – especially nontraditional learners, entry-level workers, and workers in jobs vulnerable to transition or elimination – are never effectively reached by efforts to raise awareness of training and education opportunities.
2. *Assess what functions are needed to effectively coordinate education and training systems across the four-county region.* This will prepare the region to implement Strategy #1: Create a robust, four-county infrastructure for stakeholders to work together strategically around a shared vision, goals, and outcomes and develop region-wide capacity to meet emerging workforce needs.

6.2.1 Key Activities

- Take an inventory of existing activities across the education and skill-building spectrum including basic literacy services, technical skills programs, support systems, and pathways by sector and occupation. Map those resources across the region to demonstrate where opportunities are available.
- Continue to engage with Workgroup Conveners to identify priority functions of an entity or method to strengthen coordination across the four counties, as well as who is best-positioned to serve which functions. Consider MOUs or other formal arrangements for engaging partners in leading the work going forward.
- Identify strategies to experiment with to more effectively share information with community members about existing and new training and education opportunities. Work closely with community partners (e.g., K-16 institutions, religious institutions, community-based organizations) to understand how they communicate with residents and whether strategies might include joining those communications, i.e., “use what works” or “meet them where they are” (e.g., church bulletins; K-12 take-home materials requiring a guardian’s signature).
- Consider a more in-depth root cause analysis to more accurately identify the foundational barriers to access to education attainment, and rearrange supports and programs accordingly. Regional conveners suggest that this work may include seeking out residents who have not been successful in meeting their educational or employment goals to better understand – and ultimately remove – obstacles to completion.
- Take stock with employer partners. Assess the effectiveness of existing employer engagement strategies (e.g. advisory councils) and consider revised models for employer partnership.

6.2.2 Key Resources

Education and workforce development partners in Tulare undertook an activity in 2016 to map pathways resources across the county by sector and occupation. The results included a comprehensive set of on- and off-ramps for learners and workers in the region. Tulare’s process may serve as a useful model for a similar four-county effort. A more in-depth look is now being taken in health and education pathways for K-16 across the four counties as part of work the Fresno-Madera K-16 Collaborative is funding on behalf of the Central San Joaquin Valley K-16 Partnership.

The Tulare Workforce Investment Board utilizes the Next Generation Sector Partnership model and the Talent Pipeline Management framework to drive its partnerships with certain employers in the region. These models and lessons learned about their effectiveness may prove useful in exploring more progressive employer engagement strategies.

6.2.3 Owners

The workgroup conveners are well-positioned to identify what functions are needed to effectively coordinate education and training systems across the four-county region. A regional facilitator (if any) has yet to be determined. The Fresno-Madera K-16 Collaborative might be well-positioned to handle logistics for four-county coordination.

Many stakeholders including regional education/skill-building coalitions (e.g., see “Available / committed stakeholders” in Chapter 4) and higher educational institutions (e.g., UC Merced, CSU Fresno, community colleges, Central Valley Higher Ed consortium) in the region are well-positioned to contribute to or lead an inventory or mapping process.

6.2.4 Timeline

Fall 2024: Workgroup Conveners identify priority functions needed to effectively coordinate education and training systems across the four-county region.

Winter 2024/25: Conduct a SWOT analysis of the education and skill-building space and identify what roles and functions each organization will play. Identify and fund an entity or set of entities to create an inventory/map of current education/skill-building activities and resources available across the four counties.

Spring 2025 (or Fall/Winter 2025 if academic calendars limit participation): Launch the plan (chosen by the Workgroup Conveners) to coordinate across the region. Release the inventory/map. Identify and begin experimenting with strategies to more effectively share information with community members about existing and new training and education opportunities.

6.3 Objective C

Using the most up-to-date data, identify in-demand occupations in priority industry sectors; build new and pivot existing training programs to meet these employment priorities.

6.3.1 Key Activities

- Access and analyze the most up-to-date labor market information and projections to determine the most in-demand occupations in the priority industry sectors.
- Develop routines for regular and frequent sharing of this information between employers and education providers.
- Using the Labor Market Information (LMI), Centers of Excellence for Labor Market Research, and workforce development boards' LMI data, education and training providers can develop new and shift existing training programs to meet the fastest growing employment needs.

6.3.2 Key Resources

Workgroup participants have noted that the most reliable sources of LMI are local workforce development boards and chambers of commerce, especially as they tend to have the nearest access to employers and industry. They also highlighted the Centers of Excellence for Labor Market Research, which is free and customizable to community colleges upon request, though it should be balanced with workforce development boards' LMI data. McKinsey's "S2J2 Workforce Projections" document gives a sense of the region's anticipated job training needs in the next 20 years.

6.3.3 Owners

Workforce investment boards and chambers of commerce are well-positioned to access, analyze, and share information about current labor market information and projections. Adult education professionals are well-positioned to share this information with educators, trainers, and other relevant stakeholders. Community colleges are well-positioned to access Centers of Excellence for Labor Market Research data and share it with staff and other educators/trainers to develop new and shift existing training programs.

6.3.4 Timeline

Fall 2024: Identify routines for regular and frequent information sharing between employers and education providers.

Winter 2024/25: Identify the fastest-growing employment needs over the next year.

Spring 2025: Begin to develop new and shift existing training programs.



Small Business/ Microenterprise Development

Community Investments



Community Investments

Small Business/ Microenterprise Development

1 Problem Statement, Opportunity, and Area Overview

The Sierra San Joaquin regional economy currently lacks the types of industries and jobs essential to fostering and supporting long-term, inclusive sustainable growth. Small businesses in underinvested communities and those owned by marginalized populations face significant challenges in accessing financial resources and support necessary to thrive in a clean economy. While pivotal to the region's economy and clean energy sector, entrepreneurs from marginalized communities encounter barriers such as insufficient financial resources, time, social networks, and knowledge. The current network of technical assistance and support for start-ups and small businesses needs focused coordination and additional funding. To advance an inclusive, sustainable, and clean economy, this network needs to become more comprehensive, coordinated, and culturally competent. This next generation of support will not only open doors for participation in the clean economy, but will also help small businesses advance and capitalize on other economic opportunities for growth and expansion.

Small businesses owned by underrepresented populations and underserved communities are less likely to have access to capital to start and grow their businesses. According to a 2018 study from the US Small Business Administration, most small business owners start their business using resources from family or personal wealth. Black, Indigenous and People of Color (BIPOC) entrepreneurs are more likely to leverage personal credit cards or high-interest personal loans due to lack of access to bank loans or other sources of institutional capital. Increasing access to flexible funds that also leverage and promote clean economic growth will better support populations that have been systematically limited by and kept out of entrepreneurship.

The Urban Institute posits that integrating small businesses into the clean economy is essential for promoting an economy that not only prioritizes environmental sustainability and climate stewardship but prosperity for all residents. The opportunity and challenge are overlapping. Small businesses should be leaders in the region's clean energy industry.

In the Sierra San Joaquin region, small business ownership is overrepresented by white men highlighting disparities in equitable participation across the sector. By increasing available capital and creating an expanded system of support for marginalized business owners, the region can contribute to environmental preservation and create a robust economy that benefits all residents. This dual approach is essential for inclusive and sustainable long-term economic growth.

1.1 Problem Being Addressed

Small businesses are critical drivers of local economies that create jobs, contribute to tax revenue, and keep money in the region. There is an opportunity to increase their contribution to green infrastructure and ability to create good jobs while preparing entrepreneurs and systems to respond to additional opportunities. Elevating small businesses has the potential to create economic impact at multiple levels. **However, small businesses, particularly in marginalized and disinvested communities, encounter numerous obstacles at each phase of their development from startup to expansion.** The more businesses that focus on returning value to the local community through good wages, improved civic infrastructure, and positive environmental impacts the better.

As opportunities for small business advancement and expansion are made available, barriers to success must be understood and overcome. In some cases, this means policy and legislative advocacy to improve and increase small business support. There is also a need to expand financial infrastructure and increase funding resources to support growth and scale. It is critical that we understand the challenges, drivers, and solutions that support barrier elimination for all entrepreneurs.

Low participation and success of small businesses owned by BIPOC, Women, and other marginalized populations.

Despite a desire to own small businesses, too few BIPOC owners are entering and succeeding in the market. While services and funding exist, they are often underutilized due to barriers related to time, comprehension, access, and other factors. These challenges are particularly pronounced for businesses owned by:

- English learners, individuals with limited English proficiency, and non-English Speakers
- Immigrants
- People of color
- People with disabilities
- People with low digital literacy and/or limited digital access
- People in rural and geographically isolated areas
- Women

Low adoption of sustainable business practices and limited development of clean businesses.

Although small businesses represent the largest share of clean energy businesses, clean energy operations and businesses lag in our region. Only 2% of the region's jobs are associated with clean energy, while small businesses provide 40% of employment. Small business owners should be educated, supported, and incentivized to adopt clean energy operations and launch clean energy businesses.

1.1.1 Rationale for Prioritization

Small businesses are the backbone of the economy, contributing to job creation, innovation, and economic development. In a local or cooperative economy, small businesses are even more critical to the health of the community or region - they are additive, not extractive. Focusing on small businesses with an eye toward community well-being supports the advancement of economic prosperity, inclusion, and environmental benefits. Prioritizing the preparation of small businesses, particularly small businesses owned by marginalized populations, also provides the opportunity to access untapped local resources that business attraction does not offer.

Advance Economic Prosperity:

Solutions that support entrepreneurship as a driver of wealth creation and economic mobility are necessary. Small businesses are key to advancing economic prosperity because they keep a higher percentage of revenue in the local economy. Educating and incentivizing small business owners to pay a competitive, living wage and access the local supply chain are key factors to success. There are additional considerations related to business design (profit margins), retirement, and sustainability that must be matched with all of the other supporting factors and policy priorities.

Inclusion:

Small businesses owned by marginalized populations have and continue to face systemic barriers. Strategies to overcome those barriers can increase participation and success. This plan is in alignment with the United Nations Sustainable Development Goal 8 (SDG8): “Promote sustained, inclusive and sustainable economic growth, full and productive employment and decent work for all.” Within SDG 8 are two targets that are particularly relevant to small businesses. 8.2: “Achieve higher levels of economic productivity through diversification, technological upgrading, and innovation, including through a focus on high-value-added and labor-intensive sectors”; and 8.3 “Promote development-oriented policies that support productive activities, decent job creation, entrepreneurship, creativity and innovation, and encourage the formalization and growth of micro-, small- and medium-sized enterprises, including through access to financial services” (United Nations).

SDG8 promotes sustained, inclusive, and sustainable economic growth, full and productive employment, and decent, safe work for all people. This goal is significant to small business ecosystems in the US, California, and the Sierra San Joaquin region.

Environment:

Communities with a diverse and responsive small business community are more likely to have access to products and services, reducing carbon emissions and other negative environmental impacts. Although the Sierra San Joaquin region is well-known and dependent on the exportation of goods to the global market, a local economy that supports itself is also an important addition.

1.2 The Vision / Opportunity

- Provide technical assistance, outreach, and support to **6,000 small businesses** in the region.
- Increase the number of employees of small businesses owned by BIPOC and other underrepresented communities by **25%** over 10 years.
- Increase the number of clean energy jobs by **7,000**.

Vision/Opportunity:

- Establish a flexible fund to support the diverse capital needs of small businesses owned by women and people of color. Access to capital is consistently the top barrier or concern of BIPOC small business owners and those who want to become entrepreneurs.
- Develop and promote a region wide system of support that ensures equitable access for **every** entrepreneur and enables small businesses at **every** stage and in **every** part of the region to thrive. This system will capitalize on changing market opportunities, protecting the environment, producing quality products and services, and creating good jobs. The vision builds on the existing knowledge, investment, and lessons learned to advance equity, economic growth, and environmental stewardship.

Equitable solutions must focus on the barriers marginalized small businesses face to achieve success in the marketplace, access capital, and influence policy. The barriers must either be overcome or eliminated. Beyond capital, many of the challenges are related to cultural relevance, language, and isolation. Therefore, this proposed system of support is built on a network of trusted messengers, primarily community-based organizations (CBOs), delivering standardized technical assistance. The guidance is based on a comprehensive business support tool that includes up-to-date resource guides to facilitate support. This tool is bolstered by a cross-industry community of learning, collective problem-solving, and practice to support industry diversification, innovation, policy recommendations, decent work, and sustainability with continuous measurement and evaluation that provides monitoring and a feedback loop. The success of this vision focuses on building on current assets and supporting CBOs with:

- Strong networking, partnerships, and connections
- Accessible and effective marketing of resources and business support tools
- Appropriate core funding to maximize the focus, impact, and investment by CBOs

None of this is possible without community engagement in information gathering and planning to determine gaps, opportunities, and specific supports to address the current need.

Data-Based Planning:

- **Identify Existing Small Businesses:** Catalog the small businesses in the region, including size, demographics, and other relevant characteristics.
- **Feedback from Small Businesses, CBOs, and Current Funders and Conveners:** Conduct focus groups, interviews, and surveys to identify barriers, opportunities, and knowledge of small business capital, green economy opportunities, and marketplace factors.
- **Assess Current Technical Assistance:** Identify the organizations involved, the types of service provided, the languages in which these services are offered, how these services are marketed to entrepreneurs and business owners, and the geographical areas covered.

1.3 Overview of the Area

In California, the fourth largest economy in the world, there are 4.1 million small businesses, and they fuel the state's economy by providing half of all private sector jobs and two-thirds of all net new jobs. There are 1.9 million, or 46% small and microenterprises owned by BIPOC populations. Ninety-eight percent have less than 5 employees and less than \$1M in revenue.

A 2018 study from the US Small Business Administration, reveals that most small business owners rely on family wealth or personal resources to start their businesses. BIPOC entrepreneurs are more likely to access personal credit cards or high-interest personal loans due to limited access to capital like bank loans or other sources of institutional capital.

According to 2019 Census data, Black individuals achieve positive net worth through homeownership. While homeownership enhances their balance sheet, liquid assets limit entrepreneurial ventures. The 2020 Census data on homeownership by race and ethnicity shows disparities and Black families are at the bottom year over year. For white non-Hispanic Americans, homeownership was 75.8% compared to 61% for Asian Americans, 50.9% for Latino Americans, and 46.4% for Black Americans. Additionally, the value of homes owned by Black households is less than their white counterparts and Black people are less likely to have other assets on the balance sheet like stocks, bonds, and businesses that significantly impact an individual's or family's net worth.

The S2J2 Community Engagement feedback emphasizes this data related to wealth and capital. Participants across the region noted entrepreneurship as an aspiration but also cited a lack of capital, support, training, and mentoring as barriers to success. Additionally, local respondents pointed to challenges with governing municipal agency bureaucracy related to zoning and other small business functions.

Current Trends and Projected Growth:

1. Our region is highly populated by small businesses and that number has increased. Ninety percent of businesses in the region are small (0-19) employees. Fewer than 1% have five hundred or more employees
2. Small businesses in the region are underinvested as compared to the rest of the country.
3. Disparities abound. Small businesses in the region are most likely owned by white and male owners. Historically marginalized groups have less capital (social and financial) which tends to keep them out of business or hinders business growth.
4. Businesses in the region have lower entry and exit rates.
5. Recent state and federal investments have created more support and investment opportunities but more are needed.

1.3.1 Regional Assets

Building on existing work means several entities, projects, and plans must be considered as regional assets and used as a foundation before any new plan is operationalized. In particular, this plan builds on the DRIVE portfolio plan: Betting Big on Small Business. The plan incorporates existing efforts to advance small business development. It integrates community-based organizations into the support network to reach and ensure equitable access for consistently underserved groups (such as BIPOC, LGBTQ+, immigrants, women, and non-English and English-as-a-second-language speakers).

Existing Regional Assets:

- Fresno DRIVE: Several DRIVE portfolios overlap and offer enhancement to the advancement of small businesses.
 - Betting Big
 - F3
 - Wealth Creation
 - Good Jobs
 - Career Nexus
- Transformative Climate Communities (TCC): Localized community-driven, climate action program. Potential opportunities to build on community planning to advance more small businesses in clean energy and/or small businesses adopting clean operations.
- Good Jobs (Fresno Economic Development Corporation): This regional effort seeks to place 2,500 people in good jobs. The training and wraparound support offered through a network of community-based organizations is a foundation for the system required to provide business support and technical assistance to small businesses.
- F3: Farms. Food. Future.: The F3 focus on funding for small entrepreneurs, local food systems, and climate is aligned with the priorities of this plan.
- High Roads to Good Jobs (United Way Fresno and Madera Counties)
- Funding Fresno: Offers business assistance to help small businesses find resources, capital, and business support.

Additional Assets For Networking and Funding:

- Confia and Access Plus Capital are regional CDFIs that provide scaling capital, seed funding, and micro-grants.
- Small business support through centralized hubs provided by the chambers of commerce, Small Business Administration, Small Business Development Center, Vision View, etc. for business incubation.
- Networking events workshops and training hosted by Small Business Majority, SBA, California Office of the Small Business Advocate (CALOSBA) to connect entrepreneurs, investors, and experts.
- Mentorship Programs/ Business Bootcamps/ Accelerator Programs provided by business resource organizations – examples: Confia Women-Owned Business Development program, Fresno Metro Black Chamber of Commerce Betting Big program.
- Partnership Networks within key stakeholder groups offered by Cal OSBA, Small Business Majority, Industry Specific Professional Associations
- Market analysis and support for startups through Chambers, SBA, SBDC, and others.

Potential CBO Partners:

The Sierra San Joaquin Region is supported by thousands of community-based organizations that will support the planning, coordination, and implementation of technical assistance and support for small businesses. These CBO's include:

- Mission-aligned CBOs that focus on entrepreneurship, financial stability, or economic development
- CBOs serving the target communities and/or populations
- Current CBOs in the Good Jobs and High Roads projects
- CBOs with experience and success conducting outreach and education campaigns in target communities.

2 Investment Strategies

2.1 Key Strategy A: Establish a Flexible Fund to Provide Capital

To address the specific capital concerns of small businesses owned by women, people of color, and other marginalized populations, we aim to establish a transformative fund that directly meets these needs. This innovative fund will offer diverse capital options designed to appeal to a wide range of small business owners and attract potential investors. The capital options will include small grants, angel and seed equity, low/no-interest loans, and alternative debt products, ensuring flexibility and adaptability.

This versatile pool of capital will serve multiple purposes:

- **Low-dollar grants** to test and refine business ideas.
- **Angel and seed funding** to accelerate the growth of promising small businesses.
- **Local guarantees and bond assistance** to support diverse contractors.
- **Patient and flexible debt financing** to provide long-term stability.

Additionally, the fund will directly support small business owners who receive technical assistance through the State Small Business Credit Initiative (SSBCI) funded programs, climate-resilient technical assistance initiatives, and other rigorous programs. This comprehensive approach ensures that small businesses are prepared to receive capital, significantly reducing the risk to the fund.

2.1.1 Strategy-Specific Problem Statement

The Sierra San Joaquin region faces a critical shortage in lending capital for small and diverse businesses, with an **annual gap exceeding \$3B**, according to a Funding Fresno report. This significant shortfall places the region among the lowest in the nation for per-business availability of loan capital, as highlighted by the Urban Institute.

Despite being well-positioned for federal investment through initiatives such as the CalEnviroScreen and EPA Justice 40 Initiative, there is a substantial gap in leveraging these federal funds to maximize the drawdown of available climate-resilient funding. This disconnect hinders the potential for economic growth and resilience in the region, particularly for small businesses owned by women, people of color, and other marginalized populations.

Addressing this gap is crucial to unlocking the region's potential and ensuring that all small businesses have access to the capital they need to thrive and contribute to a more inclusive and sustainable economy.

2.1.2 Outline of the Proposed Strategy

Objective: Increase the availability of capital for innovative start-ups and the scaling of existing businesses in the Sierra San Joaquin region, emphasizing businesses focused on green operations and sustainability.

Key Components:

A. Regional Revolving Loan Fund

Establish a regional revolving loan fund to support growing businesses by providing continuous capital through a fund that leverages SSBCI-funded loan guarantees and credit enhancement programs, USDA loan guarantee programs, and GGFR allocations to regional serving Community Development Financial Institutions (CDFIs). The fund would be administered by a single entity that would coordinate with small business capital readiness initiatives and the regional system of support.

B. Regional Patient Capital Fund

Provide flexible, patient capital for innovative start-up businesses. This flexible capital infused with grant dollars will allow for deferred payments without the business owner losing ownership. This effort reduces the financial pressure on new businesses and encourages more entrepreneurship.

C. Capital Readiness Grant Fund

Facilitate and leverage federal, state, and private sector dollars for loan capital and equity investments. Utilization includes coverage of lending-related costs, supplementing start-up or expansion costs, and providing clean energy purchase subsidies to offset costs for upgraded equipment, building materials, or vehicle acquisition.

2.1.3 Opportunity to Increase Economic Diversification and Resilience

The proposed strategy significantly improves economic diversification and resilience by establishing self-sustaining revolving loan funds, leveraging non-federal resources to increase competitiveness, and focusing on investments that benefit socially and economically disadvantaged communities.

2.1.4 Workforce Development & Alignment with Job Quality & Access, Equity, and Climate

This strategy aims to create more opportunities for a more sustainable and equitable future for all residents by leveraging diverse funding sources and focusing on inclusive growth. It addresses historical disparities by concentrating investments in marginalized and disinvested communities. This targeted funding promotes locally driven community revitalization and inclusive business support. The strategy promotes environmental stewardship through subsidies for clean energy investments, climate-resilient projects, and targeted technical assistance.

2.1.5 Alignment with State Strategies

This strategy aligns with state strategies by prioritizing funding for small businesses implementing green operations and the start-up, expansion, and sustainability of green businesses.

2.2 Key Strategy B: Expand the Regional Ecosystem of Support

The expansion of the regional system of support is aimed at enhancing resources for small businesses owned by people of color, women, and other marginalized populations. This initiative will fortify the existing support structure by integrating community-based organizations (CBOs) to extend outreach and provide comprehensive assistance to hard-to-reach populations. By leveraging the expertise of CBOs, the program seeks to offer more personalized and accessible support services, addressing specific needs such as human resources, payroll, tax and compliance, and marketing. Emphasis will be placed on ensuring that businesses in emerging fields, such as the clean economy, receive tailored guidance to navigate their unique challenges. This expanded support system fosters an inclusive entrepreneurial environment where all business owners can thrive.

2.2.1 Strategy-Specific Problem Statement

A significant challenge small business owners face in the region is the need for more dedicated, hands-on technical assistance and support for essential business operations. Business owners from marginalized communities are less likely to have access to business support, capital resources, and networks to support growth. This support gap is particularly pronounced in emerging clean economy sectors, where specialized expertise is crucial. To address this issue, we propose a multi-pronged project that strengthens the existing support system and incorporates community-based organizations. This approach aims to provide appropriate and timely outreach and comprehensive support, ensuring entrepreneurs from underrepresented groups have the resources and guidance needed for success.

2.2.2 Outline of Proposed Strategy

1. Integrated tool

- Develop a user-friendly digital platform that consolidates information on available resources, support programs, policy, training, mentoring, advisory services, and direct business capital.
- Incorporate AI that provides personalized recommendations tailored to specific needs.
- Create adaptable delivery systems for those with language differences or limited internet access.
- Develop a resource or tool that provides information specific to green subsidies, business opportunities, and other funding opportunities to increase climate resilience through business operations.

2. Enhanced system of support

- Increase stakeholder connections and collaboration through regular problem-solving discussions, resource highlights, and other strategies to amplify connections.
- Assess and provide service delivery capacity assistance for CBOs to standardize the quality and effectiveness of business services provided.
- Create a centralized support network that matches small business owners to mentors, advisors, and peers for real-time guidance and advice.
- Create a one-stop, coordinated system of services and referrals through ethnic chambers and CBOs to provide targeted consultation and referrals.
- Establish communication channels within the network to disseminate information.

3. Learning Community

- Develop a two-tiered Learning Community for small businesses and advisors (including CBOs) to participate in learning programs.
- Recruit small business owners from diverse backgrounds with special attention to mono-lingual or limited English, immigrant, and rural populations.
- Recruit small businesses that are interested in green energy, sustainable green operations, and other green industries.
- Promote peer-to-peer learning opportunities to share experiences, challenges, and solutions.
- Catalog promising practices and case studies and share them online.

4. Launch Sierra San Joaquin Support Core

- Establish a 12-month fellowship program for recent graduates and early career professionals to assist small business owners in the Sierra San Joaquin Region.
- Fellows will be responsible for helping industry and business stage cohorts navigate the system of support and solve specific business challenges.

5. Marketing

- Develop marketing campaigns and strategies to increase the participation of small businesses owned by marginalized community members.

6. Funding and Support

- Identify a reliable and diversified funding model, with input from CBOs, to keep CBOs performing at the highest level possible.

2.2.3 Opportunity to Increase Economic Diversification and Resilience

This strategy to enhance the current regional system of support for small businesses owned by people of color, women, and other marginalized populations will enhance economic diversification by ensuring that diverse entrepreneurs receive timely information, personalized assistance, and more access to resources. This support will be mainly targeted in emerging fields like the clean economy, helping to fill current gaps and promote inclusive growth. Ultimately, a broader range of businesses will start and thrive, creating a robust economic landscape.

2.2.4 Workforce Development & Alignment with Job Quality & Access, Equity, and Climate

By providing tailored training and support, this initiative ensures that workers from underrepresented populations and communities gain the expertise needed to secure stable, well-paying employment and create more quality job opportunities. This effort intentionally focuses on small businesses owned by underrepresented populations that have experienced historical and current discrimination. Special outreach efforts, including culturally appropriate, in-language marketing and communication, will open doors for more engagement from a diverse group of participants in the support system. CBOs that are trusted messengers will employ evidence-based practices to engage businesses that have not historically been a part of the system. The program's emphasis is a clean economy that includes green industries and sustainable business practices.

2.2.5 Alignment with State Strategies

The enhanced system of support focuses on small businesses in vulnerable communities, with an emphasis on advancing sustainable business practices through outreach and education.

2.3 Key Strategy C: Data Collection and Mapping

2.3.1 Strategy-Specific Problem Statement

Conduct mapping, evaluation, and assessment of the current Sierra San Joaquin small business and microenterprise field. This data collection process includes an in-depth analysis of the support systems, technical assistance, and available resources, including the usage rates. Information will also be gathered from current, former, and potential future small business owners. Given the critical role of Community-Based Organizations (CBOs) in this strategy, CBOs will also participate in the feedback process. Data will be collected from various CBOs to identify readiness, current outreach promising practices, and potential funding, marketing, and training needs.

This strategy and data collection process aims to map the ecosystem and design tools, resources, and marketing strategies to elevate current support structures and foster a more conducive environment for small businesses to thrive. The goal is to have information to create a resource tool and design a highly responsive system of support.

2.3.2 Outline of Proposed Strategy

1. Comprehensive data collection and analysis

- Identify current gaps in the research, including populations that have been underrepresented in the data.
- Utilize surveys, questionnaires, interviews, and focus groups with small businesses, CBOs, and stakeholders to gain qualitative insights into the effectiveness of current support and identify gaps (ongoing).
- Utilize existing data from government reports, industry studies, and academic research to supplement and provide a broader context.

2. Stakeholder mapping and network analysis

- Utilizing lessons learned and information from DRIVE Small Business and SBA research, assess the effectiveness and outcomes of the current support system.
- Conduct network analysis to understand the relationships and interactions between stakeholders.
- Organize learning labs to bring together stakeholders, facilitate knowledge sharing, and discuss the current state of support systems. Use these opportunities to get information on potential areas for improvement and collaborative opportunities.

3. Case Studies

- Document successful case studies of small businesses that received comprehensive support and funding.

2.3.3 Opportunity to Increase Economic Diversification and Resilience

A clear, data-driven picture of the small business ecosystem's current state and potential future will help guide new entrepreneurs toward key emerging sectors. Diversifying the small business field will drive innovation and, ultimately, a more diversified economic base. In turn, the business support system can strategically enhance the delivery of services based on the information gathered. Ultimately, the right tools and resources deployed to a diverse population of small businesses will promote the kind of adaptability and innovation that the current ecosystem needs to grow.

2.3.4 Workforce Development & Alignment with Job Quality & Access, Equity, and Climate

Research indicates that the critical barrier for small businesses is capital. Small businesses led by people of color consistently self-reported that access to financial resources was the support most needed by their company (State of Small Businesses in California). Opening up more capital and additional resources for small businesses owned by marginalized community members is a tool for starting and growing small businesses. Understanding the state of the field will help target investments that will help to overcome past and current discriminatory practices.

Beyond funding, small businesses will also identify their access to and knowledge of resources and their levels of social capital. This understanding will support strategies to advance clean energy, environmentally responsible business practices, fair wage jobs, and other key strategies required in a robust and dynamic economy.

2.3.5 Alignment with State Strategies

This effort seeks to drive decisions based on input and information from small businesses in marginalized communities and those led by marginalized populations. This will help to prioritize the information gaps related to climate protection and small businesses' role in sustainability.

3 Funding Models and Sources

Currently, the demand for capital and the need for a fully comprehensive system of support far outpace the investments available. To increase the number of small business owners and small business owners expanding into new fields, there is a need to 1) Increase awareness of and access to current funding sources; 2) Increase the region's share of current public and private investments; 3) Create unique funding opportunities like revolving loan funds; and 4) Advocate for additional funding and investments in the region.

3.1 Potential Funding Models for the Area

1. Leveraging or matching Federal Funding Sources with Private Sector for debt capital
2. Federal and State Loan Guarantees and Credit Enhancement program with Private Sector and CDFI/CDC loan funds.
3. State and Local Funding Sources
4. CDFI Revolving Fund
5. Direct bank CRA lending
6. Corporate Grants
7. Philanthropic Foundation Program-Related Investment (Loans and Grants)
8. Impact Investing Firms
9. Crowdfunding and Peer to Peer Lending

3.2 Potential Funding Sources for the Area

Overall Funding Required:

Over the next 10 years, full implementation will require \$350,500,000 to meet current and anticipated increased needs. This funding will support ongoing data collection, increased capital, and the enhancement of the current business support system, including the integration of trusted CBO partners. Many of these sources are competitively available or on-demand as funding is available for the region to access.

Existing Funding:

- **Inflation Reduction Act:** The EPA's \$27B Greenhouse Gas Reduction Fund (GGRF) is focused on Justice40 communities for direct lending, end user subsidy grants, technical assistance services, data collection, and CBO capacity building.
- **State IBank/California Capital Access Program (CalCap)/California Hub for Energy Efficiency Financing (CHEEF):** \$1B+ in state guarantees, credit enhancements, and collateral support for banks, CDFIs, and credit unions.
- **SBA Programs:** Microloan Intermediary Program; Microloan Technical Assistance Grant, PRIME grant; SBA Community Advantage (7a) Loan Guarantee Program for technical assistance and loan credit enhancements/guarantees.
- **USDA Programs:** RMAP/ILP Loan Programs and the Rural Business Development Program provide lending and technical assistance to rural communities with a population under 50,000.
- **AmeriCorps/AmeriCorps VISTA:** 4-12 month fellowship participants, ecosystem & programmatic support, and data collection.
- **CDFI-managed Revolving Loan Fund:** Supported by Banks, US Treasury CDFI Fund, and EPA GGRF Grants for technical assistance and direct lending.
- **Federally Funded Centers:** Small, Women's, and Minority Business Development Centers for targeted technical assistance and data collection.
- **CalOSBA- State Small Business Credit Initiative (SSBCI):** Capital Readiness Technical Assistance Program; Technical Assistance Program; Innovation Hub Program for technical assistance, ecosystem coordination, and data collection.
- **Foundations:** Community Economic Development and Climate-focused Philanthropic Foundations for ecosystem support, data collection, culturally responsive outreach & marketing, and flexible funding via program-related investments.

Funding Gaps and Potential Sources:

Ecosystem support, Data Collection, Outreach: Community Economic Development and Climate-focused Philanthropic Foundations in and outside that have targeted the Sierra San Joaquin/Fresno).

Revolving Loan Funds: Equity-equivalent/EQ2 funds from National and Local Banks and below-market loan funds from Private Foundations and Local/State Government)

Flexible/Patient Capital: Grants from Bank or Private Foundations with Program-related Investments and Recoverable Grants)

Local Loan Fund: Private Foundations, State IBank/CalCap, US Economic Development Agency-EDA, Banks)

3.3 Outline of Potential Funding Models by Strategy

Strategy	Potential funding models
Flexible Fund	Federal and State programs Local private lending sources Banks Philanthropic investments Crowdfunding Social impact investments
System of Support Expansion	Federal and State funding tied back to small business programs, capital, etc. Philanthropic investments Corporate grants
Data Collection and Mapping	Philanthropic investments State and Federal funding in support of government data reporting requirements

3.4 Potential Funding Sources by Strategy

Strategy	Key activity	Expected cost	Funding in place	Total investment required	Timing of investment required	Potential additional sources of funding
Flexible Fund	Revolving Loan Fund	\$100M		\$40M revolved 2-3X over 10 years with an anticipated 2-5% loan loss recovery	\$10M in Year 1 \$10M in Year 2 \$20M by Year 4.	EPA GGRF; Banks; ScaleLink; Secondary Market; CDFI Fund; NALCAB; OFN; EDA
Flexible Fund	Credit Enhancements/ Guarantees & Utilization Fees	\$8M fee recovery (4% of revolving fund/ patient capital); Enhancements	\$900M with IBank and CA Treasury	\$8M in fee recovery	\$800K per year for 10 years	IBank; CA Treasury; SBA; GGRF; Banks; NALCAB
Flexible Fund	Patient Capital Fund	\$100M		\$40M revolved 2-3X over 10 years with an anticipated 10% loan loss recovery		Kresge The CA Endowment Irvine Banks
Flexible Fund	Capital Readiness Fund	\$100M		\$100M	\$20M a year over 5 years	Kresge The CA Endowment Irvine CalOSBA GGRF
System of Support Expansion	Integrated Tool Development	\$5M	CalOSBA		\$1M - Year 1 \$250K Year 2	CalOSBA
System of Support Expansion	System/ networking enhancements	\$5M			\$500K/year	CalOSBA, Irvine, Banks grants

Strategy	Key activity	Expected cost	Funding in place	Total investment required	Timing of investment required	Potential additional sources of funding
System of Support Expansion	Learning Community	\$3M				Philanthropy
System of Support Expansion	Fellowship	\$5M	\$100K			AmeriCorps; Fresno State CSB;
System of Support Expansion	Marketing & outreach enhancements	\$10M			\$1M a year	Philanthropy; EPA GGRF; local media
System of Support Expansion	CBO engagement and funding	\$12M			\$3M Year 1 \$1M for Year 2-10	James Irvine Waverley
Data Collection and Mapping	Ongoing information and data collection	\$2.5M	Data with CalOSBA for grantee support		\$750K Year 1 \$250K Year 2-10.	CalOSBA, SBA, GGRF, CDFI Fund

4 Stakeholder Map

4.1 Stakeholders for the Area

Numerous organizations operate within the small business support sector and are dedicated to assisting entrepreneurs in starting and scaling businesses. In recent years a particular emphasis on women, people of color, and rural communities has emerged from public and private funders. Efforts such as the Fresno DRIVE Betting Big initiative have provided technical assistance, operational support, and connections to funding for businesses owned by people of color and women. The current system of support for small businesses in the Sierra San Joaquin region provides a base of existing stakeholders to build up and build from to meet the need.

4.1.1 Required Stakeholders

Engaging existing and new stakeholders is essential to increase the number of small businesses owned by people of color, women, and other marginalized populations. These stakeholders align with the investment priorities of increasing capital, enhancing the system of support (including networking, mentorship, and technical assistance), and incubation or accelerator services. Many of these stakeholders are providing services in more than one priority area. The following lists are not exhaustive.

4.1.2 Available / Committed Stakeholders

Organizational Partner / Human Resource	Role
Access Plus Capital	Capital, SB Technical Assistance, Financial Readiness Technical Assistance, Ecosystem Support, Data Collection
Confia	Capital, SB Technical Assistance, Financial Readiness Technical Assistance, Ecosystem Support, Data Collection
Small Business Majority	Ecosystem, SB Outreach, Data Collection
US SBA USDA	Grant Funding, Capital, SB Technical Assistance, Financial Readiness Technical Assistance, Ecosystem Support, Data Collection
Vision View	SB Outreach, Data Collection
Fresno Metro Black Chamber	SB Technical Assistance, Outreach, Clean Energy Programming, Data Collection
CALOSBA	Funding, Ecosystem Support Coordination, Tech Platform, Data Collection
Local Chambers	SB Outreach
F3	SB Technical Assistance, Ecosystem Support, Funding, Data Collection
Fresno EDC	SB Technical Assistance, Financial Readiness Technical Assistance, Outreach, Clean Energy Industry Coordination, Data Collection
Tulare, Kings, Madera EDC	SB Technical Assistance, Outreach, Data Collection
Other Statewide CDFIs: Community Vision, CDC Small Business, Self Help CU, Valley Small Business Development	Capital, SB Technical Assistance, Financial Readiness Technical Assistance, Data Collection
Downtown Fresno Partnership	SB Technical Assistance, Outreach, Land Use Support, Data Collection
Southeast Asian Economic Dev Coalition	Outreach, SB Technical Assistance
United Way Fresno and Madera Co.	Outreach, CBO Coordination
Los Promotores Comunitarios	Outreach, SB Technical Assistance
CAMEO	Data Collection, Ecosystem Support Coordination
Funding Fresno	Outreach, Ecosystem Support Coordination, Tech Platform, Data Collection
Fresno Small Business Ecosystem Project (CIVIC, Better Blackstone, Hmong Business Center, Confia, Access Plus Capital, SW Fresno Development, Fresno Pacific University, Native American Development Center)	Outreach, SB Technical Assistance, Financial Readiness Technical Assistance, Data Collection
Transformative Climate Communities	Funding, Data Collection
Small Business Development Centers	Support: Technical Assistance
Local Municipalities	Outreach, Funder

Community-Based Organizations
Binational of Central California
Centro La Familia
Community Action Partnership of Madera County
Community Services Employment Training
Education and Leadership Foundation
Jakara Movement
Kings / Tulare Homeless Alliance
Kings Community Action Organization
Kings Partnership for Prosperity
Madera Arts Council
Madera Community Hospital
The Children's Movement
Westside Family Preservation Services
Westside Youth Center
Youth Leadership Institute
Rural Prosperity Center
Entre Raices
Central Valley Resource Center
Familias Empoderadas
Madera Coalition for Community Justice

4.1.3 Stakeholder Gaps

Small Business Owner Key Informants: There is a gap in the consistent and structured feedback loop from small business owners, particularly from marginalized groups. This feedback includes issues identified in the Community Engagement process, policy (including local permitting and zoning), and access to capital. The proposed engagement network provides multiple opportunities to provide feedback, problem-solving, shared learning, and more supports a higher level of sustainable feedback.

Investors: There is a shortage of public and private investors willing to provide flexible funding to small businesses owned by women, people of color, and other marginalized populations. The current demand for capital far outpaces the supply. This gap limits access to essential capital, hindering the growth and scalability of these businesses. Attracting more investors to the Sierra San Joaquin Valley is the answer. The existing funders or conduits for funding with better coordination and a case for support are the likely champions of this stakeholder group's growth.

4.2 Insights from Prior Community Engagements

Information gathered through the Community Engagement process indicates that individuals aspire to entrepreneurship but lack mentoring, capital, and training for entry and success. Knowledge, networks, and capital (including microloans) are commonly identified as barriers in the current system. In some cases, these gaps might indicate that there is insufficient supply. In other cases, the entrepreneurs don't have the connections to get to the resources that currently exist.

5 Barriers, Path to Addressing, and Policy Updates

5.1 Area Barriers

1. Risk Aversion from Investors
2. Capacity of Local Organizations
3. Outreach to Business Owners
4. Lack of Product and Service Standardization
5. Lack of Access to Project-level Technical Assistance
6. Difficulty Reporting on Energy Savings
7. Rigid Bureaucracy
8. Economic Instability

5.1.1 Description of Barriers

Risk Aversion from Investors: Potential investors may be hesitant to invest in businesses owned by marginalized populations.

Capacity of Local Organizations: The addition of more CBOs into the support structure raises challenges. Many CBOs that are trusted messengers in marginalized communities are underfunded and lack the knowledge and experience to support small businesses.

Outreach to Business Owners: Given geographic isolation and cultural barriers, reaching business owners from marginalized communities is and has been a major challenge. Owners that are well-connected and close to the resources are more likely to access services. However, issues like language barriers and digital gaps keep information from flowing to all of the populations that need support. There will also be an industry barrier in developing transaction level pipelines and acquiring customers.

Lack of product and service standardization: Lenders and small business service providers implement activities in a variety of ways. This may inhibit the ability of the ecosystem to scale results.

Lack of access to project-level technical assistance: There are limited service providers with expertise or capacity to support capital readiness and capital readiness for climate/clean energy-related projects.

Difficulty reporting on energy savings and other energy benefits: The ecosystem may face challenges developing reporting methods for micro- and small-scale projects that align with federal and state energy saving and greenhouse gas reduction guidelines.

Rigid Bureaucracy: Regional surveying indicated that small businesses are challenged by the policies (zoning, licensing, etc.) and the agility of local bureaucracies. This is a major barrier to entry for small business owners who are not positioned to navigate the bureaucracy.

Economic Instability: Short-term economic conditions may create instability that impacts the viability of small businesses and their likelihood to enter the market.

5.1.2 Path to Addressing Barriers

Risk Aversion from Investors:

- Leverage state and federal credit enhancement programs to mitigate risk and create a backstop of investment loss.
- Stack capital (government and philanthropic with private sector funding) across multiple sources.
- Forecast capitalization needs and provide robust reporting of lending, technical assistance and energy savings outcomes.
- Develop a case for support and outreach campaign with data, case studies and client testimonials

Capacity of Local Organizations:

- Conduct assessments and identify strategies to fill gaps
- Provide adequate funding for CBOs for staff development, technology upgrades, and administrative support.
- Secure CBO and industry-expertise to provide program coordination, capacity building, and operational support.
- Focus on a multi-level network that connects within the ecosystem and with other green economy initiatives. This requires a coordinating agency to serve as a conduit to amplify the strength of the network.

Outreach to Business Owners:

- Target and screen CBOs to act as trusted messengers
- Gather information from small businesses at all stages to determine how to overcome barriers to entry and information
- Train all partners in principles of equity, cultural humility/competency, and human-centered design

Lack of Product and Service Standardization:

- Incentivize lenders to use state-approved credit enhancements (.e.g. CHEEF, CalCAP, GoGreen Financing) that have standardized loan terms and underwriting requirements
- Conduct technical assistance service provider assessments and training to develop a standard of services for financial readiness and clean economy financing.
- Identify and amplify scalable GGRF and California GOGreen-eligible projects with product profiles, sample sell sheets, how-to guides for services providers, outreach activities, and lenders.

Lack of Access to Project-level Technical Assistance:

- Develop and/or leverage existing resources (Go Green, EPA, DOE) to provide a help desk for all mission-based lenders and service providers to receive guidance on GGRF/Cal Go-Green project eligibility, engineering/technical questions, and other topics supporting project deployment and market transformation.
- Develop and/or scale capacity build training for lenders and service providers with federal (GGRF/CCIA Grantee-provided training, EPA, USDA, DOE) and state resources (CalOSBA SSBCI Mesh Network)

Difficulty Reporting on Energy Savings and Other Energy Benefits:

- Adopt trusted assumptions from federal & state agencies and industry including DOE Energy Saver, EPA Energy Star, EPA GHG Emissions Factor, utility estimates by asset type, and IBank/CA Treasury credit enhancement guidelines.
- Leverage energy audit or assessment platforms to manage net zero building or net zero energy generation cost savings and GHG reductions.

Rigid Bureaucracy:

- Conduct learning labs with local governments to share information and identify problems and solutions.
- Provide direct administrative technical assistance or back office support for small businesses in the application for government program/funding utilization and compliance.
- Scale programs like Fresno DRIVE's Bonding Technical Assistance for Contractors (BTAC) program with bonding support to overcome or significantly reduce policy barriers.
- Advocate for small business-friendly policies

Economic Instability:

- Support businesses with next-generation and green business optimization that are responsive to the current economic climate.
- Leverage patient capital and grants to reduce cash flow burdens coupled with targeted business development and financial management coaching.

5.1.2.1 Key Enablers

- There is already a network of business support in the region. This network is helpful in several ways, including advocacy, training CBOs, providing data and information, and informing advanced pathways for new businesses.
- Local governments have a vested interest in the success of small businesses in their jurisdictions.
- CBOs are already engaged in trusted messenger outreach to marginalized communities on a number of topics.

5.1.3 Recommended Changes to Local, State, and Federal Policies and Laws

- Incentivize investments in businesses owned by people of color, women, and other marginalized groups.
- Provide statewide and local incentives and/or funding preferences for projects and businesses based on Justice40/CalEnviroScreen targeted census tracts.
- Encourage and incentivize local governments to support zoning and support for small businesses.
- Establish protocols to fast-track development projects that adhere to federal and state net zero energy generation and building measures.
- Highlight and prioritize outreach to small businesses owned by people of color, women, and other marginalized populations.
- Increase capital investments and flexible investments in small businesses that have traditionally been excluded.

6 Path Forward

A. Key Activities

1. Develop a Small Business Climate Industry Advisory Council to understand needs, gaps, and opportunities for all small businesses in the regional clean economy industry. Leverage the Council to expand the network, align technical assistance and capital needs, understand best practices for creating regional outcome metrics, and to incorporate Low Income and Disadvantaged Communities (LIDAC) stakeholders.
2. Align Small Business Investment Plan with other adjacent Investment California Jobs First Plans (e.g. Workforce Development, Industry Clusters, SB Investment Plans in Bakersfield, Modesto and Stockton) for synergy and best practices.
3. Determine alignment of the Clean Energy Investment plans with the Small Business Investment plan goals related to local government, coordination, and promotion of clean economy businesses, jobs, and operations.
4. Assess and map out state, federal and industry resources for clean energy and capital readiness services, technical assistance, network coordination and funding opportunities that the region can leverage.
5. Utilize the Investment Plan to secure seed funding for Advisory Council and ecosystem support by January 2025.
6. Assess the current small business landscape and identify gaps.
7. Review and assess potential platforms and tools to support information sharing and networking.
8. Conduct a literature review to inform next steps and design.
9. Conduct a service delivery standardization assessment of current CBOs engaged in small business support activities.
10. Conduct an initial assessment of tools to overcome small business barriers to participation, including stipends.

i. Key Resources

- Sierra San Joaquin Investment Plan and regional California Jobs First Plans
- State agencies: Go-Biz/CalOSBA, IBank, CalCAP, Go Green/Treasury's Office, CPUC/CA Economy Commission to map out state resources-- current and future funding, technical assistance, and programs.
- Northern CA GrantMakers to understand and identify philanthropic alignment and opportunities
- Central Valley CRA Collaborative of national, regional and local bank representatives for the bank's lending appetite.
- EPA GGRF awardees: Climate Justice Fund and Opportunity Finance Network (OFN) on funding criteria, program standards, and their planned program technical assistance to subgrantee CDFIs and mission-based lender network.
- Current bank and philanthropic funders for feedback on the Investment Plan and critics to increase its fundability.
- Ecosystem Support: Access Plus Capital, Small Business Majority, CAMEO, CalOSBA
- Flexible Funding: Access Plus Capital,
- Data Collection: CalOSBA, Funding Fresno

ii. Timeline

Phase I (July -November 2024)

Assess and secure funding for small business ecosystem support and stakeholder engagement

(August -October 2024) Develop a Small Business Climate Industry Advisory Council to understand needs, gaps, and opportunities for all small businesses in the regional clean economy industry. Leverage the Council to expand the network, align technical assistance and capital needs, understand best practices for creating regional outcome metrics, and to incorporate Low Income and Disadvantaged Communities (LIDAC) stakeholders.

(July-September 2024) Align Small Business Investment Plan with other adjacent Investment CJF Plans (e.g. Workforce Development, Industry Clusters, SB Investment Plans in Bakersfield, Modesto and Stockton) for synergy and best practices.

(August-October 2024) Assess and Map state, federal and industry resources for clean energy and capital readiness services, technical assistance, network coordination and funding opportunities that the region can leverage.

(September-November 2024) Utilize the Investment Plan to shop for seed funding for Advisory Council and ecosystem support by January 2025.

Phase II (October 2024-February 2025)

- Develop standards for service, methods of ecosystem priorities, monitoring process, and performance evaluation.
- Assess the current small business landscape and identify gaps
- Review and assess potential platforms and tools to support information sharing and networking.
- Conduct a service delivery standardization assessment of current CBOs engaged in small business support activities.
- Conduct an initial assessment of tools to overcome small business barriers to participation, including stipends.
- Support individual organizations or subgroups of the ecosystem apply for GGRF and other clean economy funding.

A. Objective B: Recruitment

i. Key Activities

1. Catalog small businesses and potential CBO partners.
2. Develop coordinating agency/agencies scope of work.
3. Recruit small businesses to inform the initial data collection process and recruit other small businesses.
4. Recruit CBOs to inform the initial data collection process.

ii. Key Resources

- CBOs
- CBO funders
- Chambers of Commerce
- Current business support providers

iii. Owners

- Access Plus Capital
- The Small Business Majority

iv. Timeline

Phase I (July -November 2024)

Identify coordinating organization or organizations

Raise funds

Conduct initial interviews with small business aligned CBOs to inform design and plans

E. Objective C: Funding

i. Key Activities

1. Align market opportunities with current and potential regional capacity and capitalization needs
2. Determine mission-based lender capacity and appetite for climate lending and supplemental grant disbursement
3. Identify high level activity-based fiscal agent(s) of the plan in the areas of ecosystem support, flexible funding, and data collection/evaluation.

ii. Key Resources

- In-depth regional market opportunity analysis of the clean economy and industry clusters
- CBO funders (committed to Sierra San Joaquin region)
- CDFIs, CDCs, and mission based lenders
- Current business support providers

iii. Owners

- Access Plus Capital
- The Small Business Majority

iv. Timeline

Phase I (July -November 2024)

Finalize plan and pitch for funders



Community Benefits Framework

Community Benefits Planning



Community Benefits Planning

Community Benefits Framework

1 Introduction

1.1 Problem Statement

1.1.1 Context

The Sierra San Joaquin Valley has a long history of extractive industry that has had harmful impacts on communities, with a disproportionate burden befalling the region's most vulnerable communities. Rural towns and cities in the Sierra San Joaquin Jobs region (S2J2 region) have historically provided significant agricultural, solar, mining, oil, gas, and other resources to consumers in California, throughout the United States, and around the world. Using less than 1% of the nation's total farmland, the S2J2 region produces almost a quarter of the nation's food, including 40% of the nation's fruits, nuts, and other table foods.¹ And yet, this is an area with concentrated poverty, food insecurity, and severe environmental degradation. The average household income (\$63,200) is over 30% lower than California's average (\$91,300) and nearly 1 in 5 people (19%) live below the poverty line in the region.² On federally-acknowledged Tribal lands, the share of the population below the poverty line is higher, at 28% (and this is likely higher for non-federally acknowledged Tribes and Indigenous communities).³ In California overall, 9% of people report food insecurity, compared to 14% in Fresno County, 13% in Kings County, 13% in Madera, and 15% in Tulare County.⁴ Across all counties in California, 3 out of 4 counties in the S2J2 region are ranked lowest on the Air Quality Index; in 2024, Fresno County had the second highest short-term particle pollution, third highest year-round particle pollution, and fourth highest ozone pollution in the nation.⁵

Similarly, even though the S2J2 region is one of the most energy-productive regions in California, energy costs are significantly higher than the national average of \$2,209 annually. In Fresno County, average electricity costs are 80% higher than the national average; Kings County's costs are 27% higher, Madera County's costs are 49% higher, and Tulare County's average costs are 30% higher than national costs.⁶ In addition, systemic racism and economic inequalities in the S2J2 region amplify environmental and climate risks for marginalized communities who already face low wages, lack of access to healthcare, and unsafe working conditions.

1 U.S. Geological Survey. U.S. Department of the Interior.

2 Valley CERF Baseline Assessment. 2023.

3 Valley CERF Baseline Assessment. 2023.

4 University of Wisconsin Population Health Institute. 2023.

5 American Lung Association State of the Air. 2024.

6 EnergySage. 2024.

Figure 1. Map of PM 2.5 Air Pollution in the Four Counties (EJ Screen)

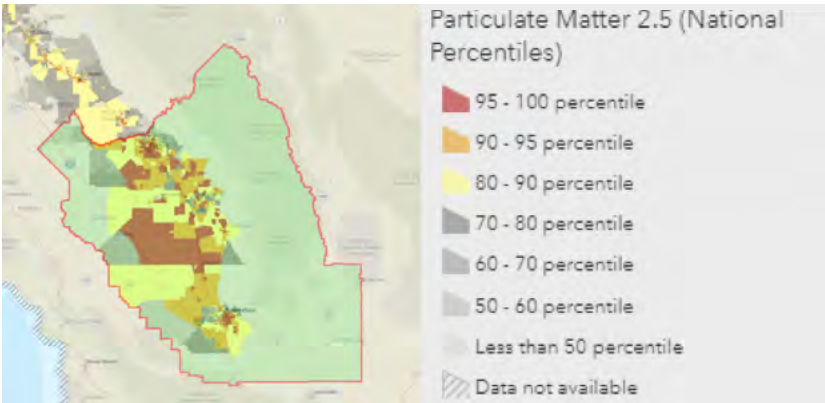
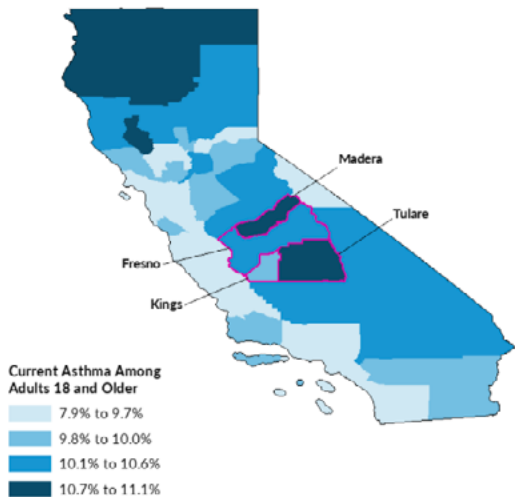


Figure 2. Map of Adults with Asthma in California (Valley CERF Baseline Assessment)

Share of Adults with Current Asthma in California, by County, 2020



Source: 2022 Centers for Disease Control and Prevention PLACES data release, drawing on 2020 Behavioral Risk Factor Surveillance System (BRFSS) data.
Notes: Adults are ages 18 and older. Estimates are age-adjusted.

The S2J2 region can expect a significant influx of new, large-scale clean energy infrastructure in the coming decades that will catalyze a momentous economic transition for the entire region’s economy. California State Senate Bill SB 100 (2018) has driven this massive investment in renewable energy by requiring that 100% of the electricity sold to California customers come from renewable or zero-carbon resources by 2045. In parallel, unprecedented federal subsidy and support via the Bipartisan Infrastructure Law and the Inflation Reduction Act have begun to enable accelerated investment in clean energy infrastructure at large and small scales. According to the Public Policy Institute of California, the S2J2 region is identified as a prime location for solar; solar deployment is expected to grow 16% annually between 2025-2045 in the region.⁷ Some estimates argue that the S2J2 region could become home to 10 times the current amount of solar capacity it contains now—reaching 30 GW, or 30-40

7 Clean Energy Problem Statement. S2J2 Regional Plan. (2024).

percent of statewide capacity, by 2045.⁸ In addition to solar, the S2J2 region will see significant investment in other sources of clean energy, including hydrogen fuel and bioenergy (see the Clean Energy chapter for more details on the scale of the opportunity). This is a pivotal moment in the region’s history—representing not only a shift towards clean energy, but a massive economic transition for the entire S2J2 regional economy.

While many of these projects may introduce baseline benefits for communities, such as additional jobs, increased tax revenue, and improved air quality, there is no guarantee that they will catalyze equitable economic development for all communities. In other words, a transition to renewable energy is not guaranteed to support equitable economic development and could potentially continue and repeat the cycle of economic extraction and unequal burden in the S2J2 region. While there are new and existing opportunities to capture community benefits, including through the Department of Energy’s (DOE) requirements for community benefits plans, as well Federal NEPA (National Environmental Policy Act), and State CEQA (California Environmental Quality Act) requirements, these mechanisms are not always, on their own, sufficient to address the decades of environmental pollution and economic disinvestment that has impacted the S2J2 region and holds it back from enjoying the economic benefits of a transition to clean energy.

DOE community benefits planning requirements open the door for more precise community benefits agreements, but the region needs a bolder and more specific framework that builds on DOE’s mission. The DOE requires Community Benefits Plans for all projects benefiting from funding and financing available via the Bipartisan Infrastructure Law and Inflation Reduction Act. In most cases, these plans account for 20% of the technical merit review of proposals and are evaluated based on four core policy priorities: 1) Engaging communities and labor; 2) Investing in America’s workers through quality jobs; 3) Advancing diversity, equity, inclusion, and accessibility through recruitment and training; and 4) Implementing Justice40, which channels 40% of the overall benefits of those Federal investments to “disadvantaged communities.”^{9,10} However, DOE requirements alone are not sufficient to fully address community needs and maximize positive outcomes. DOE requirements are often broad and standardized, not accounting for tailored solutions and outreach that addresses local concerns. And while a legally binding community benefits agreement (CBA) is optional in the DOE framework, the S2J2 region expects community benefits planning to result in legally binding agreements.

While Federal and State environmental review processes intend to prevent negative impacts associated with specific projects, they are not entirely equipped to address long-standing community needs or account for the cumulative impact of so much clean energy investment in such a short period. Renewable energy projects require approval under NEPA and CEQA, which mandate that the potential environmental impacts of proposed projects are assessed, quantified, disclosed, and eliminated whenever possible. NEPA and CEQA processes have been important tools for identifying and mitigating adverse public health and environmental impacts associated with specific projects, however, they are not wholly sufficient vehicles for leveraging investments to generate additional economic, environmental, and social community benefits that address past harms and realize long-standing needs. NEPA and CEQA provide frameworks for considering cumulative impacts, which include past actions, direct impacts of other concurrent developments, and reasonably foreseeable impacts of future actions; however, agencies have broad discretion about what constitutes a significant “cumulative impact” in the scope of an Environmental

8 Ayres et al. Public Policy Institute of California. (2022).

9 DOE. (2024)

10 Per the DOE (2024), “Justice40 directs that 40% of benefits from Covered Programs flow to “disadvantaged communities.” OMB’s Interim Implementation Guidance defines a community as either: (1) Geographic: a group of individuals living in geographic proximity (such as census tract), or (2) Common condition: a geographically dispersed set of individuals (such as migrant workers or Native Americans), where either type of group experiences common conditions. For the “geographic” definition of community... DOE recognizes as disadvantaged those census tracts identified by the White House Climate and Economic Justice Screening Tool (CEJST)... For the “common condition” definition of community, federally recognized tribal lands and U.S. territories are categorized as disadvantaged...”

Impact Review (EIR).¹¹ In addition, CEQA is a “self-executing statute” that does not have an agency responsible for enforcing it. Instead, public agencies “are entrusted with compliance with CEQA and its provisions are enforced, as necessary, by the public through litigation and the threat thereof.”¹² Finally, existing CEQA processes require greater administrative clarity—including clearer definitions of what constitutes a significant environmental impact or what constitutes a commensurate mitigation action; and guardrails against spurious lawsuits that are not related to environmental harm.¹³ This Framework recognizes the critical role CEQA plays, particularly in giving communities a voice at the local level in land use decisions; at the same time, there is room to improve and set higher standards for impact review and engagement to advance community benefits planning. A well-resourced community and local government institutions that are accountable to the community according to a shared community benefits framework will have the ability to offer guidance and clarity to agencies completing CEQA in order to fully account for and mitigate potential harms to the community.

1.1.2 Challenges of Current Planning for Communities

Typical approaches to community benefits planning—including executed community benefits agreements—have not been sufficient to break cycles of economic extraction and improve the region’s socioeconomic, health, and wellbeing as they tend to put communities at a disadvantage to major investors. Communities are tired of being engaged only for subsequent investments to continue patterns of extractive development. Persistent practices have contributed to a distrust of traditional community benefits planning and negotiation processes, which suffer one or more limitations:

- **Low Baseline** – Projects promise only jobs and workforce training for new employees and do not invest in significant workforce training and education opportunities beyond the construction of the project. This not only excludes existing residents from potential economic development opportunities, but also fails to support those outside of the labor force (non-working age residents, retired farmworkers, etc.) who often represent some of the most vulnerable populations.
- **Non-Representation** – Advisory boards set up to negotiate on behalf of a community might not adequately represent or understand the communities’ needs. Vulnerable populations, such as rural communities, farmworkers displaced by fallow lands, Indigenous communities including Federally and Non-Federally Acknowledged Tribes and Indigenous communities from Mexico, as well as groups with language barriers, are among those left out. And even when included community representatives on advisory boards are not always equipped with statutory power or other authority to adequately influence engagement processes.
- **Information Asymmetry** – Communities seldom have the resources or time to adequately inform themselves prior to negotiating with project developers, which are better-equipped with the money and information needed to rapidly measure the true costs and benefits of a project. This imbalance of information, resources, and leverage between communities and project developers creates an uneven playing field and understandably threatens communities’ trust in the process.
- **Lack of Transparency** – Negotiations often occur privately, and communities find out about projects when it is too late to have a significant say in renegotiating elements of an agreement.
- **Lack of Accountability** – There is often little oversight or structure to ensure that benefits are actually distributed to communities as promised.

11 Cal. Code Regs. tit. 14 § 15130 (Current through Register 2024 Notice Reg. No. 25, June 21, 2024).

12 CalMatters. (2019).

13 Little Hoover Commission. (2024).

In the S2J2 region, there have been instances where community benefits have not been distributed in a timely manner or at all, due to poor consideration of community realities and uninformed local government decisions. Communities in the S2J2 region have experienced slow and untimely distribution of funds, and even instances where funds that were earmarked for community benefit were redirected to other projects without public discussion. There is a lack of accountability in many of today's community planning processes, which increases the potential for distrust between communities and local government.

1.1.3 Challenges Addressed for Industry through the Benefits Framework

Current approaches to community benefits planning processes are not only challenging for communities but also suboptimal for developers. The development of a framework that defines the communities' long-standing needs and preferences and establishes best practices for engaging with the S2J2 region's civic infrastructure could clarify what it takes to do business in the region—reducing risk, building trust, attracting innovative and creative solutions, and simplifying stakeholder and community engagement processes for developers.

- **Difficulty Navigating New Markets** – Even well-intentioned developers must commit significant expenses to navigate local civic ecosystems and learn how to respectfully enter new markets and plug into the existing infrastructure of community development. The existence of a clear framework and civic infrastructure to engage with could ease this process for developers.
- **Legal and Reputational Risk** – During a NEPA/CEQA process, there are multiple stages during which third parties can mount lawsuits against project developers that can halt predevelopment and add costs to development. Positive community engagement experiences, following a framework provided by the community, can build trust upfront and potentially reduce the probability that certain community members feel excluded from public engagement processes or potentially at risk. Effective public engagement in alignment with the framework could also facilitate continued work in the region for the developer.
- **Mutual Gains** – Community engagement requires time, resources, and local partners to be carried out meaningfully and effectively. However, this relationship can be mutually beneficial. For example, partnerships and early conversations with community groups can shape program development for success (i.e. creating workforce development programs in the appropriate language for a community). The long-term success of a development project not only brings opportunities for the local economy, but also creates a more stable environment and incentives for further investment and successful projects.

1.2 Regional Community Needs & Priorities

Community groups in the S2J2 region have been working for years to identify and measure community needs and priorities. Organizations such as the Central California Environmental Justice Network; Center for Race, Poverty, and the Environment; Latino Equity Advocacy & Policy Institute; Central California Asthma Collaborative; Central Valley Health Policy Institute; and many others have conducted research to track the region's economic, environmental, social, and other needs.

As part of the S2J2 process in 2023, the Urban Institute also recently worked with ten community-based organizations to conduct resident engagement through individuals, focus groups, and worker voice interviews to uncover primary community needs across the Sierra San Joaquin Valley. While this was not representative of all impacted communities, some of the key regional needs identified through this study are summarized below. This is not a comprehensive list and does not reflect the unique needs and priorities that each local community has which differ according to their historic, environmental, economic, and demographic contexts and over time.

- **Industries and Workforce:**

- **Access to Good Jobs:** Residents in the S2J2 region want “good jobs” that provide financial stability and wraparound services like affordable, reliable childcare, career development, and healthcare. These jobs should have low barriers to entry, requiring minimal educational credentials or other requirements.
- **Education & Training:** There is a high need for workforce training, apprenticeship programs, and skills development opportunities, particularly for rural communities. Currently, language barriers prevent many from accessing these opportunities. There is a need for multilingual training and support. Additionally, residents want to become entrepreneurs but lack the necessary financial capital, mentorship, and technical training to become business owners.

- **Community Infrastructure:**

- **Housing Access & Affordability:** Residents in the region are facing increases in rental costs, housing discrimination, and a lack of affordable housing supply. Spanish-speaking residents in Madera County have also experienced strict renter requirements like credit history and high deposit amounts as barriers to stable housing.
- **Transportation:** Residents in the S2J2 region want to see an expanded and more reliable bus system that goes to rural communities and has extended operating times for late working hours. Additionally, residents would like to see improvements to current transportation infrastructure and the creation of alternative transportation methods (i.e. increasing cycling and pedestrian lanes, expanding carpooling/ridesharing programs across the region, etc.).
- **Digital Access:** Due to high service costs and insufficient availability of high-quality broadband internet, digital access is an issue for many throughout the region.

- **Resident Well-Being**

- **Financial Stability:** Among the top financial stressors for S2J2 residents are housing costs, monthly utility bills, and food. For many residents, household income is not keeping up with inflation, which makes it harder to afford everyday necessities.
- **Public Health:** Residents across counties emphasize the need for access to quality, affordable healthcare.

- **Climate and Environment**

- **Environmental Health:** Air and water pollution are the region’s two largest environmental concerns. They lead to significant health threats for the S2J2 region for people of all life stages – from increased infant mortality to farmworkers working in unsafe air conditions, to lower life expectancy.
- **Climate Investments:** Extreme weather events (drought, wildfires, heat, floods) were perceived as large threats to the S2J2 region. Communities have expressed the need for governmental support as climate disasters increase in frequency and severity. Given language access and other barriers, climate change and emergency readiness has been challenges for immigrant and refugee communities. Across all four counties, there is also a desire for increased access to safe green space.

Investment strategies across the S2J2 Regional Plan are designed to address the community needs listed above. Community benefits agreements are one overarching tool that can help the region’s leaders, community members, and the private sector, ensure that investment in decarbonization infrastructure contributes to realizing these investment strategies and helping to meet these pressing needs.

1.3 S2J2 Community Benefits Framework Process

1.3.4 About the Community Benefits Framework

The S2J2 region needs a bold new regional community benefits Framework to ensure that new climate investments not only help repair past harms and fill long-lasting gaps resulting from decades of disinvestment, but also equitably spread the burdens and benefits of renewable energy investments across the S2J2 region for decades to come. This Framework will provide a clear set of guidelines and approaches to organizations, businesses, government agencies, and other stakeholders to identify, prioritize, and implement initiatives to facilitate sustainable community investments and deliver positive outcomes to communities. In doing so, this Framework will help communities define non-negotiable needs and the structures to implement them, while also benefiting developers in the S2J2 region by clarifying what it means to do business at scale across a region. This Framework will encourage development projects that ultimately reduce risk, build trust, leverage investment, and facilitate interactions between developers and communities. This work offers a new way of thinking, a shift from “business as usual,” because without a new paradigm, S2J2 communities continue to be at risk of falling into the same cycles of extractive economic harm that they have already endured for generations. This Framework invites developers and local/state governments to work hand in hand with communities to imagine collaborative and innovative solutions to advance the clean energy transition.

The S2J2 Community Benefits Framework builds upon local precedents, including the ARCHES Community Benefits Plan, the Clean Air Task Force (CATF) Guiding Principles, CATF Community Benefits Programs, and CLEE’s Guiding Principles for Effective Voluntary Agreements. More importantly, this work builds off the work that this region’s community-based organizations and environmental justice groups have been doing for decades to represent community voices in the pursuit of community benefits and more equitable outcomes for the S2J2 region. This Framework leverages guiding principles and Frameworks detailed from these precedents to provide a more robust pathway for providing targeted community benefits to the residents of S2J2 region that goes beyond baseline provisions.

The S2J2 Community Benefits Framework is designed as a high-level regional blueprint providing principles and guidelines to foster collaboration among stakeholders to ensure climate investments deliver tangible benefits to communities. However, this is not a prescriptive or exhaustive plan detailing benefits for specific sectors or local projects. Rather, the Framework lays the groundwork for further development and refinement at the local level, where communities and sector leaders can tailor the Framework to meet their specific needs and priorities. Following the S2J2 sprint, there is more work to be done, including continued community and stakeholder engagement, to shape the expectations of the Framework and determine the best mechanisms for implementation at the regional level. Moreover, this work needs to be supported by local and state governments in order to be most effective.

1.3.5 Creating Shared Definitions

The S2J2 Community Benefits Working Group co-authored a set of definitions to create a shared understanding of the communities we are supporting, the benefits they need, and the process by which infrastructure and development investments can help meet these needs.

- **Community:** Individuals, families, and their interconnection to nature and the built environment, as well as the relationships that natural ecosystems have with human communities. The Community Benefits Framework is particularly focused on Justice40 disadvantaged communities (DAC)¹⁴, and other marginalized communities (including Federally Acknowledged Tribes, Non-Federally Acknowledged Tribes and Indigenous Communities from Mexico).
- **Community Benefits:** Meaningful improvements to the lived experience of community members, including improvements to the built environment and the protection and restoration of the natural environment, in response to community need. Community Benefits include a range of activities. This Framework seeks a more expansive definition of Community Benefits beyond “baseline” benefits such as new jobs, additional tax revenue and improved air quality, and focuses on “robust” community benefits (see comparative examples on the next page). Robust Community Benefits are specific benefits captured (*voluntarily or mandated*) from large-scale investments to support the interests of the community, particularly those vulnerable populations who have not had access to the benefits of legacy Central Valley investments. Robust Community Benefits address the repair of past harms and encompass a range of needs to address economic justice including workforce development and worker justice, environmental justice, and health justice.
- **Community Benefits Planning:** Community Benefits Plans (CBPs) and Agreements (CBAs) are mechanisms for encouraging or requiring developers to mitigate harmful impacts of their investment or development and provide resources or other benefits to the impacted community that improve quality of life, access to jobs and education, health, and other opportunities. CBAs – unlike CBPs – are legally binding agreements between community entities or coalitions and a developer, outlining the benefits the developer commits to in exchange for community backing or access to the workforce for a project. Community benefits planning should closely engage impacted communities, labor, and other local stakeholders, invest in and improve access to quality jobs, advance equity and justice, and improve or preserve the natural environment.

How do we raise the bar on Community Benefits? *Examples & Types of Community Benefits*

Community Benefits can take on many forms to address community needs, including economic justice, housing, education, infrastructure, health equity, environmental justice, and more. The S2J2 region is committed to raising the bar and delivering benefits that go beyond the bare minimum, such as promised jobs and workforce training for new employees. While there are existing examples of projects currently providing these robust community benefits, this Framework seeks to set these robust benefits as the norm, not the exception. The table below outlines common community benefits categories and lists examples of more robust, equity-based benefits:

14 Please see prior footnote 10 on the definition of disadvantaged communities.



Economic Justice

Baseline Community Benefits:

- Creating jobs and providing workforce training and development

Robust Community Benefits:

- Creating high quality, good-paying jobs that pay a living wage
- Prioritizing inclusive hiring practices
- Investing in accessible job training and career development opportunities for both employees, as well as residents in project-adjacent communities
- Investing in accessible childcare for all
- Codifying equitable procurement processes
- Expanding small business access to capital + bonding
- Ensuring rapid payment and payment advances
- Funding seed co-ops + other wealth-building models



Environmental Justice & Health Equity

Baseline Community Benefits:

- Providing onsite environmental remediation
- Delivering air quality improvements
- Reducing energy costs

Robust Community Benefits:

- Funding community health needs assessments that can inform and drive community decisions
- Improving environmental and health risk literacy
- Monitoring long-term impacts and addressing with appropriate interventions as needed
- Investing in climate interventions such as community resilience centers, tree cover projects, and water management infrastructure
- Funding for home energy efficiency and other upgrades
- Fostering overall climate adaptation and mitigation



Education

Baseline Community Benefits:

- Funding scholarships and grants

Robust Community Benefits:

- Investing in relevant, targeted skill-building programs
- Investing in and creating new credential, 2-year, or 4-year degree programs
- Providing tailored and culturally competent programming
- Recognizing and compensating experts from and within the community who serve in advisory capacities for projects



Housing

Baseline Community Benefits:

- Providing affordable housing set-asides
- Accepting housing vouchers

Robust Community Benefits:

- Implementing anti-displacement measures including:
 - Affordable housing preservation
 - Tenant rental assistance
 - Tenant legal assistance
- Contributing land or financial support to land trusts or other community-ownership models



Infrastructure & Public Realm

Baseline Community Benefits:

- Improving public realm and street connectivity directly surrounding the investment site

Robust Community Benefits:

- Funding open space projects
- Donating land to be used as public space
- Funding infrastructure and services that are identified by the community as priority needs (such as more shade and cooling centers)
- Funding or building EV charging stations



Other Benefits

Baseline Community Benefits:

- Granting to local CBOs or philanthropies

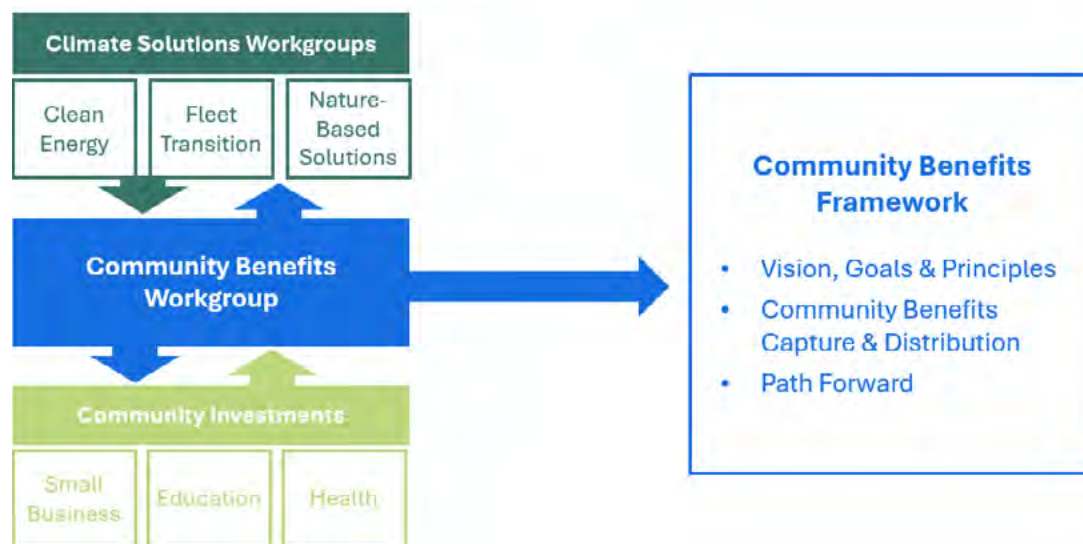
Robust Community Benefits:

- Agreeing to ongoing revenue sharing
- Investing in community or cooperative ownership models
- Implementing co-governance
- Cultivating local leadership pipelines
- Providing seed funding for energy-related initiatives
- Providing diverse energy options, including at the utility, distributed, and community-owned scales

1.3.6 Coordination with S2J2 Working Groups

As part of the S2J2 Spring Sprint process, the Community Benefits Workgroup worked with the Climate Solutions Workgroups (Clean Energy, Fleet Transition, and Nature-Based Solutions) and solicited inputs from Community Investment Workgroups (Small Business, Education and Skills, and Community Healthcare Workforce). These groups had several touchpoints with the Community Benefits Workgroup throughout the Spring Sprint process to give their feedback and input on the Community Benefits Framework.

Figure 3. Graphic Demonstrating S2J2 Workgroup Process



Each workgroup identified investment strategies to address the region’s most pressing climate and economic development needs. Some of these strategies provide opportunities to capture community benefits by outlining where funding should be channeled. The Clean Energy chapter, for example, calls out strategies to potentially reduce energy costs for residents through Power Purchase Agreements or Community Choice Aggregations, as well as explore profit-sharing models to distribute portions of clean energy profits with communities. In other instances, particularly in the context of Nature-Based Solutions or Fleet Transition, investment strategies are in many cases themselves a community benefit, and this Framework can serve as a vehicle to create conditions that enable and accelerate those sectors.

How can Community Benefits Planning create enabling conditions for Climate Solutions?

In the case of Nature-Based Solutions (NBS) and Fleet Transition, community benefits planning could help create enabling conditions to address challenges in those sectors and help steer equitable, catalytic investment to advancing their goals. Communities facing health and environmental impacts may consider explicitly including NBS and Fleet Transition initiatives into their community planning processes.

Fleet Transition to Zero Emissions Vehicles (ZEVs)

The Central Valley faces numerous challenges to transitioning its fleet to ZEVs and to capturing the full benefits associated with a fleet transition. Common challenges include skepticism and lack of public awareness about ZEVs; lack of access to capital, especially for small businesses; limited access to grants among local government and non-profit institutions; absence of charging and refueling infrastructure for all classes of vehicles across the region; insufficient workforce trained in ZEV maintenance or Electric Vehicle Supply Equipment (EVSE)/Hydrogen Refueling Station (HRS) installation and maintenance; State budget shortfalls limiting the impact of ZEV incentive and capital programs; and inefficient permitting and approval processes for charging or refueling hubs and grid upgrades.

To date, few community benefits plans have intentionally incorporated mechanisms to increase commercial, non-profit, and government access to ZEVs. This community benefits framework can encourage CBAs to reduce barriers and enable equitable fleet transition. Potential CBA investments could include:

- Funding to develop public education campaigns around the benefits of ZEVs and fleet transitions.
- Funding pilot programs, short-term rentals, or other test programs to increase familiarity with ZEVs; including funding for operating and capital expenses for government institutions or non-profit institutions providing ZEV access to underserved populations.
- Funding expanded access to affordable capital and technical assistance, particularly for small businesses, seeking to transition fleets to ZEVs.
- Funding the installation of charging infrastructure in underserved areas in the region.
 - Funding accessible workforce development—in the form of apprenticeships, training programs, career technical education (CTE), and certificate programs paired with stipends and other wraparound support—that connect disadvantaged communities to durable job placement.

Nature Based Solutions

Nature Based Solutions (NBS) meet numerous community needs – whether it is through preserving or increasing tree cover to ensure cleaner air and reduced heat, controlled forest management to reduce wildfires, or investing in water management practices to support conservation and flood mitigation, these projects bring direct benefits to the health, wellbeing, economic stability, and resilience of residents. That said, NBS face many of the same challenges to scale as Fleet Transition, including lack of awareness, funding, living wage jobs, and workforce training, as well as competing land uses and often insufficient and understaffed governing bodies to manage the region’s forests, wetlands, and other natural resources.

There is an opportunity to address these challenges by more proactively embedding nature-based solutions into community benefits plans and agreements. Some potential ways include:

- Investing in Nature-Based occupations by increasing funding for non-profits or government agencies earmarked for higher salaries, building capacity, providing benefits, and expanding supportive services such as childcare or transportation assistance.
- Expanding existing workforce training programs and providing seed funding for new training programs.
- Funding job mentorship programs, particularly for underrepresented groups in Nature-Based jobs.
- Donating land to existing conservancies or land trusts or providing funding for management and maintenance boards and positions for natural resources.

2 Vision and Goals for Community Benefits

2.1 Vision & Value Statement

We envision a future where significant climate infrastructure investments in the Sierra San Joaquin region result in equitable community benefits that not only protect our marginalized and historically underserved communities from further burden or harm, but also explicitly advance reparative economic and environmental justice across our region.

Acknowledging historical patterns of environmental racism and pollution in the region, we are committed to raising the bar on community benefits planning to rectify past injustices and address generations of inequity. Our aim is to ensure that marginalized and historically underserved communities in the S2J2 region receive a greater share of benefits from climate infrastructure investments, empowering them to thrive for generations to come.

2.2 Goals & Principles

Create a consistent baseline approach throughout the Central Valley.

- Establish minimum community benefits prerequisites for projects, including the requirements of a legally binding community benefits agreement rather than a nonbinding plan, that holds developers and local government accountable.
- Support the development of local criteria and agreement provisions that developers and communities can consider as needed.

Center community voices and leadership.

- Center communities in the design of benefits and approaches to administering benefits.
- Ensure implementation is overseen by community-created and -managed local institutions.
- Value the time and labor of community voices that shape and enforce these agreements by compensating community members for their time and effort or by reducing the time and financial barriers that prevent some members from participating.

Strengthen the region's climate resilience.

- Ensure community benefit agreements also contribute to climate resilience and environmental justice, addressing both immediate and long-term environmental risks and burdens.
- Design projects to deliver multiple environmental co-benefits, such as improving air quality, enhancing green spaces, protecting communities from worsening climate hazards, or delivering affordable heating and cooling.

Identify regional mechanisms and long-term oversight structure.

- Invest in long-term oversight to define success, guide the allocation of benefits to specific communities, monitor impacts over time, and course correct when necessary.
- Explore regional mechanisms to institute benefits consistently and fairly, including legislation, public policy changes, coordination with local jurisdictions, and convening local residents and nonprofits to ensure local community needs are centered.
- Build long-term community capacity to sustain communities and resident leadership through cycles of development and investment.

Balance past, current, and future timeframes.

- Engage in efforts to address past harm caused by historic fossil fuel and other energy investments.
- Identify and center prospective risks and benefits from clean energy investments to serve existing community needs.
- Plan to mitigate long-term or anticipated impacts of future climate investments by setting up regional structures that are proactive rather than reactive.

3 A New Regional Framework for Community Benefits

This new regional community benefits framework offers mechanisms to ensure that new climate investments not only help repair past harms and fill long-lasting gaps resulting from decades of disinvestment, but also equitably spread the burdens and benefits of renewable energy investments across the S2J2 region for generations to come. While local communities play a central role in all community benefits planning processes, this regional framework will provide a clear and consistent set of guidelines and approaches to organizations, industries, government agencies, and other stakeholders to identify, prioritize, and implement initiatives to deliver positive outcomes to communities for the region. In doing so, this Framework will help communities define non-negotiable needs and the structures to implement them, while also benefiting developers in the S2J2 region by clarifying what it means to do business at scale across a region to ultimately reduce risk, build trust, and facilitate interactions between developers and communities.

This Framework is organized into two primary functions: 1) mechanisms to *capture* community benefits by establishing minimum regional requirements to help position the right projects for the region, and 2) mechanisms to *distribute* community benefits in an equitable, inclusive manner by defining need and historic harm; establishing mandatory engagement processes; and maintaining community oversight. Within each of these functions, there are a range of mechanisms that can be deployed for community benefits capture and distribution. This chapter offers a range of options that will need to be further refined and iterated upon with additional engagement and input.

3.3 Community Benefits Capture

3.3.1 Minimum Regional Requirements for Climate Infrastructure Investments

This Framework is grounded in the vision, presented in the section above, that new projects in the S2J2 region not only contribute substantial benefits to local communities, but also do not further harm already overburdened and disadvantaged communities.¹⁵ To ensure that optimum energy projects are positioned within the S2J2 region, this Framework outlines a set of minimum regional requirements that developers or investors would be expected to satisfy as a result of doing business here. This includes:

- **Developers must conduct an impact study** to evaluate **cumulative** health, economic, agricultural or other land use, and other impacts to communities, particularly DACs prior to any permitting or other approvals. This is not intended to be an addition to existing CEQA/NEPA processes; instead, this is (i) a call to end government exemption of certain projects from CEQA/NEPA processes and (ii) a call to further clarify expectations and parameters for what impact studies such as CEQA/NEPA should include. Within CEQA/NEPA processes, there is no “universally accepted approach or set of principles to performing the cumulative impact analysis requirement in environmental regulations,”¹⁶ as projects maintain the discretion to set the temporal and spatial boundaries of their analysis. Additionally, a project-by-project basis of evaluating impact is often insufficient in capturing the project’s interaction with preexisting environmental stresses and other projects throughout the region.¹⁷ This Framework advocates for an understanding of cumulative impact on a scale of the S2J2 region and aims to consider more specific standards for the S2J2 region, which will be further defined in future iterations.

15 Per the DOE (2024), “Justice40 directs that 40% of benefits from Covered Programs flow to “disadvantaged communities.” OMB’s Interim Implementation Guidance defines a community as either: (1) Geographic: a group of individuals living in geographic proximity (such as census tract), or (2) Common condition: a geographically dispersed set of individuals (such as migrant workers or Native Americans), where either type of group experiences common conditions. For the “geographic” definition of community... DOE recognizes as disadvantaged those census tracts identified by the White House Climate and Economic Justice Screening Tool (CEJST)... For the “common condition” definition of community, federally recognized tribal lands and U.S. territories are categorized as disadvantaged...”

16 Clark, Ray. Cumulative Effects Assessment: A Tool for Sustainable Development. (1994).

17 Uno, Hayley. Environmental Justice in Cumulative Impacts Analysis. (2023).

- **Developers must participate in a defined engagement process** which engages a required percentage of people living or working in proximity to a project, or in accordance with an engagement goal determined by local neighborhood advisory councils (see *Mandatory Engagement Process below*). Local government should notify communities of project plans and intentions early enough that communities can prepare for a community benefits planning and agreement process, as discussed further below.
- **Developers must support the capacity of local organizations to conduct regular community needs assessments** so there continues to be a clear understanding of regional community needs, particularly as needs change over time.
- **Projects that bring certain levels of harm should not be sited near or within certain DACs** that are already “overburdened” or host to high concentrations of extractive industry based on the results of the impact study and by community decision. This Framework will continue to refine the definition of “harm” as it relates to the impact study requirements noted above and based on continued research on the prospective risks and benefits of clean energy and other investments.
- **Projects should not replace productive, protected agricultural land.**
 - The county government should engage local farmworkers and agricultural communities to identify agricultural lands that should be protected or utilize existing resources such as the California Department of Conservation’s Farmland Conservancy Program. Conditions for protection may include soil analyses for productive land, historic land uses, and parcel size and proximity to avoid agricultural fragmentation.
 - Local governments should adapt zoning and land use regulations to balance solar and agricultural uses. This may include mitigation requirements similar to ones adopted by Visalia and Tulare that require funding habitat restoration or agricultural and habitat land replacement.
 - Projects sited near or on potentially productive land must include a decommissioning plan (as described below in the end-of-life plan requirement).
 - Solar or other energy projects proposed on agricultural land should explore dual-use solar which allows for continued agricultural use or future agricultural potential while implementing a solar project. In particular, grazing can be a mutually beneficial dual-use system to maintain the landscape, land productivity, and solar energy production.¹⁸
- **Developers must execute Project Labor Agreements.**
 - Developers must commit to working with unions under Project Labor Agreements and ensure that all project workers receive full protections, including dispute resolution pathways; mechanisms for enforcement and arbitration measures; protections for wage equity; clear criteria for career advancement; and diversity equity inclusion and accessibility (DEIA) accommodations and compliance.
 - Project PLAs should contain local targeted hiring goals, require labor representation from disadvantaged communities (DACs), and workforce development goals and plans for advancing members of disadvantaged communities into positions of management and leadership. It is critical that local workers are given employment opportunities and that PLAs define goals for both “targeted workers” and “local workers.”¹⁹ Developers must ensure that partnerships with organized labor groups focus on training and providing career pathways to all communities within a proposed project and throughout the region. Any existing efforts by organized labor groups should be highlighted and drawn from for future projects.

18 NYSEDA. (2023).

19 Los Angeles County. According to the Los Angeles County, a “targeted worker” is defined as a resident who has indices of career-limiting circumstances, including documented annual income below 100% of the federal poverty level, no high school diploma or GED, history of involvement with the criminal justice system, protracted unemployment, and more. A “local worker” is defined as “tier 1” if they live within 5 miles of a project site and where the average percentage of households living below 200% of the federal poverty level is greater than the County average, and “tier 2” if they are County residents that live beyond 5 miles of the project with the same conditions.

- To evaluate project performance on project labor agreements, developers must define and measure performance using metrics, such as number of workforce hours created, performance of outreach partners and programs in reaching engagement goals, local hiring rates, apprenticeship graduation rates, and other training completion rates.
- **Developers must execute a Community Benefits Agreement.**
 - The quality of a project CBA must be a decisive factor in the local project permit approval process, and community benefits plans (CBPs) that are not legally binding should not be sufficient for permitting.
 - Developers must ensure that appropriate statements and agreements are developed in collaboration with the local community and partners. They must work together to identify local barriers to health and quality of life—such as legacy and ongoing pollution, transportation barriers, barriers to affordable childcare, food deserts, etc.—which a CBA could help address.
 - The financial value of benefits in a CBA should equal a minimum share of project costs or revenues, to be further defined at the regional level and by sector (e.g., solar, onshore wind, etc.). Any existing municipal- or county-level fees, offsets, or contributions that go to community needs may be counted towards the total financial value of the CBA, though they must not diminish communities’ abilities to define, negotiate, and secure community benefits for themselves.
 - Benefits should go towards adjacent disadvantaged communities and most impacted populations.
- **Developers must provide end-of-life plans of projects** that explicitly consider feasibility and assessment of returning sites to agricultural use or open space.
 - End-of-life or decommissioning plans should describe the process for restoring the land to conditions prior to development, which may include conducting a soil/site assessment, groundwater assessment, or other analysis. Plans should include cost estimates and a financing plan that does not rely on government or community funds and must establish clear timeframes and responsible parties.
 - Local governments can set the requirement for an end-of-life plan and mandate inclusion of these plans through their zoning code or special permitting approval processes. New York State, for example, adopted a “Model Solar Energy Local Law” which regulates the installation, operation, maintenance, and decommissioning of solar energy systems statewide, but allows local jurisdictions the flexibility to customize approaches based on local preferences and existing zoning provisions.

3.3.2 Potential Regional Mechanisms for Capturing Community Benefits

There are a number of potential mechanisms to establish minimum requirements for community benefits in the S2J2 region. A Joint Powers Agreement or mechanisms at the State-level serve as the most suitable regional mechanisms to capture community benefits as they provide opportunities for local municipalities and counties to enforce consistent requirements that are unbiased towards local power structures and advance shared regional goals:

1. Joint Powers Agreement between Counties

A Joint Powers Agreement (JPA) is a legal agreement between two or more public agencies to create another legal entity (Joint Powers Authority) or establish a joint approach to collaborate on a common problem, fund a project, or act as a representative body for a specific activity. JPAs are commonly used for groundwater management, road construction, habitat conservation, educational programs, regional transportation projects, and more. JPAs are flexible and can be designed for a variety of situations.

Within this Community Benefits Framework, there is an opportunity for cities and counties across the Sierra San Joaquin region to come together and execute a JPA with the goals of capturing significant community benefits for their communities. This JPA could serve as a new “intercounty regional energy coordinator,” leveraging the capacities of existing agencies to establish and enforce minimum requirements for clean energy developers through local entitlement processes. This would allow cities and counties to create consistent expectations across the region, dedicate government capacity to securing community benefits and show funders that they are willing to cooperate on regional problems. Joint legal collaboration will reduce the chance of cities and counties competing to become the lowest bidder for private investment, thereby leading to the concentration of investments (and potential adverse impacts) in certain areas and depriving a given local government’s constituencies of some level of benefit in the process. JPAs allow member agencies to negotiate their levels of commitments, structure their own governing boards in the case of a newly formed agency, which may include community representation, and serve as public forums for regional problems. 20 Community-based organizations could be members of JPA entities and serve on the boards or advisory committees to impact regional decision-making. Such an entity could also appropriately and formally confer with Federally Acknowledged Tribes as sovereign nations.

The main challenges with JPAs are consistent with typical local government challenges. JPAs risk creating additional bureaucracy and may suffer from any existing community distrust in local government, since this structure does not on its own create a platform for community leadership or grow local grassroots civic capacity. The structure of JPAs can also be hard to understand, and some might perceive it as an additional unnecessary layer of government. Transparency and accountability will be a critical piece of any JPA.

2. State Requirement

A state requirement would establish a consistent approach to community benefits capture across California. This could be achieved through a new statewide policy, amending existing statewide legislation, or a ballot initiative. AB205, for example, which was passed in 2022, currently allows developers to opt into a new streamlined environmental review and authorization process for certain solar, wind, and other qualifying clean energy projects under the California Energy Commission (CEC)’s jurisdiction. In return, developers must meet certain community benefit requirements such as prevailing wage, skilled and trained workforce requirements, and must secure contracts with community-based organizations to establish mutual benefits (among other application requirements). While we might not want to consider streamlining CEQA in the same fashion, potential amendments to this bill or new state policy could require developers to meet certain community benefits requirements as part of environmental review or other approval processes. That said, there are risks to state pre-emption, including potential loss of local government and community control over project approval decisions. A new or amended policy, or ballot initiative, would need to strike the right balance of establishing consistent requirements statewide while empowering local community voice and leadership around community needs and benefits distribution.

20 Governments Working Together: A Citizen’s Guide to Joint Powers Agreements <https://sgf.senate.ca.gov/sites/sgf.senate.ca.gov/files/GWTFinalversion2.pdf>

3.4 Community Benefits Distribution

3.4.1 Mandatory Engagement Processes

To ensure equitable distribution of community benefits, projects must participate in mandatory engagement processes that meaningfully engage diverse, local communities in ways that are data-driven and evidence-based. Understanding that local engagement may look different depending on the community, this framework requires that developers engage with local stakeholders to **create customized community engagement plans** to achieve the following:

- **Engage a wide range of residents within a certain distance of the project site for a duration of time or engage with a local advisory council or designated party** (such as a joint powers authority) composed of appropriate representatives to identify and negotiate benefits for the community. This could be superseded by other approaches to engagement that a community deems most appropriate. To ensure targeted and meaningful engagement, developers must utilize varied communication channels to ensure access and reach. Engaged residents must roughly represent the population of Black, Indigenous, Asian, Hispanic, and people of color and low- to moderate-income households within a certain catchment area of the project, to be agreed upon between developer, advisory council, and City/County. Communication should also take into account languages spoken in the area. There must also be appropriate engagement and an improved understanding around the operations and processes of Tribal councils and regional Native consortiums, recognizing that there is a range of Indigenous communities, including Federally Acknowledged and Non-Federally Acknowledged Tribes, with varied engagement needs. (See more details in the table below.)
- **Developers must address barriers to participation**, including providing language support across representative languages and financial compensation, as needed. Additional wraparound support (such as food, childcare, transportation, virtual meeting options) should be encouraged to increase accessibility based on local residents' preferences.
- **Local government and developers must provide sufficient advance notice to communities and sufficient time for engagement.** Local government should notify communities of project plans and intentions early enough that the community can prepare for a community benefits planning and agreement process, define its preferences for the planning and negotiation process, and identify its needs for resources and technical assistance. Developers must begin engagement process before important milestones which shape the decisions for the project to ensure that communities have time to meaningfully understand the project and negotiate community benefits. For example, engagement four to six months prior to permitting or approval of the project can ensure valuable community input is considered at the right time of the decision-making process.
- **Developers must collect feedback** through post-engagement surveys and comments and facilitate opportunities for communities to evaluate engagement efforts.

Acknowledging and Engaging Tribal and Indigenous Communities

The S2J2 region is home to three distinct indigenous communities: Federally Acknowledged Tribes, Non-Federally Acknowledged Tribes, and Indigenous communities from Mexico.

- **Federally Acknowledged Tribes**

By law, Federally Acknowledged Tribes are sovereign nations and thereby wish to have a tribal member representative, rather than an appointed liaison, to engage on behalf of the tribe. This helps ensure that tribes are engaged as sovereign nations and allows for advocacy for community benefits to those who live within the boundaries of their sovereign nation and the impacted surrounding lands.

- **Non-Federally Acknowledged Tribes**

Non-Federally Acknowledged Tribes are not lawfully regarded as sovereign nations, and therefore cannot receive any distinct benefits proposed or generated through traditional community benefits frameworks that are distributed through state or federal entities and intended specifically for local Native American communities. These communities experience extraction of knowledge and resources and continued erasure. The San Joaquin Valley is home to 32 of California's 66 non-federally acknowledged tribes, or 15% of all tribes in America currently petitioning for Federal Acknowledgement.²¹ Engagement for community benefits should include direct outreach to Non-Federally Acknowledged Tribes and an incorporation of their specific needs.

- **Indigenous Communities from Mexico**

Indigenous Communities from Mexico are often not regarded as Native American and are frequently included instead in engagement with dominant Mexican communities. Many members of these indigenous communities speak only their tribal languages, however, and do not speak Spanish or English, making engagement inaccessible and excluding them from any community benefits that are specifically intended for Indigenous communities. Similarly to Non-Federally Acknowledged Tribes, Indigenous Communities from Mexico should be provided with specific engagement efforts that are made accessible in their native languages.

21 Acknowledge All Tribes.

3.4.2 Community Oversight

Ongoing monitoring, enforcement, and tracking is critical to ensuring that community benefits are distributed to communities as promised. This Framework outlines the following expectations for community benefits oversight:

- **Developers must submit periodic reports documenting distributed benefits.** These reports should be annual during the initial years of predevelopment and development; reporting can become less frequent when projects are well into their life cycle, unless negative outcomes are triggered late in the project life cycle.
- **Organized community leadership (through potential mechanisms described below) are equipped to conduct ongoing monitoring and review**, which include:
 - Receiving annual reports from developers on distributed benefits. These reports should be based on already established evaluation scorecards of projects for CBAs.
 - Investigating any community benefits related complaints or issues should be streamlined and easy to register and track.
 - Publishing an annual community investment report that is shared with all residents detailing progress on community benefits commitments and impacts.
 - Providing technical assistance and capacity to local organizations to collect necessary data.
- **Dedicated funding** is set aside for monitoring and compliance.

3.4.3 Potential Structures for Regional Community Benefits Leadership

There are a range of potential mechanisms that can support accountability and enforcement of community benefits engagement and oversight for the entire S2J2 region. This “regional leadership” would be responsible for:

- **Providing technical assistance** to CBOs and other community stakeholders to equip them with organizational and leadership tools for community benefits agreement negotiations and other functions, including helping residents understand ongoing reporting and tracking of community benefits. Technical assistance could also help inform communities of the prospective risks and benefits of different types of clean energy and other infrastructure investments.
- **Building capacity** for CBOs and other civic organizations to implement community benefit initiatives.
- **Operating templates and coordinating regional analyses** to support ongoing understanding of regional community needs.
- **Holding and dispersing funds.** If there were any pooled funds, this group would hold and distribute funds according to locally negotiated CBAs.
- **Facilitating engagement** between developers and CBOs, residents, and other stakeholders as necessary, including advising and reviewing community engagement plans.
- **Ongoing monitoring and tracking** of community benefits.
- **Ensuring transparency** across all community benefits planning processes in the region through regular communications and tools including public dashboards (such as the dashboard mentioned in the Clean Energy chapter).

While a JPA or State-led structure was considered for community benefits capture, the structures mentioned below are more suitable for community benefits distribution as they allow for more “grassroots” leadership and governance in all distribution-related decisions. Community-led structures are pertinent to community benefits distribution due to the necessity to define community needs at the local scale, understand historic harms that local communities have faced, and ensure that the mandatory engagement process is successful in local outreach. These responsibilities could be structured under various models that leverage existing or new entities:

- **Community-led coalition** – This is a coalition or working group of existing CBOs and nonprofits coming together to manage engagement processes and support oversight. This approach centers community leadership and can build grassroots capacity; however, this entity will not have legal authority, which could limit its perceived legitimacy, and could limit the ability for communities or governments to hold it accountable for delivering its role in community benefits planning. Below are two examples of how community-led coalitions have worked in other parts of the country:
 - The Alabama Coalition for Community Benefits is a coalition of labor, community, civil rights, faith, and environmental justice groups working to hold corporations that do business in the South accountable to workers and communities. The Alabama Coalition for Community Benefits has supported the unionization drive of workers at the Amazon plant in Bessemer and drafted a multi-state CBA agreement impacting New Flyer electric bus manufacturing facilities in Alabama and California. The agreement has resulted in creation of robust manufacturing jobs throughout investments in workforce development and training programs, especially for historically disadvantaged people.²²
 - Coastal Alliance to Protect Our Environment (CAPE) is a coalition of multiple grassroots organizations that have formed a regional coalition to fight the dangers of fossil fuel expansion in the Coastal Bend region of Texas. The coalition provides a regional public venue for education, awareness, information transparency, monitoring, mobilizing, and activism, related to environmental challenges in the region. Individual members of this coalition represent neighborhood groups from small cities, and towns in the region, environmental justice groups, and ecological and environmental non-profits from the Coastal Bend.²³
- **Mutual benefits corporation** – A mutual benefits corporation is a nonprofit entity typically organized for the benefit of the organization’s members. This could be an entity comprised of existing CBOs and other stakeholders. A mutual benefits corporation has a relatively flexible use of funds and the ability to advocate for or against legislation. While this centers community and grassroots leadership, the membership structure could limit its scope.
 - The Morro Bay Mutual Benefits Corporation offers a unique and promising model for distributing community benefits. Following the successful negotiations of a CBA, Castle Wind and the local Commercial Fisherman’s Organization formed a Mutual Benefits Corporation (MBC) to serve as the governing entity for all proposed wind developments in the area. This MBC is responsible for enforcing the CBA, which includes annual contributions to a fund managed by the fishermen’s associations. The MBC Board has a total of 8 members which includes 2 representatives each from the 2 local fishermen’s organizations, 2 representatives from the main developer, 2 representatives from other project developers, and 1 Harbor Master. The MBC membership is open to all project developers who secure site leases in the Morro Bay Wind Energy Area and to fishermen who can prove they have been fishing in that area.²⁴
- **Public benefits corporation** – A public benefits corporation is a traditional nonprofit organization designed to benefit the general public. The corporation would likely be a new entity founded by existing CBOs and community stakeholders. While it could be more accountable to the public, this structure may be less flexible after establishment and does not have the ability to engage in legislative advocacy.
 - The Alliance for Renewable Clean Hydrogen Energy Systems (ARCHES) is a public-private shared nonprofit corporation designed to accelerate hydrogen’s contribution to California’s economy. The entity was co-funded by multiple local, state and educational organizations within the State. ARCHES is governed by a Board of Directors, Community Benefits Monitoring Team (CBMT), Management Team, Community Benefits and

22 Jobs to Move America. (2022)

23 Coastal Alliance to Protect our Environment. (2024)

24 Morro Bay Lease Area Mutual Benefits Corporation. (2022)

Engagement Working Group, and the Community Benefits Project Liaisons. The CBMT is an independent group, paid by ARCHES, composed of a representative body of stakeholders from environmental justice organizations, labor, Tribal communities, faith-based organizations, and neighborhoods, among others. These are stakeholders who, as a third party, objectively monitor CB program implementation for the ARCHES project.²⁵

3.5 Path Forward

There is more work to be done—including additional community and stakeholder conversations—to shape the expectations of this Framework and determine the best structures and mechanisms to capture and distribute community benefits that ensure this region’s transition to clean energy is a just one. This Community Benefits Framework is a first step to demonstrating the region’s commitment to protecting our marginalized and historically underserved communities from further environmental and economic harm, as well as addressing generations of past injustice across our region.

We acknowledge that this is a new approach to community benefits planning, and that reaching consensus between industry, government, and community will be challenging, but this Framework is absolutely crucial to ensure that S2J2 communities avoid the same cycles of extractive economic harm that they have endured for generations. A solution for one community could very well be detrimental to another. This Framework invites developers and local government to be better neighbors and work hand in hand with communities to advance projects in an equitable manner. It invites developers to develop respectful, responsive, and creative solutions that will work for both industry and community. Ultimately, approaching this proactively and establishing clear guidelines upfront derisks future investments for developers and can be more cost-efficient in the long-term.

This Framework also calls for local and state governments to play an active role in the region’s community benefits planning process and support the development of new models and mechanisms to capture and deliver community benefits for the S2J2 region. Actions include, but are not limited to: 1) Working creatively with industry and community to support the health, sustainability, and resilience of DACs throughout the S2J2 region by raising the expected level of public service; 2) Leading CEQA processes and working with CBOs to uplift the needs of community through review processes; 3) Continuing to work to integrate community benefits agreements as part of entitlement processes (as noted in the above sections); and 4) Supporting the continued development and implementation of this regional community benefits Framework, particularly structures and infrastructure to ensure community accountability and oversight. As leaders and protectors of a significant—but not unlimited—wealth of land and natural resources, local governments have an important role to ensure that this region is best positioned to benefit from this next economic transition, particularly given the disproportionately high share of DACs that are in the S2J2 region.

Implementing this framework will require investments, including staffing and funding to support the functions of a regional leadership structure and mechanisms described. This includes functions such as technical assistance and capacity building, stakeholder engagement, regional analysis and coordination, as well as other local CBA development support for communities. Understanding the scale of investments required will be an important next step to support implementation.

Looking ahead, we invite continued dialogue and collaboration across our region to refine this Community Benefits Framework with the aim of continuing to raise the bar and serve as a national model for community benefits planning.

25 ARCHES. (2024)



Community Engagement

Community Voice



Community Voice

Community Engagement

Ensuring an inclusive process that centers disinvested community and nontraditional voices is key to the S2J2 process – and a requirement for an economic development plan that centers equity. The S2J2 initiative employed a variety of community engagement strategies.

Lowering Barriers to Engagement

The S2J2 Coalition sought to remove barriers to participation whenever possible, making all people feel welcome and valued. The Coalition committed to a transparent, multilingual, clearly communicated and easily accessible process so that members of the public could track progress and engage at every step. To fulfill this commitment, the following practices were employed:

- **Language equity:** Materials for meetings and events were translated; live interpretation was offered at in-person meetings in Spanish, Hmong, and Punjabi. Community engagement surveys and interviews were conducted in multiple languages.
- **Accessibility:** transportation was provided to and from meetings, and childcare was available if needed. Food was provided at in-person meetings, and meetings were held at accessible locations, rotating in-person events around the four-county region. Meetings were held at various times to meet varying scheduling needs. Meetings were virtual, hybrid, and in-person, and meeting recordings were shared; Coalition leadership provided 1:1 follow-up communications to address stakeholders' questions or absences.

- **Compensation for participation:** S2J2 table members were paid for their time and expertise – an equitable practice that allowed people to engage that might not otherwise have had the opportunity to participate.
- **Clear information:** S2J2 team members worked hard to distill complex information into accessible graphics and summaries.
- **Opportunities for discussion and Q&A:** Workshops and office hours were held to discuss any new or complex ideas and data.
- **Stakeholder feedback loops:** All S2J2 reports and key documents, including the Regional Plan Part 1, the RFP for Community Engagement, the Catalyst Framework, and this Regional Plan Part 2 underwent extensive review processes by stakeholders and were open for public comment.
- **Consistent communication:** Stakeholders received regular updates via email, social media, and newsletters. CVCF staff met weekly with Local Table leaders to discuss communications with stakeholders and support a unified message to stakeholders across the region.
- **Website and social media:** The S2J2 website was updated daily with information on upcoming events, new resources, and opportunities for engagement. A website and branding overhaul in summer of 2024 made the website and branding more accessible and user-friendly.
- **Newsletter:** a monthly S2J2 newsletter was launched in 2024 to share updates and upcoming events with stakeholders.

Collaborative Governance Structure

The S2J2 governance structure supports geographic equity and outreach through the S2J2 Local Tables, whose members were charged with engaging their local communities and making intentional efforts to include communities that are traditionally excluded from planning processes. The Local Tables comprised members across urban and rural areas – including the east and west side of the Valley floor, the Sierra Nevada mountain communities, and tribal communities. As representatives of their local communities, Local and Regional table members supported two-way communication loops, sharing S2J2 information and bringing back input from their residents.

Local Table engagement

Over the course of 2023, each Local Table worked with stakeholders to discuss the California Jobs First principles of equity, good jobs, and environmental sustainability, and envision what that looked like for their communities. The Tables engaged in brainstorming sessions, creative group activities, SWOT analyses (strengths, weaknesses, opportunities, and threats), and project cataloging.

Public Forums

Numerous public forums were held throughout the 18-month planning process. These large community events supported direct connections and exchanges between the Local Table members and residents at significant milestones:

- March 1, 2023 - Valley CERF Kickoff
- August, 23, 2023 - Regional Congress & Data Walk
- January 31, 2024 - Regional Congress & Launch of the Regional Table and S2J2 Framework
- February 6, 2024 - Climate Solutions Learning Series
- May 9, 2024 - Spring Sprint Kick-Off
- July 18, 2024 - S2J2 Sprint to the Finish Party

Data walk

Baseline regional data, collected by S2J2 research partners, were shared at the Regional Congress in August 2023. The data were displayed on large posters that highlighted key findings and provided data visualizations. Attendees reviewed the data posters, engaged in small group discussions, and shared their feedback for inclusion in Regional Plan, Part 1.

Intentional outreach to underrepresented communities

In June 2023 the S2J2 Coalition launched a request for proposals (RFP) from community-based organizations to conduct resident engagement, including individual surveying, focus groups, and worker voice interviews. The RFP specifically targeted grassroots organizations with demonstrated and trusted relationships among disinvested communities. In August 2023, the S2J2 Coalition awarded ten community-based organizations (CBOs) grants to undertake community engaged data collection. The grantees were charged with gathering the experiences of community members across S2J2 topical focus areas, including workforce, community infrastructure, climate, and education.

Over 4,000 residents were engaged through surveys and interviews

The community-engaged data collection helped ensure that the S2J2 initiative planning process was grounded in the perspectives and experiences of residents who are most negatively impacted by the systems and infrastructure of the past and present socioeconomic status quo, and importantly whose experiences are less documented in public and administrative data sets. For more information and a summary of findings, please see the Urban Institute's "Community Engagement Synthesis of Key Findings" prepared for the S2J2 Coalition and attached hereto as an Appendix.

Urban Summary of Community Engagement (See Appendix 4)



Community Comments



Community Voice

Community Comments

The S2J2 Initiative held a feedback period to capture any comments and input on the Spring Sprint process and Regional Investment Plan Draft. The feedback period was open from July 26, 2024, and closed on August 13, 2024. Comments were welcomed in both English and Spanish as well as formal letters.

The opportunity to provide comments was shared widely across S2J2 Coalition partners, regional workgroups, and via social media.

Included below are all comments received within the comment window:

"I believe we did a great job of seeking and getting input from our core member groups.

I also believe we should have invited large regional stakeholders to our meetings to participate. I feel the major players in the Ag community, Water agencies, farmers and land/water banks should be participating. They are the movers of our economies."

-Workgroup Participant, Small Business Workgroup

Strengths

Unified Mission: The ability to unite numerous organizations, businesses, and community leaders under a common goal is a significant achievement. This unity adds weight to the mission and fosters a strong sense of community purpose.

Resilience: One of the key strengths was maintaining momentum even when the path forward was not clear. Persisting through uncertainty demonstrates adaptability and commitment to the cause.

Weaknesses

Decision-Making Process: The decision-making can be protracted, which may affect the pace at which objectives are achieved. For many partners, especially smaller organizations, this can lead to frustration as they face more immediate pressures.

Adapting to Change: Smaller organizations often experience frequent changes that require swift adjustments. The lack of funding exacerbates this issue, making it challenging for these entities to stay focused on long-term goals.

Our Approach

Balanced Position: Being in the middle of the spectrum, our organization has had the advantage of learning from others and adapting accordingly.

Commitment to Plan: We have emphasized the importance of adhering to our strategy, regardless of the rate of progress. Staying the course ensures stability and keeps us aligned with our objectives."

-Workgroup Participant from Broadband, Community Based Health Workforce, Ed & Skill Building

"I apologize that my participation was so limited, but I was very impressed by the effort that went into this."

I have not reviewed everything in its entirety, but I would like to suggest that a future version consider emphasizing agrivoltaics more - deploying solar on agricultural land has the potential to reduce water use and protecting crops from heat stress while retaining agricultural productivity and generating more electricity."

-Community Partner

"Need more information and broadband and need explain this topic"

-Workgroup Participant

"There is a lot of work here and my comments are meant to support that work, not diminish it. It's a grand (if overwhelming) start."

Overall, this plan appears to be the first phase of a plan from which the next level of work needs completion before I would consider it a plan. The different initiatives now need to be placed in part or whole within a common high level framework and integrated. There is so much cross-over and there has been little to no cross-sharing for coordination of effort (and this includes data cross-sharing.)

There are also references in different initiatives of inclusion of services to support workers like child care provision with no inclusion of how to get to that number, as we are already woefully short and little availability of seats or additional subsidies for parents. (For instance, both Community Health and Clean Energy include, and my bet is that others just assumed without including it as a mention.) Wraparound services are mentioned repeatedly, as is transportation. Is there capacity? If not, how will that be addressed? Where are the mention of small pilots to determine where the ground level issues are for coordination in areas like employer/education building and some cross-sector/cross-initiative coordination tested so as to know what might work? How will data be collected and shared and is it at person level or not? Does that matter for tracking worker success? Who understands and facilitates well using improvement science to really make a pilot effective?

Some of the initiatives have numeric goals and some do not. Need to backward map the ones that have goals to make sure the support initiatives have a goal number

that will deliver what is needed. For instance, Education needs to know how much of what each initiative needs. Your Executive Summary has a start of this. Pg 6 - Only 116 workers trained? How can that be with 138,000 new jobs created? It's not adding up. Internships and apprenticeships are also not included in Executive Summary counts (and getting funds and employer-buy-in for apprenticeships in a state that doesn't seem to have a strong apprenticeship office needs attention.)

The Executive Summary indicates that action planning for each initiative is the next step, but I think there is a step before that - identifying integration elements and a higher level framework that includes process expectations and simple related measures as well as content. Page 6 of the Executive Summary reinforces my interpretation with the vision visual showing siloed circles. This would allow more immediate action to begin for lower-hanging fruit toward success to show progress even as those many items that need longer ramps can be building them. Ideally that would best be included with this plan when submitted, but it could be after submission if the deadline is too tight. Then afterwards, initiatives can rework their plans based on what is learned for action planning (cross-initiative in some cases) and then prioritize. There needs to be a cross- initiative collaborative that is looking wholistically at all of these together (not just the backbone). While I understand the desire for individual regional tables, I am not sure that makes as much sense to oversee given how these initiatives cross county boundaries.

I also have concerns about the ratio of public dollars to philanthropic dollars, if I am reading the chart on page 4 correctly of the Executive Summary. Execution having a much higher percentage of ""private funding"" than public funding seems out of balance. What is included in the definition of private funding? What funding now available could disappear at the federal or state level and when? (Yes, that is part of the action panning, but it could affect the ratios further.)

This plan is not an easy read and so far, I have read about 5 or 6 areas. As my thoughts coalesce further, if the need arises I will send a letter. Thank you for your consideration."

-Workgroup Participant, Community-Based Health Workforce

"Strengths were having expert support and bringing all stakeholders to the conversation. Weakness was bringing onboard some organizations and partners who were not prepped and took conversations out of focus in certain scenarios"

-Workgroup Participant, Fleet Transition

"A very collaborative process. Some mission creep-would like to see a narrower, targeted focus."

-Workgroup Participant, Circular Manufacturing

"In-person workshops would be better for collaboration."

-Workgroup Participant, Ed and Skill Building

"One of the weaknesses is the insufficient time to discuss specific strategies in greater detail."

-Workgroup Participant, Responsible Food & Ag

"Definitely a fast paced process. As an undocumented immigrant advocate, and an immigrant myself, I would like to see defined projects and training opportunities that will address the barrier due to immigration status/right to work. Language accessibility continues to be another concern since we do understand that most institutions, lack bilingual instructors."

-Workgroup Participant, Clean Energy;Responsible Food & Agriculture Systems;One Water;Broadband;Small Business & Microenterprise;Education & Skill Building;

"There was some good ideas that came up in spring. Having turnover in the staff that was handling the project slowed things down significantly. I am just hoping that the project moves forward and doesn't forget the needs of Eastern Madera County Foothill communities."

-Workgroup Participant, Education & Skill Building;Community Based Health Workforce;

"Other than the "sprint" part, it seemed to go well."

-Workgroup Participant, One Water

"Being very new to the entire investment process was very dynamic and purposeful for me. I found the Regional Workshops to be engaging and interactive. They included all discussions from a variety of people across the valley and state. And gave opportunities for voicing ideas, challenges and opportunities. As well as

linking the groups with thought leadership that many of the challenges and opportunities crossed workgroup boundaries - e.g. - climate changes as in longer, hotter days and weeks effecting environments of learning and skill building, and creates health concerns.

The draft of the Regional Investment Plan is phenomenal and is well written and can be easily used as a guide for the groups and other community entities moving forward. The draft RI-Plan is also flexible in its crafting and seems to allow for new ideas to come in, as things change or emergencies happen that may change the trajectory of the work. I will love being a part of its implementation."

-Workgroup Participant, Ed and Skill Building

"The scoring system seems a bit flawed. Individuals only review a portion of the projects, and then the top scores are pushed forwarded. I more thorough vetting process is needed, in my opinion, especially considering the people reviewing may not be qualified to understand the plan."

-Workgroup Participant, Broadband

"The plan offers a lot of hope. However, it is challenging to review every aspect comprehensively and provide detailed feedback. I will highlight one significant concern regarding the clean energy and fuels draft.

My primary concern is the projected substantial growth of biomethane and the lack of transparency about its sources, particularly dairies. While biomethane is often presented as clean energy due to its lower CO2 emissions compared to fossil fuels, the reality is more complex. The animal industry contributes significantly to emissions through the use of pesticides, fertilizers, and the methane produced throughout the animals' lifecycle, not just from waste.

Increasing the number of biodigesters in the San Joaquin Valley does not offer a solution for cleaner energy or resource conservation. Instead, it risks justifying the expansion of Concentrated Animal Feed Operations, which deplete groundwater and pollute soil and water resources. The San Joaquin Valley already suffers from poor air quality and odors due to agricultural activities, industrial emissions, and geographical factors that trap pollutants. Biomethane production, especially from dairy farms, can worsen these issues by releasing methane and other greenhouse gases during production, contrary to what some recent studies with numerous assumptions suggest.

Additionally, biomethane production is water-intensive, exacerbating the region's severe water overdraft issues. The process of converting organic waste, such as manure, into biomethane generates residual waste products that require careful management to avoid environmental contamination."

-Community Voice

"The experience was inclusive and nurtured a sense of belonging. The nature of the spring sprint required much activity in a short time. My involvement in two regional workgroups was minimal, and I would have enjoyed participating more fully and in more workgroups if time allowed."

-Workgroup Participant, Small Business & Microenterprise; Nature-Based Solutions;

"La gran fortaleza con la que cuenta el valle central son las personas trabajadoras que sin importar el riesgo asumen su trabajo día a día, pero para nuestra mala suerte los directivos de dichas agencias o empresas, miran eso como una debilidad y no aportan mas para bajar los indices de pobreza en nuestra region, las personas a cargo de la direccion piensan que son superiores a las demas personas que ellos dirigen, por lo tanto no abren oportunidades a otras personas que realizan el trabajo encomendado, empresas y agencias millonarias con trabajadores en pobreza, eso es lo que es nuestra debilidad unos pocos pensando que los demas no merecen ganar un poco mas y causan una gran desigualdad, si realmente entienden que tanto el que limpia la oficina como el que dirige a mas trabajadores a su cargo merecen mucho mas"

translated into English:

"The great strength that the central valley has are the hard-working people who, regardless of the risk, take on their work day after day, but unfortunately for us, the directors of these agencies or companies see that as a weakness and do not contribute more to lower the poverty rates in our region. The people in charge of management think they are superior to the other people they direct, therefore they do not open opportunities to other people who do the work assigned to them, millionaire companies and agencies with workers in poverty, that is what our weakness is, a few of them thinking that others do not deserve to earn a little more and cause great inequality, if they really understand

that both the one who cleans the office and the one who directs more workers under his charge deserve much more"

-Workgroup Participant

"Amazing work and data - and yet very abstract.

Would love to see how a healthy economic infrastructure will impact the social and cultural life of our valley
- Life bolstered by a healthy economy

I would love to see the idea of "imagination" power this work - as if we tell our STORY by numbers, data and personal impact and human interactions.

I'm sure there were a community of voices behind all the data - and would have enjoyed hearing them as part of this plan!"

-Community voice

"I was disappointed in the draft RI Plan - it still retains a strong valley- and urban-centric bias, ignoring or not addressing many of the issues and opportunities in the foothill regions. Specific feedback includes: p 8 - Biomass utilization focuses largely on composting and farm biomass, pretty much ignoring forest biomass (where there is already a lot of business development; p9 - AEM surveys are more appropriate for SGMA issues which are only in the valley - for the foothills a more appropriate technology is LIDAR, and some of our forested areas have already done that; p 13 - disaster and hazard planning ignores the very well developed organizational infrastructure of Resource Conservation Districts, Fire Safe Councils, and Firewise Communities. Strengthening and supporting this infrastructure would be a wise investment and would further build community capacity."

-Community voice

"The largest thing missing from this document is the need for water infrastructure. The plan set forth would be greatly improved if there was a large push to get statewide water infrastructure that supports each item detailed in the document. Without the additional water infrastructure, the regional plans will continue to be pressured and goals will not be achieved. "

-Community Voice

“I think it all looks great, especially Circular Manufacturing”

-Workgroup Participant, Circular Manufacturing

“In the Circular Manufacturing section there are several “immediate next step” suggestions that seem to indicate potential “near-term strategic investments” (as identified in the Executive Summary) or a project list of sorts for initial funding availability. However, I was under the impression that there was not a literal project list to be identified in this stage of the planning. Are these “immediate next steps” the first projects that will be considered for funding? If so, I would take issue given the process to identify potential investment projects has not been clear outside of the initial Catalyst grant funding opportunity. Also, I shared a specific project with this workgroup that is underway in Visalia that aligns with Workforce Development goals for manufacturing jobs, why isn’t that project a potential “immediate next step?”

This begs the question, not just for the Circular Manufacturing workgroup, what will the process be to identify “near-term strategic investments” and potential implementation projects and how will it be equitably accessed across the four-county region amongst the various stakeholders? My recommendation would be to identify various coordinating agencies that work in applicable spaces in their respective regions (county WIBs, county and/or city EDCs or Chambers, Community Action Agencies, industry collaboratives such as South Valley Industrial Collaborative or SJVMA, and other targeted community groups) to act as regional coordinators to lead project identification efforts in their areas. This could be supported by existing CERF funding from CVCF for regional coordination.

The Circular Manufacturing section was supposed to also promote manufacturing job growth in a few targeted sectors (e.g., food processing, equipment manufacturing, food supply chain), but the section reads very heavy into converting local industries to circular processes. How will local engagement efforts get past this conception to effectively bring manufacturers to the table and pursue some of the initiatives of the section not primarily fixed on driving circular manufacturing? I would suggest leveraging potential regional coordination support funding to the applicable manufacturing facing coordinating agencies mentioned above (e.g., SVIC,

Tulare WIB, Visalia EDC, etc) to assist with outreach and engagement of local employers in the space in Tulare County.

There is a strategy in Circular Manufacturing focused on supporting streamlined permitting and specifically there is mention of reviewing existing zoning and determining land availability, how are local jurisdictions going to be directly engaged in this process? If there is to be an inventory developed of available land for manufacturing job development it will be highly important to ensure local jurisdictions are informed and engaged in that process from the beginning.

Community Benefits Agreements - How are local jurisdictions going to be directly engaged in the discussion to potentially determine ‘baseline’ CBA language for the region?

There has been mention that this plan is like a ‘state CEDS.’ If that is the case, is there a specific funding source available through the state for implementation projects and if so, how much is available and for how long? Also, the EDA requires projects seeking EDA funding to be listed in the local CEDS document. Is the state going to require potential investment projects to be listed in this regional plan and if so, when is the process to identify those projects and as mentioned above, how will that process specifically occur to ensure equitable access throughout the region? It will be important to conduct a thorough review of potential projects with entities familiar with local efforts in their respective parts of the greater region. Will regional partners and stakeholders be able to recommend potential coordinators for that process in their respective subregions or target populations?

Availability of sufficient energy infrastructure is necessary for much of the targeted industry job growth in the plan. My understanding is that there is or will be a ‘Green Unit’ in the Governor’s Office of Business and Economic Development that may be tasked with advocating for such infrastructure investments statewide. What will the engagement with that office specifically be and how can interested stakeholders actively participate in that engagement?

In the Responsible Food Systems section, table 7.4 Available Stakeholders, I’m not sure why City of Visalia Parks and Rec is listed under Government stakeholder. That should likely read City of Visalia. Also, I’m not

sure why the City of Visalia is listed for each strategy. The City of Visalia should likely be listed for Improved Food Access, Innovative Tech., and Prosperous Ind. and Communities. “

-Workgroup Participant, Responsible Food & Ag, Circular Manufacturing, Ed & Skill Building

“Circular Manufacturing: I think it is important to highlight the huge untapped potential of unmanaged agricultural waste in the region in a circular manufacturing plan. For example, land repurposing will lead to a glut of woody biomass that will need to be managed, and will not be able to be openly burned due to burn bans in the region. This points to biochar and/or mulch production, but strong incentives for the application of these amendments need to be in place, along with the appropriate technical assistance. The same goes for dairy manure management--there needs to be greater regulation on dairy manure management practices for methane mitigation, and a downstream market for the application of manure-derived amendments (compost, digestate) to local agricultural systems. This could plug in well to the Responsible Food Systems part of the plan.

Responsible Food Systems: I recommend mentioning the important work that Resource Conservation Districts do in providing technical assistance to producers. The supply chain idea in the Resilient and Small Farms section is great, and I would encourage adding support for transition to organic agriculture, especially for producers in the period before USDA certification, as well.

Exploring Carbon Capture: GHG emissions from cropland, rangeland, and dairies should be mentioned in this section. This is an overlooked source of emissions in the region.

Nature-Based Solutions: I encourage the inclusion of “organic matter amendments” in 2. Investment Strategy point C, and section 2.3 strategy C. Manure is not mentioned here, and manure composting, especially co-composting with biochar, is an important GHG mitigation strategy. I would also recommend inclusion of an analysis on large scale composting facilities’ impact on local air quality, because these impacts are understudied and potentially of concern. “

-Community voice

“Unfortunately we were not able to join in-person, but I was glad to read the Clean Energy Investment Plan last week. I lead community engagement for a community solar developer called Dimension. We have constructed three community solar farms in the Central Valley to-date that are providing LMI households in surrounding census tracts with guaranteed savings on their monthly SCE and PGE bills. We were able to connect folks with these benefits in partnership with Proteus, KCAO, and some amazing promotoras. As you might know, community solar is a state-led program and the CPUC is in a rulemaking process now to create a new version of the program. The proposed program is not at the scale we had hoped for and does not currently include stringent community engagement requirements for developers like us. We are actively engaged with the CPUC now to help improve the program and are hoping to bring more community-centered organizations and partners like CVCF to the table.

A strong California community solar program could support many of the goals of the Clean Energy Investment Plan, including investment in solar generation that can co-exist with farmland or other uses; the creation of good, local jobs in development, construction, and sales (our promotora partners being a small scale example of the latter); and resilience through locally-sited battery storage.”

-Community voice

“Strength: included the general consensus of most of the items that were discussed in the workgroups. To Improve: DRAFT should have emphasized more the absolute necessity to address restrictive policy in some or all workgroup areas and need for development of policy where it does not exist and for it to be supportive of initiatives and objectives identified. Big thank you to CVCF staff for their hard work, coordination, and best efforts to keep all participants collaborating amicably and to the finish line for this DRAFT.”

-Workgroup Participant, Clean Energy & Community Benefits

“Executive Summary

P. 5 Map graphic. Data source needs more detail. Also slightly odd projection (US Albers).

Clean Energy

p.20 Figure 9, the wording on the SB535 areas seems awkward. Maybe something like “areas within disadvantaged communities as defined by SB535.” It’d be tempting to expand on the note that that may be very situational argument in favor of locating some activities in the area and a strong argument against others, and all of it deserves meaningful local engagement.

P. 21 Figure 10 Map is an incomplete draw from the tool. There should be more area drawn in locations where there is a straight line not a circular or odd shaped one.

p. 23. Let’s link to the main DOC web page. <https://www.conservation.ca.gov> is probably preferred.

Nature Based Solutions

P.5 Where did the statewide numbers come from? These don’t seem to match the spreadsheet I forwarded on 5/21. The percentages in “S2J2 lands as a % of California’s Land” seem like they may be off notably the 78% value for Developed Lands (possible missing decimal point?). I think this needs to be looked at carefully.

One Water

P. 40, “Through the Multibenefit Land Repurposing program, administered by the California Department of Conservation, lands must be repurposed a minimum of ten years and in perpetuity” The intent of this sentence is unclear”

-Workgroup Participant, Clean Energy, Nature Based Solutions & One Water

“Since I did not attend the workshop, I would not be able to give an opinion, but do like what is being plan and wait to see how it is implemented.”

-Community voice

“Clean Energy and Fuels

P.6 Data-Based Planning: Data should also include sensitive receptors and factor if areas are already overburdened by industrial development

P. 6 Community Benefits: Will there be a vision to track these investments as well?

P. 8 2.2 Strategize B: Maximize community benefits- Emphasis on more racial equity and increase wage pay should be mentioned.

P. 9 Is there a way for the education pathway to train workers or through some additional opportunity also include undocumented workers?

P. 17 Stakeholders: Aside from the already identified stakeholders, can there be language to make room for new stakeholders to become involved as outreach increases?

Zero Emission Vehicle Transition Plan

Strategy C: For the local outreach, will it be with known entities in this space, or new people to do the education? Also, navigating the cost-sharing barriers for small businesses is important. Ensuring there is a coordinated effort with the utilities is key for infrastructure too, so that they know where new connections/grid capabilities are there.

Nature-Based Climate Solution

P. 10-11. Strategy C, D: Should the selection of optimal sites also be framed around sensitive receptors, DACs, and disproportionately impacted racial/ethnic groups?

2.6. P. 13. Will tribal input on both the natural hazard mitigation and the cross-strategy considerations?

P. 17. Could tribal consultation be expanded in a role beyond regulatory frameworks? Also, should there be a lifting up of other race/ethnic groups too?

Exploring Carbon Capture

P. 7-Silicon Valley Clean Energy-is this a philanthropic method?

P.8-Will there be an emphasis on good jobs and resilient economy too?

Confusing but where is their chapter 1 section 2? Is the Chapter one name correct?

Responsible Food Systems

P.7 2.1.4 Wage pay increases and expanded healthcare access are also critical here.

P.10 2.2.4 Again, the increase in wage pay is crucial. Job security and protection as well, specifically in the policy opportunities beyond the investment plan if it doesn't fit to do it within the scope of this plan as written

P. 17 5.1.5 Will incentive prices be sufficient for cost sharing to produce change, or is there also a space to support more direct policy change as well?

P. 17-19 Increase accessibility and DEI for the farmworking families in schools. K-12, education is great, but things like FFA, I hear it can be pricey. Increase gardening, FFA, and programs like Sweet Potato for early farmworkers that are accessible to those families is key.

Circular Manufacturing

P.8-9 Strategy 4-Expand Workforce Development: Ensuring the programs are tailored for the diversity of the current students, especially those in rural areas with limited access, a process to go from intern to apprentice, to employee, and guarantee certification to land stable jobs.

P. 11 2.7.2 Alignment with Job Quality and Access, Equity, and Climate. When it comes to creating a diverse workforce, also thinking about the screening/tests that will align or not align with our current workforce— how do we close the gap for those who are ineligible?

'One Water' – Watershed Management

P. 34 Expand the Available Workforce...skilled labor, increase job diversity and inclusion for these positions— again, for the multicultural workforce based on the workers we have now

P. 45 A call out for local indigenous and tribal groups to be on a list of trusted resources for rural land is important. For disadvantaged communities, do you mean community residents as part of the stakeholder group or non-profits?

Broadband

P.19 For Stakeholders, we need the residents to advocate for the lack of connectivity they have in these regions, as it will take a lot of political will. Rural communities are highly encouraged.

Education and Skill Building

P. 9 2.1.4. 2.2.3. : More multicultural representation is needed and should be prioritized for hire when needed. More bilingual educational platforms. More resident voice"

-Workgroup participant, Community Based Health Workforce

Public Comment Letters:

- Regenerate California Innovation (see following pages for comment letters)
- Large Scale Solar Association (see following pages for comment letters)



August 13, 2024

Re: Draft S2J2 Investment Plan – Comments of the Large-scale Solar Association

Dear Central Valley Community Foundation,

On behalf of the Large-scale Solar Association (LSA), a non-partisan group representing large-scale solar and battery storage developers, we are submitting our comments on the Sierra San Joaquin Jobs (S2J2) Draft Investment Plan, with particular focus on the Community Benefits Framework and Clean Energy and Fuels chapters.

California is home to some of the earliest-adopted and most ambitious climate targets in the world. In decarbonizing multiple sectors of its economy – including the electricity sector – the electricity grid will need to triple in size in a mere 20 years, adding 165 gigawatts of new energy resources by 2045. Of that, more than 105 gigawatts are expected to come from utility-scale solar and battery storage.

In parallel, the Sustainable Groundwater Management Act, and California’s hydrology landscape are expected to result in more than a million acres of productive farmland being fallowed by 2040. The confluence of loss of agriculture and its attendant loss of jobs, revenues to the counties, and increase in dust and blight poses incredible risk to multiple counties in the central valley. Many reputable organizations and state agencies have appropriately identified that these lands losing water and thus ag production could provide ideal places for siting solar developments – restoring jobs, revenues, and uplift to local communities, not to mention reducing air pollution from conventional energy sources and from agricultural activities. Replacing some of the state’s distressed ag land with solar is an opportunity to lessen the blow dealt by climate-driven water scarcity.

We face the critical need to make rapid changes to how we use and create energy to spare the planet from the worst of climate change; and these changes must happen in a timeframe for which our current social, cultural and governmental systems are not fully prepared. Nonetheless, we must succeed in creating an unprecedented transition – and we must do so together. This will take a level of cooperation and collaboration that transcends past ways of operating.

It is with that spirit that LSA and its member companies both submit these comments, and request that this Initiative set up an eighth stakeholder group comprised of energy developers and representatives, to help ensure that the clean energy vision of the state can combine with the community vision across the four-county region to create something truly remarkable and beneficial.

This third set of comments on the Plan chapters addresses the following points:

- Observations on the S2J2 effort's process.
- The importance of aligning with existing state energy policy data and formalized state agency energy planning processes.
- Caution regarding the potential unintended consequences of recommending streamlined approaches for utility-scale clean energy projects in the San Joaquin Valley.
- A thorough understanding of the National Environmental Policy Act (NEPA) and California Endangered Species Act (CESA) processes and requirements, particularly in relation to community benefits.
- A broader analysis of the existing and potential benefits from utility-scale solar development in the San Joaquin Valley.
- Recommendations for fostering future dialogue between developers and communities in the San Joaquin Valley to create mutually beneficial solutions as California works to achieve its clean energy goals.

Concerns on Stakeholder Engagement & General Report Process

LSA strongly supports robust developer-community engagement and the use of Community Benefits Agreements (CBAs) as developers work on projects essential to achieving the state's grid reliability and climate goals. We also commend the thorough community engagement in this early-stage effort. However, there are significant process-oriented and substantive concerns that need to be highlighted.

Firstly, the Draft Investment Plan lacks a transparent process for addressing stakeholder concerns, and it fails to acknowledge the alternate or even conflicting viewpoints that emerged during the working group discussions. As a result, some recommendations misrepresent the perspectives of participating stakeholders.

Additionally, while the Community Benefits Framework chapter, particularly the section on "Community Benefits Capture: Minimum Regional Requirements for Climate Infrastructure Investments," provides robust recommendations, these elements require further discussion with the industry. The two one-hour working group sessions that involved the solar industry allowed only for brief commentary, but the complexity and scope of the S2J2 energy industry recommendations demand more comprehensive review and dialogue.

While we recognize the critical importance of community groups' efforts to uplift the quality of life in the Central Valley, it's equally important to acknowledge that this uplift cannot be achieved solely through industry contributions.

Need for Alignment with State Energy Policy Data

The Draft Plan currently relies on the RAND Corporation Toolkit, the Department of Conservation's (DOC) land use mapping tool, and older versions of updated reports to outline the region's energy needs and siting landscape. To ensure alignment with current state planning processes and to improve the accuracy of energy forecasting data, the S2J2 report should instead utilize California's formalized energy planning frameworks: the CEC's Land Use Screens,

the CPUC's Integrated Resource Planning Process, and the CAISO's Transmission Planning Process. These tools are grounded in years of comprehensive analysis and stakeholder input, providing an accurate foundation for determining how much clean energy generation California needs and where it should be sited.



Source: CAISO's 20-year Transmission Outlook Update¹ and CEC's Land Use Screens²

By integrating the CEC's Land Use Screens for solar resource potential with the CAISO's 20-Year Transmission Outlook, the figure above illustrates the expected expansion of clean energy, battery resources, and transmission across the state. This highlights the Central Valley's exceptional opportunity to become a hub for environmental and economic development, while playing a pivotal role in helping California achieve its clean energy goals. Moreover, siting solar projects in the Central Valley, particularly on already-disturbed lands, aligns with the CEC's land use strategy, supporting California's 30x30 conservation goal to protect intact habitat areas.

To maintain consistency with state planning efforts, LSA recommends that any updates to the S2J2 data incorporate the state energy planning data referenced here.

Unintended Consequences of Consolidating and Streamlining Permitting

The report recommends streamlining local project review, permitting, and siting for clean energy projects, including identifying land suitable for deployment (Clean Energy and Fuels chapter,

page 13). However, project and transmission siting involve complex processes that depend on objective and transparent criteria from an energy systems perspective, as well as subjective factors like landowner decisions. Community-led siting efforts, while well-intentioned, could inadvertently block projects in viable locations or encourage development in unsuitable areas. Moreover, streamlining efforts, if not informed by industry expertise, may hinder the very development they aim to accelerate. Therefore, we recommend removing this section from the report.

If the S2J2 workgroup participants believe that local planning is crucial for expedited permitting, we suggest the report recognize and analyze the CEC’s AB 205 process, designed to enable the Commission to permit solar and wind projects on an accelerated timeframe. The Clean Energy and Fuels chapter would benefit from an explanation of how the AB 205 process functions from both community and developer perspectives, along with an analysis of how it could be improved to better facilitate clean energy development for all stakeholders. Since AB 205 is a relatively new process, the draft Investment Plan could also propose ways to enhance its integration of local and regional coordination in project development. Additionally, while the report suggests conducting program(*matic*) environmental impact reports (PEIRs), these may be more suitable for smaller local projects, with larger projects better addressed through county or CEC processes.

Clarifying NEPA and CEQA Processes

The Community Benefits Framework acknowledges the value of NEPA and CEQA in preventing negative project impacts and engaging local communities in project development. However, it suggests that these processes fall short in advancing community benefits planning, stating that there is “room to improve and set higher standards for impact review and engagement” (page 5). It places the responsibility on developers to evaluate cumulative health, economic, agricultural, and land use impacts, considering the project’s interaction with existing environmental stresses and other regional projects (pages 16-17).

There are several key aspects of NEPA and CEQA that need to be clarified in the Draft Investment Plan regarding the project impact study process:

- What impact activities are covered under NEPA and CEQA;
- What impact parameters are required under NEPA and CEQA; and
- Who is responsible for amending the requirements of NEPA and CEQA studies.

Firstly, it’s important to recognize that, beyond land use impact studies, both NEPA and CEQA already require rigorous analysis and mitigation of projects’ socioeconomic impacts. While the Plan calls for CEQA and NEPA to expand their analysis of community benefits, it’s essential to understand what is already required and implemented through these processes.

Furthermore, while NEPA and CEQA do consider cumulative impacts—including past actions, concurrent development, and future impacts—the report recommends these processes address issues that extend beyond their intended scope. Specifically, NEPA and CEQA are not designed to be “vehicles for leveraging investments to generate additional economic,

environmental, and social community benefits that address past harms and realize long-standing needs” (page 5). Addressing “decades of environmental pollution and economic disinvestment” in the region (page 5) is not within the remit of NEPA or CEQA.

Any changes to NEPA and CEQA must come from the regulatory agencies, the legislature, or Congress. The report should clarify that recommendations for expanding the scope of NEPA and CEQA are directed at these entities, and the burden should not be placed on developers.

Deeper Analysis of the Existing and Future Benefits of Large-Scale Solar Development

The S2J2 Draft Investment Plan underestimates the inherent benefits of clean energy development. Instead, the Community Benefits Framework Chapter repeatedly suggests that the baseline advantages of clean energy projects—such as job creation, increased tax revenue, and improved air quality—are “not guaranteed to support equitable economic development and could potentially perpetuate the cycle of economic extraction and unequal burden in the S2J2 region” (Community Benefits Framework chapter, page 4). This unhelpful rhetoric should be replaced with recommendations developed in concert with industry partners. Additionally, the Draft Investment Plan asserts the need for “a bold new regional community benefits framework to ensure that new climate investments not only help repair past harms and address long-standing gaps from decades of disinvestment but also equitably distribute the burdens and benefits of renewable energy investments across the S2J2 region for decades to come” (Community Benefits Framework, page 8).

As previously stated, LSA advocates for strong developer-community engagement, recognizing that achieving state climate-energy targets requires a partnership with communities across California. We also acknowledge the historical harm caused by polluting industries in the San Joaquin Valley. However, the Plan’s request for the solar industry to address these past harms misplaces the responsibilities of a polluting industry onto one that aims to reduce pollution and replace fossil fuels with sustainable development that benefits both the environment and the economy. We recommend that reparations for past harms be sought from the original industries responsible, rather than imposing escalating costs on the solar industry, which would ultimately affect ratepayers in both the four-county region and across the state, and could deter investment in the Central Valley.

To foster win-win solutions that enable developers and communities to collaboratively build a clean energy economy in the San Joaquin Valley, LSA proposes the following specific amendments to the recommendations in the Community Benefits Framework chapter (Section 3.1.1. – Minimum Regional Requirements for Climate Infrastructure Investments, page 17):

1. *Definition of Productive Agricultural Land*: LSA recommends including water conditions as a criterion for evaluating agricultural land productivity. The Sustainable Groundwater Management Act, combined with the increasing severity and duration of droughts, is a major factor driving agricultural land retirements in California. Therefore, any criteria for protecting agricultural land should incorporate water availability analyses.
2. *Project Labor Agreements (PLAs)*: While many developers prioritize hiring locally from a union workforce, local hiring requirements can be impractical in the current environment.

For instance, if a local hiring mandate is in place but the local workforce is insufficient, project progress could be hindered. LSA suggests revising the language to focus on local hiring targets, which would establish more realistic standards for developers.

3. *Community Benefits Agreements (CBAs) as a Share of Project Costs*: Using project costs as a metric for determining CBAs is not appropriate. Utility-scale solar developers negotiate CBAs that address the specific needs of the communities directly impacted by each project. These investment plans can amount to several million dollars per project and vary significantly across companies and communities. Examples of CBAs include workforce development opportunities, scholarships, sponsorships with local educational institutions, and partnerships with local philanthropic organizations (e.g., Chambers of Commerce, Food Banks, local festivals, school districts). To provide a more accurate model for CBAs, the Draft Investment Plan could reference examples from planned and operating projects throughout the San Joaquin Valley.

If a direct financial value for Community Benefits is preferred, CBAs could leverage existing tax benefits generated by solar projects. For example, large-scale projects contribute to counties through:

- Sales tax revenues from materials and equipment used in construction and operations.
- Property tax revenues, which are expected to increase significantly for local governments beginning in 2027 with the expiration of the partial solar property tax exclusion.
- County governments sometimes require Development Impact Fees and require developers to enter into development agreements to provide funding.

Transparency regarding the distribution of these tax benefits to communities is sometimes lacking. The Draft Investment Plan should recommend reassessing how tax revenues from solar projects are allocated to ensure they directly benefit impacted communities.

To emphasize the potential of CBAs from large-scale solar development in the San Joaquin Valley, we've attached a near-final study by EConorthwest that outlines the future benefits of utility-scale solar and BESS development in the region.

4. *End-of-Life Plans*: It is standard practice for developers and county/state permitting agencies to establish contractual agreements outlining decommissioning requirements before any project begins. A blanket requirement across the region would not account for the unique needs of each county or site-specific details. Given the site-specific nature of projects and existing county-specific decommissioning requirements, LSA recommends that decommissioning requirements and considerations for returning sites to agricultural use or open space remain under county jurisdiction.

Final Recommendations

We believe this initiative would greatly benefit from the following three key discussions:

1. **Industry and Community Benefits:** Engage in a dialogue with the industry to identify community benefits that are sustainable, reasonable, and realistic. This conversation should ensure that these benefits do not a) overburden ratepayers in the Valley and beyond with increased electricity costs, and b) cause delays in time-sensitive project development, which could hinder the state’s ability to meet its reliability and emissions targets and discourage investment in the four-county region. To facilitate this, as mentioned earlier, we request the Initiative to add an eighth stakeholder group comprised of energy industry participants planning to pursue projects in the region.
2. **Community Responsibilities:** Discuss and clarify the responsibilities of the communities involved in establishing more proactive and mutually beneficial relationships with project developers, moving beyond past practices.
3. **Joint Advocacy for Support:** Explore opportunities for the industry and communities to collaborate in advocating for grants, funding, and other benefits from government and philanthropic sources. These resources could be instrumental in providing both immediate and generational uplift to the Central Valley and other communities impacted by the climate transition.

Meeting the climate imperative – particularly against the backdrop of now irrefutably-increasing climate impacts and the pressures they create for everyone will require extraordinary cooperation and commitment to work together. We believe that with a more collaborative approach to working with industry, this effort could be a model for that commitment and cooperation.

We look forward to working with the S2J2 effort and the Jobs Council on this effort going forward. Thank you for considering our views.

Sincerely,



Shannon Eddy,
Executive Director
Large-scale Solar Association
www.largescalesolar.org



Appendix A.

Economic Assessment of Solar and BESS Resource Development
under a Williamson Act Solar Use Easement Statute
<https://drive.google.com/file/d/10ylbwUPukYSkiYbG9rvzlgPMXbwLlewU/view>



August 13, 2024
Sierra San Joaquin Jobs (S2J2)
1260 Fulton Street, Suite 200
Fresno, CA 93721

Dear S2J2 Leadership,

Thank you for the opportunity to provide input into S2J2 documents. Our comments relate to the Community Benefits Framework and the Clean Energy and Fuels Chapters.

RCI and many local partners are working to engage 36 western Fresno County rural communities located within an impact area proposed for an estimated 30 GW of new renewable energy production facilities development, plus new transmission infrastructure. This organizing effort is called Rural Communities Rising, and is intended to elevate the voice and priority for negotiated benefits of directly affected communities. Our approach to community benefits focuses on principles of nexus and proportionality of development impacts on communities proximate to and directly impacted by new development projects, as embedded in a long history of project related Community Benefits Agreements (CBAs) and definitions similar to the Policy Link reference below:

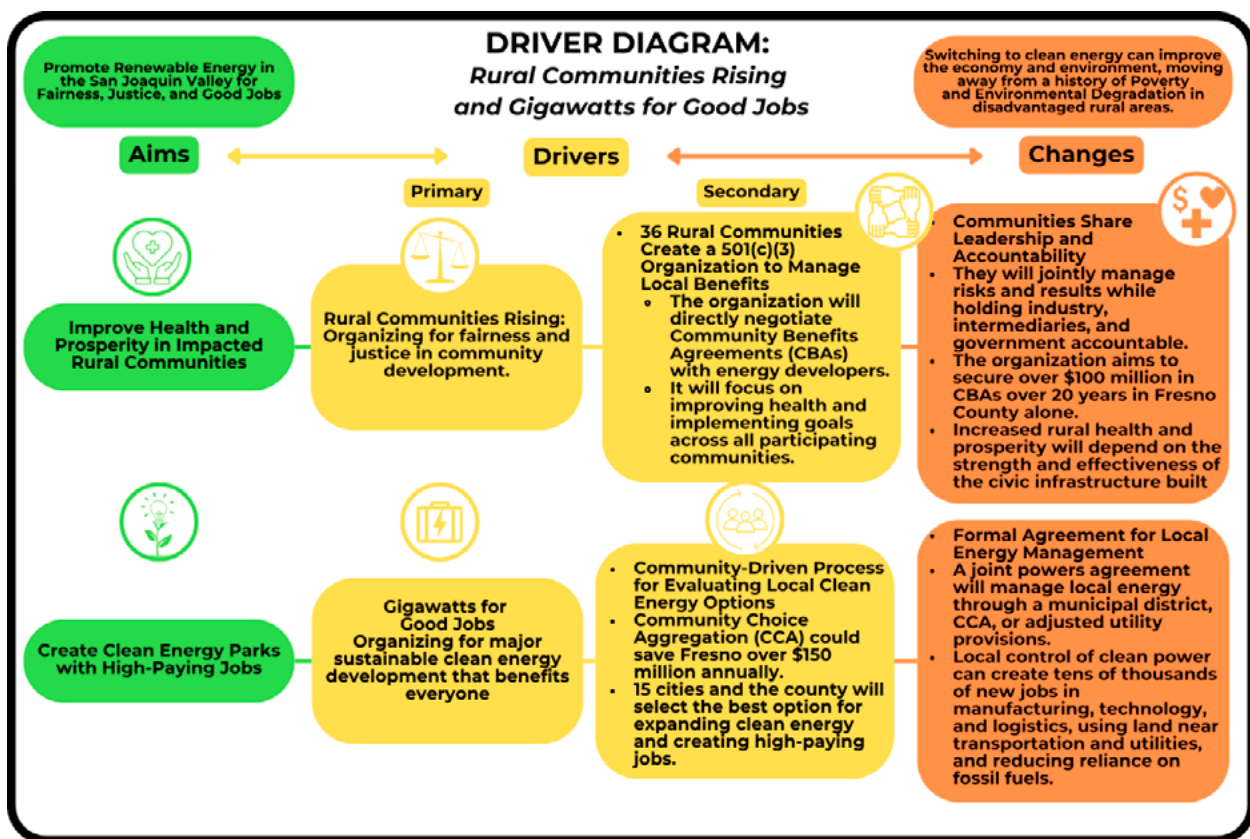
“Community benefits outlined in a CBA can cover a range of issues prioritized by the community . . . A CBA is a legally enforceable contract between a coalition of community-based organizations and the developer of a proposed project. In exchange for the coalition's public support of the project in the approval process, the developer agrees to contribute benefits to the local community if the project moves forward. In this way, the coalition has a hand in shaping the project, while the developer builds community support and strengthens local partnerships. The result is a smoother approval process for the developer and a better project for the community.”

<https://www.policylink.org/resources-tools/tools/all-in-cities/good-jobs/communitybenefits-agreements>

We believe that S2J2 can help organized impacted rural communities through best practice research and technical assistance while also encouraging self-determined rural community organizations with the capacities and skills to engage, negotiate and administer maximum feasible community benefits from developers directly impacting their communities, to do so without constraint or limitations.

RCI and many local partners are also working a on a collaborative Fresno County assessment of energy focused organization types that can leverage a new era of job creation. This effort is called Gigawatts for Good Jobs.

We want all these efforts to be in alignment with S2J2 – see diagram below.



Thank you – Keith Bergthold, CEO



Appendices

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Appendix 1

S2J2 Governance Structure

Governance Structure

Recognizing the geographic size, diversity, and complexity of the region and the need to balance power among stakeholders and across multiple jurisdictions, S2J2 offers a collaborative governance structure and decision-making process that allows for maximum input and inclusion at the local level. It then provides that local tables will collectively build the region's four-county inclusive economic development plan, described here:



Five Representatives

Each Stakeholder Group has five Representatives

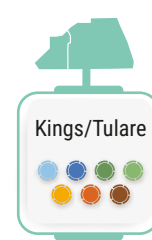
Local Tables

A total of 35 representatives sit in each Local Table



Four Local Tables

Four Local Tables underwent independent, inclusive processes to identify local needs and priorities, oversee community engagement, and support the collaborative governance structure.



Seven Stakeholder Groups



Labor/Worker Centered Organizations



Employers, Business Associations, and Economic Development Organizations



Education, Workforce Development and Training



Local Governments



Tribal entities



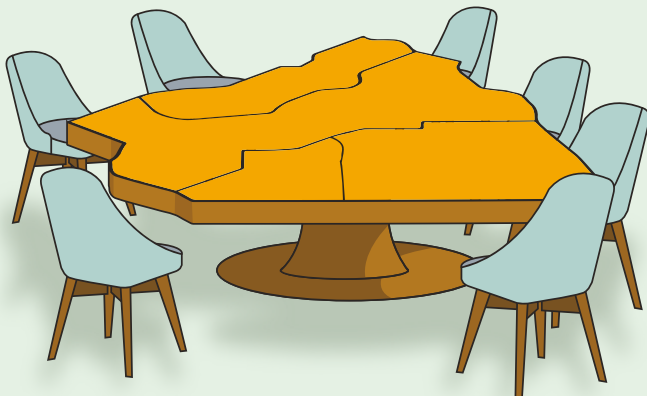
Environment and Environmental Justice



Community-Based Organizations and Community Voices

The Sierra San Joaquin Jobs Regional Table

The Regional Table is made up of seven representatives from each of the local tables, for a total of 28 members.



In the first year, the Sierra San Joaquin Jobs Initiative focused on the Local Tables and their community engagement, research, and development of local priorities and strategies for creating an inclusive and sustainable economy.

Once those local priorities were identified, representatives from each of the Local Tables formed the Regional Table.





Appendix 2

Regional Table Members

Regional Table Members

Community-Based Organizations & Community Voice



Rico Peralta

Madera County
Binational of Central
California



Mario Gonzalez

Fresno County
Centro La Familia
Advocacy Services



**Tania Santiago -
Greathouse**

Fresno DRIVE
Community
Advocate/Clean Power
Alliance



Carla Calhoun

Kings/Tulare Counties
Community Services
Employment Training

Education & Workforce



Maiknue Vang

Madera County
Madera County
Workforce
Development Board



Alicia Cervantes

Fresno County
Familias Emporadas
del Valle Central



Carlos Huerta

Fresno DRIVE
Fresno Pacific
University,
Center for Community
Transformation



Julieta Martinez

Kings/Tulare Counties
Kings County Jobs
Training
Office

Employers/Business Association/Economic Development Organizations



Bobby Khan

Madera County
Madera County
Economic



Julian Ramos

Fresno County
Fresno County
Economic

Development
Commission



Lynisha Senegal
Fresno DRIVE
Vision View

Development
Corporation



Airica de Oliveira
Kings/Tulare Counties
Tulare County
Economic
Development
Corporation

Environmental & Environmental Justice Organizations



Erin Capuchino
Madera County
Yosemite Sequoia
Resource
Conservation &
Development Council



Kelly Kucharski
Fresno County
Sierra Resource
Conservation District



Dr. Venise Curry
Fresno DRIVE
Community
Advocate/
Consultant



Phil Daubenspeck
Kings/Tulare Counties
Sequoia Riverlands
Trust

Labor & Work Centered Organizations



Jorge De Nava
Madera County
Central Valley
Opportunity
Center



Stan Santos
Fresno County
Communication
Workers
of America



Coreen Campos
Fresno DRIVE
Consultant



Ronny Jungk
Kings/Tulare Counties
IBEW Local 100

Local Government



Rod Pruett
Madera County
City of Chowchilla



Alicia Aguirre
Fresno County
City of Selma



Itzi Robles
Fresno DRIVE
Office of
Assemblymember Dr.
Joaquin Arambula,
District
31



Devon Jones
Kings/Tulare Counties
City of Visalia

Tribal Entities



Felicia Batts
Fresno County
Fresno
American
Indian Health
Project



Rhonda Killian
Kings/Tulare
Counties
Tule River
Economic
Development
Corporation



Appendix 3

Local and Regional Table Partners



Local and Regional Table Partners

	<u>Madera Local Convener:</u> United Way of Fresno & Madera Counties	<u>Fresno Local Convener:</u> Fresno State - OCED	<u>Kings / Tulare Local Convener:</u> Tulare County WIB
Community-Based Organizations & Community Voice	- Community Action Partnership of Madera County - Youth Leadership Institute - Madera Arts Council - Binational of Central California - Madera Community Hospital	- Westside Family Preservation Services - Centro La Familia - Westside Youth Center - The Children's Movement/ Cradle to Career - Jakara Movement	- Kings Community Action Organization - Kings Partnership for Prosperity - Kings / Tulare Homeless Alliance - Community Services Employment Training - Education and Leadership Foundation
Education & Workforce Training	- Madera Community College - Madera Unified School District - Workforce Development Board of Madera - First 5 Madera County - Madera County Superintendent of Schools	- West Hills College Coalinga - Fresno Regional Workforce Development Board - Familias Empoderadas - Parent Institute for Quality Education - Education and Leadership Foundation	- Tulare County Office of Education - Kings County Job Training Office - Kings County Office of Education - Porterville College - Sequoias Adult Education Consortium
Employers / Business Assoc. / Econ. Dev. Orgs	- Madera County Economic Development Commission - Eastern Madera Community Foundation - Madera Downtown Association - Quady Winery - Madera Chamber of Commerce	- Parlier Chamber of Commerce - Los Promotores Comunitarios - Southeast Asian Economic Development Coalition - National Latino Farmers and Ranchers - Fresno County Economic Development Corporation	- Tulare Kings Hispanic Chamber of Commerce - Tulare Chamber of Commerce - Tulare County Economic Development Corporation - Kings County Farm Bureau - Kings County Economic Development Corporation
Environment & Environmental Justice	- NAACP - Yosemite / Sequoia Resource Conservation & Dev. Council - Madera Coalition for Community Justice - Coarsegold Resource Conservation District - Education and Leadership Foundation	- Latino Equity Advocacy & Policy Institute - Sierra Resource Conservation District - San Joaquin River Parkway and Conservation Trust - Kings River Conservancy - Central California Asthma Collaborative	- San Joaquin Valley Clean Energy Organization - Self-Help Enterprises - Sequoia Riverlands Trust - California Environmental Voters - Tulare Basin Watershed Network
Labor & Worker Centered Orgs	- Teamsters - United Food and Commercial Workers - California Farmworker Foundation - Central Valley Opportunity Center - California Association of Agricultural Labor	- Communications Workers of America - Binational of Central California - Farmworker Org. - Teamsters - California Farmworker Foundation	- IBEW Local 100 - Teamsters - Unidad Popular Benito Juarez - California Farmworker Foundation - Proteus
Local Governments	- Chowchilla City Council - City of Madera - County of Madera - Madera County Department of Public Health - Sierra Nevada Conservancy	- City of Selma - City of San Joaquin - Fresno Economic Opportunities Commission - First 5 Fresno County - County of Fresno	- City of Avenal - City of Lemoore - County of Tulare - City of Visalia - City of Porterville
Tribal Entities	- Northfork Rancheria - Picayune Rancheria of Chukchansi Indians	- Fresno American Indian Health Project - Table Mountain Rancheria - Fresno Native American Business Development Center - Dunlap Band of Mono Indians	- Owens Valley Career Development Center (Tribal TANF) - Tule River Economic Development Corporation

Local Convener: Central Valley Community Foundation

DRIVE Work Groups

▪ Civic Infrastructure ▪ Next Generation Aviation ▪ Wealth Creation in Communities of Color ▪ Central San Joaquin Valley K-16 Partnership	▪ Betting Big on BIPOC Businesses ▪ Fresno's Impact Economy ▪ Upskilling ▪ Preconception to Five ▪ Community Justice Network ▪ Downtown 2.0	▪ UCSF School of Medicine Fresno Campus ▪ Fresno-Merced Future of Food Innovation (F3) ▪ Fresno Opportunity Corridors ▪ Permanent Affordable Housing

Regional Table

Madera	Fresno County (Rural)
▪ Binational of Central California ▪ Madera County Workforce Development ▪ Madera County Economic Development Commission ▪ Yosemite Sequoia Resource Conservation and Development Council ▪ Central Valley Opportunity Center ▪ City of Chowchilla	▪ Centro La Familia ▪ Familias Empoderadas ▪ Fresno County Economic Development Corporation ▪ Sierra Resource Conservation District ▪ Communications Workers of America Local 9408 ▪ City of Selma ▪ Fresno American Indian Health Project
Kings / Tulare	DRIVE
▪ Community Services Employment Training ▪ Kings County Jobs Training Office ▪ Tulare County Economic Development Corporation ▪ Sequoia Riverlands Trust ▪ IBEW Local 100 ▪ City of Visalia ▪ Tule River EDC	▪ Community Advocate/Clean Power Alliance ▪ Fresno Pacific University, Center for Community Transformation ▪ Vision View ▪ Community Advocate/Consultant ▪ Consultant ▪ Field Rep, Assemblymember Arambula



Appendix 4

Urban Institute Community Engagement
Synthesis of Key Findings



Community Engagement Synthesis of Key Findings

SIERRA SAN JOAQUIN JOBS (S2J2)

Prepared by Gabi Velasco, Annie Rosenow and Sara McTarnaghan, Urban Institute

April 2024

In June 2023 the Sierra San Joaquin Jobs (S2J2) coalition (formerly Valley CERF coalition) launched a request for proposals (RFP) from community-based organizations to conduct resident engagement, including individual surveying, focus groups, and worker voice interviews. The RFP specifically targeted grassroots organizations with demonstrated, trusted relationships among disinvested communities. In August 2023, S2J2 awarded ten community-based organizations (CBOs) grants to undertake community engaged data collection. The grantees were charged with gathering the experiences of community members across S2J2 topical focus areas, including workforce, community infrastructure, climate, and education. This community engaged data collection supplements [baseline regional data analysis](#), providing the S2J2 coalition a more well-rounded evidence-base for planning and prioritizing investments in the region. The community-engaged data collection helps ensure that the planning process is grounded in the perspectives and experiences of residents who are most negatively impacted by the systems and infrastructure of the past and present socioeconomic status quo, and importantly whose experiences are less documented in public and administrative data sets.

The ten community-based organizations, located throughout the four-county region and with unique affiliations with different communities, selected are: Central Valley Workers Center (Tulare/Kings Counties), Tulare Kings Hispanic Chamber of Commerce (Tulare/Kings Counties), Youth Leadership Institute (Madera County), Madera Coalition for Community Justice (Madera County), Community Action Partnership of Madera County, Inc., Familias Empoderadas del Valle Central (Fresno County), Jakara Movement (Fresno County), Southeast Asian Economic Development Coalition/ Fresno Center (Fresno County), Centro de Unidad Popular Benito Juárez (regional), and Binational of Central California (regional).¹ The regional grantees were expected to cover the four county region, whereas county-specific grantees has a more targeted geographic scope.

Grantees sought to elevate perspectives from communities that have been historically excluded from planning processes in the region and populations whose experiences are not often captured in broader data collection efforts. Focus was paid to gathering the experiences of farmworkers, migrant workers, youth, parents, residents of rural and unincorporated communities, and specific racial/ethnic groups including Cambodian, Chinese, Hispanic/Latino, Hmong, Indigenous, Lao, Mixteco, and Punjabi communities. Further details on the specific communities each community-based organizations engaged with can be found in Appendix A.

Grantee community-based organizations had autonomy over how to design their data collection process, and further details on methodology can be found in Appendix A. In total, 4,378 respondents were engaged

¹ Note that as of April 2024, this analysis includes data from all partners except for Central Valley Workers Center, who received a timeline extension.

through surveys (Madera County: 1,919; Fresno County: 542; Tulare County: 200; Regional: 1,537), focus groups (Madera County: 84; Fresno County: 19; Tulare/Kings County: 27; Regional: 25) and interviews (Fresno County: 25). While all data collection efforts focused on the S2J2 themes, substantive survey and focus group questions were not standardized. As a result, we can only include limited cross-county quantitative analysis. However, grantees used a standardized set of demographic questions. For a demographic profile of respondents across the region, please see Appendix B.

CROSS-COUNTY THEMATIC ANALYSIS AND KEY FINDINGS

Each grantee delivered a synthesis of the data they collected from community engagement. These reports are key references for county-specific needs and priorities. Partners at the Urban Institute then compiled and analyzed reports to identify high-level regional themes and key findings, detailed in this memo. This synthesis memo is organized around the key thematic areas for S2J2: industries and workforce, community infrastructure, resident wellbeing, and climate and environment.

A of all key findings is included in table 1, and an expanded analysis of these findings follows.

Table 1. Summary of Key Findings by Domain

Industries and Workforce	
Sub-topic	Key Findings
Defining Good Jobs	Respondents emphasize that ‘good jobs’ give workers both the financial and nonfinancial resources to secure stability, health, and upward mobility for themselves and their families.
Workforce Conditions	Seasonal workers emphasized that a lack of stable work and income creates financial stress, depression and diminished mental health.
	Difficulties accessing affordable, reliable childcare are barriers to career development and accessing ‘good jobs’.
Workforce Threats	While workers recognize that new technology could mean increased productivity, this benefit for employers is outweighed by concerns of job replacement and instability.
	Environmental degradation, pollution, and climate change are considered risks to both workers’ health and safety as well as their opportunities for employment.
Structural Barriers	Undocumented workers are blocked from many public benefits and community members which emphasizes the need for tailored programs and legislative reform.
	Strict education credentials for jobs pose a barrier to career development for respondents.
Education and Training	Regionally, a majority of respondents shared that they did not know of any resources for workforce or skills development.
	Workforce training opportunities aren’t accessible to a large population of respondents because of language barriers, lifting up a need for both English language classes and multi-lingual trainings.
	Respondents want workforce training and skills-building programs to be created, promoted, and made accessible to them.

	Local business ownership is a common aspiration, but respondents lack the necessary financial support, mentoring, and training to successfully pursue entrepreneurship.
	Respondents want improved education quality in the public-school system and access to experiential learning, college-level courses, and training in trades to expand potential avenues to success for youth.
Community Infrastructure	
Housing Access and Affordability	Increases in rental costs and a lack of affordable housing were the most cited barriers to affordable housing in the region.
	Residents in Fresno and Tulare counties reported housing discrimination as a barrier to affordable housing in the region.
Transportation	When thinking about the future of transportation in their community, residents across the region want to see an expanded and more reliable bus system.
	Improvements to current transportation infrastructure, like enhancing road maintenance and repairs, would also benefit residents.
	Residents would like to see more alternative transportation methods by increasing cycling and pedestrian lanes and encouraging carpooling/ridesharing programs across the region.
Digital Access	Due to cost and availability of services, digital access is an issue for many throughout the region.
Resident Wellbeing	
Financial Stability	Housing costs, monthly utility bills, and food are the top three financial stressors emphasized by respondents region-wide.
	Respondents cite that household income is not keeping up with inflation, making it harder to afford everyday necessities.
	A very high number of respondents reported feeling <i>very uncomfortable</i> with their financial situation month-to-month.
Public Health	Access to quality, affordable healthcare is emphasized by residents across counties as a key issue.
Climate and Environment	
Environmental Health	The largest regional environmental concerns are air pollution and water pollution.
	Respondents share that poor air quality contributes to unsafe working conditions for farmworkers in the region.
Climate Investments	Extreme weather events (drought, wildfires, heat, floods) were perceived as large threats; communities expressed need for governmental support as disasters increase in frequency and severity.
	Across counties, respondents want increased access to safe green space and improved environmental health.

INDUSTRIES AND WORKFORCE

Across counties, residents lifted up a vision for a Central San Joaquin Valley economy that values workers' financial and physical wellbeing and prioritizes investments towards workers' job stability and skills development. Regionally, respondents noted disconnection from (and possible lack of) workforce development programs that are accessible, indicating an opportunity to expand, improve, and better promote these initiatives. Respondents also indicated a need for industries (namely agriculture and food service) to develop in ways that create new 'good

jobs', preserve and improve the quality of current employment, and positively impact human and environmental health.

Defining 'Good Jobs'

Respondents emphasized that 'good jobs' give workers both the financial and nonfinancial resources to secure stability, health, and upward mobility for themselves and their families.

Though the question asked of respondents, 'what makes a good job?', is broad, answers across counties strongly clustered around key elements, indicating a shared regional vision. The frequently noted characteristics of a 'good job' include comprehensive benefits and healthcare, retirement contributions, and living wages. These tangible elements all build towards two broader 'good job' outcomes that were desired regionally: work-life balance and not having to live paycheck-to-paycheck. In Madera County, Spanish-speaking respondents commonly brought up 'safety' as a feature of a good job. Majority of Madera's respondents were farmworkers, emphasizing the importance of workplace safety and hazard reduction in the agricultural industry.

"A good job means I can provide for myself and my family not living paycheck to paycheck...being able to be independent." (high school student in Madera County engaged by Youth Leadership Institute)

"A good paying job is something where you pay more than a minimum wage, have consistency of hours, work conditions are bearable and language access is easily accessible" (respondent in Fresno County engaged by Jakara Movement)

In Fresno County, respondents were asked to report on potential elements of a 'good job' and how important that element is to job quality. The five elements that were ranked 'very important' most frequently are high wages, benefits, healthcare, retirement, and work environment. Other elements ranked 'very important' by 60 percent or more of respondents include career mobility, childcare options, consistency/set scheduling, and flexible scheduling.

Workforce Conditions

Seasonal workers emphasized that a lack of stable work and income creates financial stress, depression and diminished mental health.

In the regional survey from Binational Central California, where over 60 percent of respondents were farmworkers (n=837), respondents shared that the biggest challenge they face is lack of stable work/income due to seasonal harvesting. And 40 percent included that this lack of work has led to financial stress, depression, and diminished mental health. In a focus group conducted by Tulare/Kings Hispanic Chamber of Commerce (n=27), many farmworkers expressed a need for new job opportunities and training programs to avoid the economic instability during off seasons.

Difficulties accessing affordable, reliable childcare are barriers to career development and accessing 'good jobs'.

In the Jakara Movement's survey, 22 percent of respondents of all genders included childcare in their response but over 40 percent of female respondents shared that childcare is an essential aspect of a 'good job'. Some stated that the lack of accessible childcare in the region has prevented them from joining the workforce altogether.

Workforce Threats

While workers recognize that new technology could mean increased productivity, this benefit for employers is outweighed by concerns of job replacement and instability.

Technology and AI were popular topics of discussion in respondents' written survey answers and in focus groups. Discussion mainly originated from workers within two industries poised for major technological changes in the coming decade, agriculture and food service. In Fresno County, the Jakara Movement's data reported that 17 percent (n=279) of workers, felt like technology shifts/skill gaps will be the most significant threats to their work, which could produce barriers to employment (lack of training to operate machinery and technology, jobs being replaced by machines) but some respondents expressed optimism that with training, they would become proficient with the new technology, maintain employment, and receive higher pay for their expanded skillset. In most counties, however, employers do not offer trainings to keep up with technological advancement, leaving many employees feeling unprepared, as noted in a regional focus group. In Madera County, new technology/AI was reported as the prevailing perceived threat to job security and employment opportunities in agriculture. And in the regional survey conducted by Binational of Central California, respondents noted that they fear new technologies will include increased toxic chemicals, negatively impacting both workers' health and the environment.

Across counties, older workers were vocal that they fear that technology will cause job displacement and that they will experience ageism in hiring as younger workers are seen as more adaptable. High school aged respondents from Madera and Tulare counties expressed less trepidation and more interest in technology being expanded in the workplace, especially pertaining to robotics.

Environmental degradation, pollution, and climate change are considered risks to both workers' health and safety as well as their opportunities for employment.

Throughout the region, respondents voiced that pesticide exposure and extreme heat are considerable hazards in their workplace. Farmworkers most frequently noted environment and climate job safety (like pesticide toxic exposure and heat exposure) as well as job stability concerns because climate change impacts (heat, flooding) impact crop yield.

In Tulare County (n=226) 74 people, accounting for 33 percent of respondents, reported that climate change is the biggest threat to their line of work. Sixty-nine percent of those surveyed by FEVC Fresno (n=104) answered that climate change is the biggest issue that will affect their work.

Structural Barriers

Undocumented workers are blocked from many public benefits which emphasizes the need for tailored programs and legislative reform.

Across the region, many undocumented workers voiced that they need financial and social supports, but their inability to access key public services like unemployment benefits is a significant barrier to stability and wellbeing. While no community engagement efforts asked questions about immigration status, Familias Empoderadas del Valle Central in Fresno County reported that 90 percent of participants (n=99) have relied on the organization to declare that they do not have social security numbers. Undocumented respondents also noted that their immigration status structurally excludes them from access to fair wages and labor rights. While undocumented respondents expressed a need for legislative reform that allows them access to the same benefits as all other California taxpayers, there is also a need for immediate financial and social assistance.

"We want support to receive work benefits, for better treatment for us farm workers because they demand a lot from us and with little pay. They pressure us as if we were contractors but they pay us the minimum per hour."
(Mixteco respondent in Fresno County engaged by Familias Empoderadas del Valle Central)

Strict education credentials for jobs pose a barrier to career development for respondents.

In synthesis reports, grantees indicated that some respondents shared that strict education requirements for jobs pose an undue burden and restrict access to 'good jobs', including those in the public sector and government. Madera County high school students engaged by Youth Leadership Institute shared that securing employment is difficult in the county due to high schoolers' lack of experience relative to older adults, and that qualifications like needing a driver's license for some jobs pose a barrier.

Participants in the Tulare/Kings Hispanic Chamber of Commerce data collection noted that the skillsets of immigrants are often undervalued and go unrecognized in the US, despite the skills being certified in their countries of origin. By failing to acknowledge their qualifications, immigrants are restricted from accessing stable, good-paying jobs. Participants expressed the need for the US to develop a system that will acknowledge and certify past work experiences and trainings of a person who immigrated to the US.

Education and Training

Regionally, a majority of respondents shared that they did not know of any resources for workforce or skills development.

Training and skills-building programs are key components of workforce development, but responses across counties indicate a glaring gap in knowledge of and access to these services. Within Fresno County, more than 190 people, 22 percent of respondents (n=885), reported not being aware of any job training or adult education programs. In Madera County, 65 percent of English-speaking residents (n=619) and 77 percent of Spanish-speaking residents (n=493) reported that they have not been exposed to these programs. It is unclear whether respondents' disconnection from training programs indicates that the relevant programs do not exist within the county or if there are relevant workforce programs, but these programs are not promoted sufficiently or are inaccessible. While most Tulare County respondents were aware of training programs, a majority also indicated they did not feel able to access them because of factors like age, language, and citizenship.

Workforce training opportunities aren't accessible to many respondents because of language barriers, lifting up a need for both English language classes and multi-lingual trainings.

Respondents across the region indicated that a barrier to accessing 'good jobs' is that training programs are not offered in the language that they speak. More than 45 percent of regional Binational survey respondents (n = 837) reported a desire for new job opportunities that offer in-person language training, such as an English language class, alongside technical trainings.

"Due to the language base, we cannot advance more." (respondent in Madera County engaged by Madera Coalition for Community Justice)

Respondents want workforce training and skills-building programs to be created, promoted, and made accessible to them.

Though a majority had not accessed workforce trainings, respondents voiced a clear need for these services. And some respondents in Fresno County noted that they “don’t have the money” to keep up with new technologies, indicating a need for no or low-cost programs. Across the region, respondents indicated a desire for apprenticeship opportunities and trade skills training; training on new technology; reskilling programs for industries poised for technological changes, including agriculture; training for jobs in the medical industry; and English language classes.

Participants in a Tulare/Kings focus group shared that they are advocating for the establishment of a recreational center that would serve as a multifunctional entity to host educational programming and career services, while also functioning as a space for residents to wind down and participate in recreational activities. A centralized building acting as a hub for both career development and play could make programming less daunting and more accessible for community residents.

Also of note, respondents to the regional Binational survey shared that as far as investments in the agricultural industry are concerned, they hope to see investments produce more upskilling opportunities for workers rather than more technical advances. Respondents to the Binational survey also indicated that they are particularly interested in jobs within the growing solar energy industry.

Local business ownership is a common aspiration, but respondents lack the necessary financial support, mentoring, and training to successfully pursue entrepreneurship.

Teenage participants in Youth Leadership Institute’s focus groups shared that small business ownership, especially in the food service and retail industries, was a common career aspiration for youth. Respondents in Tulare County also expressed a need for education and training for aspiring business owners and more support for local businesses. Participants in a focus group conducted in Kings/Tulare counties noted the lack of support for startup businesses in their counties. Many participants indicated the need for microloans to help them start their business, as well as educational courses to teach them how to financially manage their business once it’s running. Furthermore, some participants felt that the municipal governments must first amend the zoning laws to reduce barriers for new businesses looking for retail space. Further community listening and engagement efforts are needed to determine the specific education and financial interventions needed to support aspiring entrepreneurs.

Residents want improved education quality in the public school system and access to experiential learning, college-level courses, and training in trades to expand potential avenues to success for youth.

Students and parents across the region voiced a need for expanded, and improved, public education. Madera County high school students engaged by Youth Leadership Institute shared that they want more experiential learning and college-level courses available in high school to better prepare them for further education and the workforce. The Madera County students voiced particular interest in courses that set them up for future education and employment in health care. Respondents to the Tulare County and regional surveys noted that they think schools should also teach courses that prepare students for trade jobs and apprenticeships to better position youth for employment. Respondents from the City of Huron in Fresno County expressed the need for their own high school as the nearest high school, Coalinga High School, is half an hour from Huron, impacting access.

“We hope that there is a high school so that the children can succeed and also that the teachers do their job inspiring and supporting the children for a better future.” (Mixteco respondent in Huron community engaged by Familias Empoderadas del Valle Central)

“I want more opportunities for college [level] learning for something that is specific in health care at school.” (high school student in Madera County engaged by Youth Leadership Institute)

“Learning about taxes...teaching us [how to] pay bills.... I think those courses should be at school.” (high school student in Madera County engaged by Youth Leadership Institute)

COMMUNITY INFRASTRUCTURE

Regionally, respondents indicated a need for programs, investments, and policies that increase the availability of affordable and stable housing, ensure reliable and accessible multimodal transportation across geographies, and make broadband more widely available.

Housing Access and Affordability

Increases in rental costs and a lack of affordable housing were the most cited barriers to affordable housing in the region.

Across the region, residents are most concerned with housing costs. Driving this concern are high rental/property costs, and a limited availability of affordable housing units. Moreover, respondents reported a lack of information or resources when looking for affordable housing. According to the Familias Empoderadas del Valle Central survey, which focused its efforts on Fresno County and surveyed mostly farmworkers, 91 respondents (n=249) cited high rental costs as a barrier to housing. Residents in Madera County also felt the pressure of rent increases, with over 55 percent of English-speaking respondents (n= 619) citing rent rate increases and limited “rental space” as barriers. Spanish-speaking residents in Madera County also noted strict renter requirements, such as credit history and high deposit amounts, as barriers to housing in the region.

“They are building new homes, but those are fancy and expensive, not for us. I just want a simple home with a nice backyard.” (high school student in Madera County, engaged by Youth Leadership Institute)

Residents in Fresno and Tulare counties reported housing discrimination as a barrier to affordable housing in the region.

Housing discrimination was prevalent across the region, according to respondents. A total of 219 people (10 percent) in Tulare and Fresno counties had faced housing discrimination based on race, gender, and/or income when searching for housing. Respondents who filled out the surveys in Fresno and Tulare counties primarily identified as Asian or Latino/a/x, highlighting housing discrimination within these communities.

Transportation

When thinking about the future of transportation in their community, residents across the region want to see an expanded and more reliable bus system.

Over 441 residents (26 percent) in Fresno and Tulare counties want to see improvements to the public bus system. Respondents commonly desired expanded bus access to rural communities as well as extending operating times for those who work late. In particular, Eastern Madera was singled out as a geographic area that lacked adequate

access to the bus system. The United Way of Fresno and Madera's survey of Madera County reported notable differences between the English-speaking and Spanish-speaking survey results. Among English-speaking respondents, 88 percent travel by personal vehicle and 4 percent rely on public transportation (n=619). And among Spanish-speaking respondents, 68 percent use a personal vehicle, 17 percent rely on carpool and shared rides, 6 percent rely on walking, and 7 percent rely on public transportation (n=493).

"A good network of bus service is very much needed for the older population who can't drive or have limited skills to drive." (farmworker in Fresno County engaged by Familias Empoderadas del Valle Central)

The youth population in Madera reported feeling frustrated at the public transportation system and many consider it unreliable. The students mentioned that access to reliable transportation could improve attendance by making their commutes easier.

According to an interview from the Jakara Movement, language is a barrier towards accessing public transportation and that translated, accessible route maps are needed to better serve the Punjabi community

"Punjabi has a different script. We can't understand what route the bus will take due to limitations." (respondent in Fresno County engaged by Jakara Movement)

Improvements to current transportation infrastructure, like enhancing road maintenance and repairs, would also benefit residents.

Over 390 residents (23 percent) surveyed from Fresno and Tulare counties shared a desire to enhance road maintenance and repairs, making it the second highest priority for infrastructure in the region.

Beyond enhancing road repairs, residents in Tulare/Kings county want to see safer road designs (e.g. the implementation of left turn lanes), and improved street lighting so that pedestrians, cyclists, and drivers feel more comfortable on the road.

Some residents would like to expand alternative transportation methods by increasing cycling and pedestrian lanes and encouraging carpooling/ridesharing programs across the region.

Residents throughout the region expressed interest in the expansion of cycling lanes and pedestrian lanes to increase the walkability of their communities. Additionally, about 200 people (11 percent of total respondents) in Fresno and Tulare counties thought that ridesharing/carpooling programs could positively impact the future of transportation in the region and improve their air quality through a reduction in emissions. Respondents in Tulare County noted that the high cost of gas is a serious concern for farmworkers who have to drive throughout the region for work.

Digital Access

Due to cost and availability of services, digital access is an issue for many throughout the region.

When Fresno County residents were asked if they had access to reliable broadband, 35 percent (n=535) responded "No". In Madera, 15 percent of English-speaking respondents (n=619) and 33 percent of Spanish-speaking respondents (n=493) lack access to reliable broadband. Respondents cited cost or unavailable service as barriers towards accessing broadband. A lack of internet access can exacerbate inequalities in employment and educational opportunities.

RESIDENTIAL WELLBEING

Residents across the region note that low wages and inflation have produced considerable financial stress, especially related to basic needs like housing, utilities, and food. Healthcare access is also an issue for many in the region, especially for rural communities and for those who need access to specialties like pediatric and mental healthcare.

Financial Stability

Housing costs, monthly utility bills, and food are the top three financial stressors emphasized by respondents in the region.

Across Fresno and Tulare counties, housing costs were the largest financial stressor. Twenty-two percent of Fresno County respondents (n=2074) and 27 percent of respondents (n=399) in Tulare County selected housing as a top stressor. Monthly utility bills and food costs ranked second and third, respectively, on the list of financial stressors.

“Constant hikes in rents and inflation have led to financial distress in many households. There has been a lot of stress and no options of affordable housing available in the area or at least we don't have resources available for affordable housing in Punjabi. Constant visits to the hospital and no proper public transportation has led to a lot of chaos in our lives and we could barely make ends meet.” (respondent in Fresno County engaged by Jakara Movement)

Respondents cite that household income is not keeping up with inflation, making it harder to afford everyday necessities.

Respondents across counties also noted that household income was not keeping pace with inflation and increased cost of living. Everyday expenses, such as rent and food, are increasing while wages remain stagnant, forcing residents to make decisions to sacrifice basic necessities.

“Inflation is too high after COVID. Our work hours have drastically reduced and work conditions have worsened...As a single income home with a family of two, my family is struggling to keep up with the basic necessities [like] increasing rent, groceries and health and car insurance.” (respondent in Fresno County engaged by Jakara Movement)

A very high number of respondents reported feeling very uncomfortable with their financial situation month-to-month.

When asked about their financial stability, 21 percent of respondents in Fresno County (n=538) reported feeling “very uncomfortable”, followed by 39 percent reporting “uncomfortable”. When disaggregating by Fresno County surveys, 1 in 3 respondents who answered the Familias Empoderadas del Valle Central survey, and 1 in 2 respondents who answered the Southeast Asian Economic Development Coalition survey felt “very uncomfortable” with their financial situations. Within Madera County, 11 percent of Spanish-speakers (n=493), and 5 percent of Tulare County survey respondents (n=195) felt “very uncomfortable” with their financial security, respectively. The Tulare Kings Hispanic Chamber of Commerce noted that the response rate for the financial stability survey question was low compared to others, perhaps indicated people were not comfortable stating they

were unsatisfied. The high rates of financial insecurity reflect the stress that residents feel as they face higher rents, food prices, and utilities rates.

Public Health

Access to quality, affordable healthcare is a major issue across counties.

In Fresno County, 42 percent of respondents reported having easy access to healthcare, 49 percent of respondents have healthcare, but face barriers to access, while 8 percent do not have healthcare (n=492). About half of all respondents (n=549) have healthcare through the state rather than their employers. In a regional survey conducted by Centro de Unidad Popular Benito Juarez, respondents recalled not seeking medical attention due to their legal status, out of fear of being deported if revealed, putting their wellbeing at risk.

Across both surveys conducted in Madera County, respondents highlighted the negative impact the recent hospital closure has had on their access to healthcare. Limited facilities, spread across the region, further highlight the need for reliable, quality public transportation. From a focus group facilitated by the Tulare Kings Hispanic Chamber of Commerce, respondents noted a lack of pediatric and mental health services.

CLIMATE AND ENVIRONMENT

In addition to the threat climate change poses to jobs in the agriculture industry and the health risks workers face from toxic exposure to pesticides (*detailed in the Workforce and Industries section*), respondents across the region indicate that their day-to-day lives are impacted by pollution and extreme weather events. Respondents also express a need for greater public sector investment in recovery efforts (as a result of floods, extreme heat, etc.) and increased funding for equitable access to safe green space.

Environmental Health

The largest regional environmental concerns are air pollution and water pollution.

In Fresno County, air pollution was ranked slightly higher with 54 percent of respondents, 234 people, citing it as a concern while 39 percent, 168 people, cited water (n=432). In Tulare County, 47 percent of respondents, 148 people, were concerned about air pollution and 30 percent, 94 people, cited water pollution (n=318).

According to a focus group with the youth population, conducted by the Tulare Kings Hispanic Chamber of Commerce, 93 percent of high school students surveyed (n=30) noted air pollution as a top concern.

In a regional survey conducted by Centro de Unidad Popular Benito Juarez, 80 percent of respondents (n=700) are worried about climate change and its impacts. Respondents who are farmworkers noted that their work has already been impacted by the effects of climate change as seen through an increase in droughts, and low produce production.

Although many respondents recognize the urgency of climate change, some participants in the regional survey want to see more education surrounding adaptation and resiliency measures to empower communities with knowledge so that they can take action to mitigate climate change.

Respondents share that poor air quality contributes to unsafe working conditions for farmworkers in the region.

A common thread throughout the surveys was the negative impact of poor air quality on farmworkers in the region. Farmworkers in Tulare County pointed out that the dust generated by the large volume of fruit orchards in the area contributes to poor air quality. A salient quote from a farmworker summarizes the impact of air pollution on their work stating,

“Air pollution is so much that I could barely breathe sometimes. I feel that air pollution is more than water pollution. Water pollution is still manageable as we can get clean water from the stores while clean air is more important for us to breathe. I see so less trees and green spaces around my zip code.” (respondent in Fresno County engaged by Jakara Movement)

Informed by focus groups conducted by the Tulare Kings Hispanic Chamber of Commerce, students are well aware of the threat of poor air quality in their region and attribute the pollution to automobiles and the transportation/ manufacturing industries.

Climate Investments

Extreme weather events (drought, wildfires, heat, floods) were perceived as large threats; communities expressed need for governmental support as disasters increase in frequency and severity.

Within the agricultural industry, farmworkers are worried that extreme droughts will limit their work opportunities and their access to water. The increase in disasters has decreased the wellbeing of residents in the region. In Fresno County, many have issues breathing and face constant lung congestion during wildfire events and pollen season. Respondents in the Regional survey noted the need for better governmental support programs when natural disasters occur.

Participants in a regional survey (n=700) are concerned that the counties are not adequately preparing residents for extreme events. Some worry that language barriers will hinder the dissemination of disaster preparation alerts and evacuation measures across the community prior to an event occurring.

Across counties, respondents want increased access to safe green space and improved environmental health.

Residents in Fresno County imagine a future that includes well-maintained parks and green spaces in their communities. One parent mentioned emphasized this point when asked about what they want to see in the future stating,

“[I want] a healthy environment (good air, safe), good and safe parks to play (actual green grass so kids can run and play), a good and successful future and good health (no valley induced diagnosis [like] asthma).” (respondent in Fresno County engaged by Southeast Asian Economic Development Coalition)

NEXT STEPS

Summaries from all CBOs (as well as this cross-county synthesis) will be shared with HRTCs to inform the regional S2J2 planning process and shared with research partners at the Urban Institute to guide recommendations. The key findings from this community engagement effort can be useful throughout S2J2 planning and programmatic development. The HRTCs can use community engaged data to add additional context to baseline findings, ground truth assumptions in lived experience, strengthen the case for advancing specific programs and policies, and to help ensure investments are targeted to reach the communities who need them most.

Appendix A. Methods and Limitations

Methods

Community Based Organizations (CBOs) had full autonomy over how to design their data collection process. Choices ranged from surveying, leading focus groups, and/or conducting interviews. The most popular method among CBOs was surveying, which allows for efficient data collection over a short period of time. Across the ten CBOs, seven chose to survey their communities. Focus groups were the second most common method, with four CBOs (Tulare Kings Hispanic Chamber of Commerce, Youth Leadership Institute, Madera Coalition for Community Justice, and Familias Empoderadas del Valle Central) choosing to facilitate multiple focus groups in their community. Only one CBO (Familias Empoderadas del Valle Central) chose to conduct interviews.

Grantees sought to elevate perspectives from communities that have been historically excluded from planning processes in the region and populations whose experiences are not often captured through broader data collection efforts. The following table overviews the target populations for each CBO's data collection:

Organization	Communities engaged
Central Valley Workers Center (Tulare/Kings Counties)	Low-income communities, rural communities
Tulare Kings Hispanic Chamber of Commerce (Tulare/Kings Counties)	Hispanic/Latino communities
Youth Leadership Institute (Madera County)	High-school aged youth
Madera Coalition for Community Justice (Madera County)	Immigrants, Hispanic/Latino communities, middle-aged parents, high-school aged youth, senior citizens, business owners
Community Action Partnership of Madera County, Inc	Low-income communities, senior citizens, food service industry workers, farmerworkers
Familias Empoderadas del Valle Central (Fresno County)	Mixteco community and Latino immigrant communities of Mexico and Central America
Jakara Movement (Fresno County)	Punjabi community, Hispanic/Latino communities, young adults (age 18-25), workers in trucking industry, workers in meat packing industry, workers in restaurant industry
Southeast Asian Economic Development Coalition/ Fresno Center (Fresno County)	Cambodian community, Chinese community, Hmong community, Lao community, other Southeast Asian communities, farmworkers

Centro de Unidad Popular Benito Juárez (regional)	Indigenous communities including San Pablo Tijaltepec, San Juan Mixtepec, Ixcantepec Nieves, San Agustin Atenango, San Juan Copala, Rancho Alfaro, Ejutla de Crespo across Fresno, Kings, Madera, and Tulare counties
Binational of Central California (regional)	Rural communities, Hispanic/Latino communities, low-income communities, indigenous communities, farmworkers

After data collection was complete, the CBOs lead an initial analysis of their data. The Urban Institute developed a reporting template that they shared with CBOs to support them through their data analysis process. Within the reporting template, CBOs summarized their target populations, demographics of their survey respondents/participants, key findings, and noted any limitations they faced. After CBOs completed their individual data analysis, they submitted their reports to the Urban Institute team. Due to the standardized reporting template, the Urban team was able to conduct a cross analysis of the substantial data collection efforts across all CBOs in the region. The Urban team produced a high-level summary of key findings in hopes of lifting up issues that are of high priority across community residents.

Limitations

Throughout the data collection and analysis process, CBOs reported many challenges and limitations. One common challenge CBOs cited in the data collection process was pressure around time. Many CBOs felt like their data collection was incomplete because they ran out of time to capture the voices of their target population. Under one instance, a CBO noted that they weren't able to solicit the concerns of the rural community because of the time that it took to travel to gather the data. The limitation of time was also brought up frequently by respondents taking the survey; many respondents felt like the surveys were too long and were reluctant to share their time without being adequately compensated. This led to survey questions being left unanswered or skipped.

Miscommunication was another challenge that arose for CBOs. A couple of CBOs felt that survey respondents didn't fully understand what the question was asking, potentially do to the language barriers or the way the questions were worded. Due to this miscommunication, the answers reflected in the survey could be misleading if they were misinterpreted by the respondent.

A lack of trust and security may have impacted how respondents answered the survey questions. Even though the CBOs work hard to establish trust and community membership, the survey questions still touch on vulnerable subjects such as financial stability and health, which may have deterred individuals from answering or could have led to false reporting. Additionally, a few CBOs mentioned people who are undocumented refused to take the survey in fear that it would negatively impact them. Finally, although CBOs continued to canvass throughout extreme weather events such as heavy flooding and wind, their engagement rate likely declined as community members chose to stay inside on those days.

Appendix B. Demographic Data

Together, the community-based organizations (CBOs) and the Urban Institute developed a standard demographic survey to help inform whether the participants that provided input are representative of the diverse communities that CBOs serve. Once finalized, the demographics survey was incorporated into all CBO engagement efforts and completed by every respondent to ensure that demographic cross-analysis could be conducted throughout the region. Below is a table of the total Central San Joaquin Valley community engagement demographic info.

Category	Madera #	Madera %	Fresno #	Fresno %	Tulare Kings #	Tulare Kings %	Region #	Region %	Total #	Total %
Gender										
Woman	1026	74.1%	327	60.3%	137	68.0%	852	55.4%	2342	64.0%
Man	345	24.9%	207	38.2%	61	30.0%	668	43.5%	1281	35.0%
Non-binary	10	0.7%	4	0.6%	2	1.0%	17	1.10%	33	0.90%
Other	3	0.2%	1	0.2%	0	0.0%	0	0.0%	4	0.11%
Race										
American Indian or Alaska Native	22	2.5%	0	0.0%	3	1.5%	394	25.6%	419	13.3%
Asian	19	2.1%	371	68.5%	3	1.5%	15	.98%	408	13.0%
Latino/a/x	467	52.2%	129	23.8%	99	49.5%	1018	66.2%	1713	54.4%
Black	32	3.6%	4	0.7%	0	0.0%	19	1.2%	55	1.70%
White	278	31.1%	10	1.8%	65	32.5%	64	4.2%	417	13.2
Middle Eastern or North African	4	0.4%	4	0.7%	0	0.0%	27	1.8%	35	1.10%
Other	72	8.1%	0	0.0%	30	15.0%	0	0.0%	102	3.20%
Tenure										
Less than 1 year	56	5.0%	33	6.1%	4	2.0%	88	5.7%	181	5.40%
1-5 years	265	23.8%	137	25.3%	30	15.0%	239	15.5%	671	19.9%

5-10 years	219	19.7%	142	26.2%	44	22.0%	590	38.4%	995	29.5%
More than 10 years	572	51.4%	228	42.1%	110	55.0%	620	40.3%	1530	45.3%
Education Level										
Elementary school to 8th grade	224	21.3%	79	14.6%	42	21.0%	575	40.5%	920	28.8%
Some high school, no diploma	129	12.3%	62	11.5%	22	11.0%	430	30.3%	643	20.1%
High school graduate, diploma or the equivalent (e.g., GED)	226	21.5%	114	21.1%	58	29.0%	197	13.9	595	18.6%
Some college credit, no degree	156	14.8%	51	9.4%	28	14.0%	116	8.18	351	11.0%
Trade/technical/vocational training	41	3.9%	21	3.9%	9	4.5%	48	3.38	119	3.72%
Associate's degree	89	8.5%	29	5.4%	16	8.0%	20	1.41	154	4.81%
Bachelor's degree	131	12.5%	94	17.4%	10	5.0%	25	1.76	260	8.13%
Master's degree	44	4.2%	25	4.6%	4	2.0%	2	0.14%	75	2.34%
Professional degree	7	0.7%	8	1.5%	1	0.5%	0	0.0%	16	0.50%
Doctorate degree	5	0.5%	6	1.1%	0	0.0%	0	0.0%	11	0.34%
No formal education	0	0.0%	44	8.1%	0	0.0%	6	0.42%	50	1.56%
Other	0	0.0%	6	1.1%	0	0.0%	0	0.0%	6	0.19%
Age										
17 or younger	17	1.5%	6	1.1%	13	6.5%	27	1.76%	63	1.86%
18-24	67	6.0%	48	8.9%	15	7.5%	146	9.50%	276	8.16%
25-34	263	23.7%	115	21.3%	50	25.0%	337	21.9%	765	22.6%

35-44	277	24.9%	156	28.8%	52	26.0%	418	27.2%	903	26.7%
45-54	205	18.4%	109	20.1%	27	13.5%	305	19.8%	646	19.1%
55-64	148	13.3%	70	12.9%	22	11.0%	170	11.1%	410	12.1%
65 or older	135	12.1%	37	6.8%	14	7.0%	134	8.72%	320	9.46%
Total Respondents	1,919		542		200		1,537		4,198	



Appendix 5

Spring Sprint Workgroup Participants



Spring Sprint Workgroup Participants*

Access Plus Capital
Acrisure
Allensworth CDC
America Achieves
Another Level Training Academy
ArkSpring Consulting
Armelo's Resourceful Project 501c3
Bienestar Community Economics
Bioenergy Assoc. of CA
Black Wellness & Prosperity Center
CA Community Colleges (West Hills in Lemoore)
CA Depart of Conservation
CA Fresh Fruit Association
CA Natural Resources Agency
Cal Viva
California Emerging Technology Fund
California Environmental Voters
California Farmworker Foundation
California Forward
Caltrans
Camarena Health
CAMEO
California Air Resources Board
Career Nexus
Career Technical Education (CTE) and Regional Occupational Programs (ROP)
Clean Air Task Force
Center for Community Transformation
Central California Public Health Consortium
Central San Joaquin Valley K16 Collaborative
Central Valley Community Foundation
Central Valley Empowerment Alliance
Central Valley Health Policy Institute
Central Valley Immigrant Integration Collaborative
Central Valley Industrial Areas Foundation
Central Valley Mother Lode Regional Consortium
Central Valley Opportunity Center

Central Valley Partnership
Central Valley Scholars
Centro La Familia
Centro Unidad Popular Benito Juárez
City of Madera
City of Porterville
City of Selma
City of Visalia
Clean Power Alliance
Clovis Adult Education
Clovis Community College
Coalinga College
College of the Sequoias (COS)
Comcast
Comm College Consortium
Communication Workers of America
Community Action Partnership of Madera County
Community Alliance with Family Farmers (CAFF)
Community Relations with Wells Fargo
Community Services Employment Training (CSET)
County of Tulare
County Office of Ed: Kings
Cradle to Career Fresno County
Craig School of Business
Cultural Brokers, BWPC
Department of Water Resources
Dimension Energy
EMobility Advisors
Environmental Defense Fund
Familias Empoderadas del Valle Central
Firebaugh-Las Deltas Unified School District
Fresno American Indian Health Project
Fresno Area Hispanic Foundation
Fresno BIPOC Produce Inc.
Fresno Center
Fresno Coalition for Digital Inclusion (FCDI)

Fresno Community College
Fresno Community Health Improvement Partnership
Fresno Council of Governments
Fresno County
Fresno County Economic Development Corporation
Fresno County Superintendent of Schools Deputy Superintendent
Fresno DRIVE
Fresno Economic Opportunities Center
Fresno Indian American Health Projects
Fresno Interdenominational Refugee Ministries
Fresno Madera K-16
Fresno Metro Black Chamber of Commerce
Fresno Native American & Business Development Center
Fresno Regional Workforce Development Board
Fresno State
Fresno State Office of Community and Economic Development
Fresno Unified School District
Fresno Workforce Development Board
Fresno-Madera K- 16 Collaborative
Fresno/Madera/Kings/Tulare Center Labor Council
Golden State Net
Greater Madera County Manufacturing Association
H2B2
Hatch
HealthForce
Highway City Community Devel.
Highway City Community Development, Inc
Hmong Business Incubator Center
Hotel Management
Impossible Services Group, Inc.
Industrial Area Foundation
IT-ProsTech
Jakara Movement
Junior Achievement
K-12 + College Pathway Coordinator
K-16
Kaweah Equipment Company

Kings County
Kings Partnership for Prevention, Inc
Kings River Conservancy
Kings River Conservation District
Kingsburg Truck Center
Latino Famers & Ranchers International
Leadership Council
Los Promotores Comunitarios
Madera Community College
Madera County
Madera county arts council
Madera County Department of Public Health
Madera County Superintendent of Schools
Madera County Transportation Commission
Madera County Workforce Investment Corporation
MADERA RESCUE MISSION
Madera Unified School District
Madera Workforce Investment Board
Mediator Mentors Program at Fresno State
Milk Producers Council
Office of Senator Caballero
OK Produce
Olympus Consulting
Parent Institute for Quality Education (PIQE)
Parent University
Parlier Chamber
Connect the Valley
Porterville Adult School
Porterville Community College
Promotoras con Alma
Proteus Inc
Provost & Pritchard Engineering
Reconnecting Communities Institute
Regenerate California Innovation Inc.
RISE
River Partners
RKE Tierra Consulting
Roberts Enterprise Development Fund (REDF)
Root & Rebound

Rural Development Centers
San Joaquin River Parkway and Conservation Trust
San Joaquin Valley Air Pollution Control District
San Joaquin Valley Manufacturing Alliance
San Joaquin Valley Water Collaborative Action Program (SJV Water CAP)
Sanger Adult School
Self-help enterprises
Sequoia Adult Education Consortium Leadership Committee
Sequoia Riverland Trust
Sequoias Adult Education Consortium
Sierra Foothill Conservancy
Sierra Health Foundation
Sierra Resource Conservation District
Small Business Majority
SoCalGas
South Valley Industrial Collaborative
State Center Adult Ed Consortia
State Center Adult Education Consortium
State Center Community college district
State Center Community College District - Clovis Community College
State Center Community College District - Reedley College
StellaVersed Consulting Firm LLC
TCM GO PUBLIC SCHOOL
The Fresno Center
The LEAP Institute
Tierra Consulting LLC
Tranquility Resource Conservation District
Tree Fresno
Tulare Adult School
Tulare Chamber
Tulare County
Tulare County Association of Governments
Tulare County Economic Development Corporation
Tulare County Health and Human Services & Public Health
Tulare County Office of Education
Tulare County Workforce Investment Board

Tule Basin Land & Water Conservation Trust
UC Agriculture and Natural Resources
UC Cooperative Extension
Undaunted K12
United Way Fresno and Madera / FCDI
University of California Agriculture & Natural Resources
US Green Building Council Central California
US Small Business Administration (SBA)
Valley Children's
Visalia Adult School
Visalia Economic Development Corporation
Water Wise
West Hills College
Western Electrical Contractors Association
Westland's Water District
Westside Family Preservation Services Network
Wheels & Associates
Yo Soy Media Inc
Yosemite Sequoia RC/DC
Youth Leadership Institute

*Participation does not imply endorsement



Appendix 6

Sprint Sprint Research and Support Partners



Spring Sprint

Research and Support Partners

Access Plus Capital
ASIAN, Inc
Bienestar Community Economics
BLACK Wellness & Prosperity Center
California Natural Resources Agency, Department of Conservation, Department of Water Resources
California Office of Small Business Advocate (CALOSBA)
Central California Environmental Justice Network
Central California Public Health Consortium at Fresno State
Central Valley Health Policy Institute at Fresno State
Cradle to Career, Fresno County
Dr. Venise Curry
Dr. Negin Tahvildary
Fresno Community Health Improvement Partnership
Fresno County Superintendent of Schools
Fresno Area Hispanic Foundation (Confia)
Fresno-Madera K-16 Collaborative
Fresno Black Chamber of Commerce
Fresno Coalition for Digital Inclusion
Fresno Council of Governments
Fresno Economic Development Corporation
Fresno State Office of Community and Economic Development
Hmong Business Incubator Center
HR&A
Industrial Areas Foundation
Jakara Movement

Lawrence Berkeley National Laboratory – Community Alliance for Direct Air Capture (CALDAC)
Lawrence Livermore National Laboratory, Road to Removal
Madera County Workforce Investment Corporation
Brady Matoian, CEO, OK Produce
McKinsey & Company
Rebecca Burgess
Roman Raintree
San Joaquin Valley Manufacturing Alliance
San Joaquin Valley Water Collaborative Action Program
Sequoia Riverlands Trust
Sequoia’s Adult Education Consortium
Sierra Resource Conservation District
Small Business Majority
State Center Adult Education Consortium
State Center Community College District
The RAND Corporation
The LEAP Institute
The RAND Corporation
Tulare County of Education Foundation
Tulare-Kings Counties College & Career Collaborative
Workforce Investment Board of Tulare County
United Way of Fresno and Madera Counties
Urban Institute
VINE Institute
Visalia Unified School District
Wheeles & Associates



Appendix 7

Summary Analysis of Regional Workgroup
Submissions in Advance of the
Regional Plan Part 2 Submission

Analysis of Regional Workgroup Submissions in Advance of the Regional Plan Part 2 Submission

Prepared by Sara McTarnaghan, Catherine Harvey, Samantha Fu, Rebecca Marx, and Gabi Velasco | Urban Institute

August 5, 2024

In order to support the development of the Sierra San Joaquin Jobs (S2J2) Regional Plan Part 2 for submission to the State of California under the CA Jobs First program, the Central Valley Community Foundation requested that the Urban Institute review the plans and strategies submitted by the Regional Workgroups in July 2024.

In part two of our analysis, we analyzed how the individual strategies identified within each Regional Workgroup's Investment Plan address the three desired outcomes of the CA Jobs First program: equity, climate action, and economic competitiveness and resilience.

In this memo, we look across all Regional Workgroup Investment Plan submissions to identify areas of complementarities, next steps and areas for improvement, and potential conflicts for consideration by the Regional Table as it prepares to submit the Regional Plan Part 2 to the State.

Strengths and Complementarities

- **Investment Plans are clearly grounded within the local context.** Authors effectively described the need and opportunity for their strategies, including identifying regional assets that can be leveraged, analyzing local market signals, and describing innovation ecosystems. Evidence from earlier phases of the S2J2 planning period, including the baseline assessment and community engaged data-collection, was generally well-integrated to demonstrate this context.
- **Cross-references are explicitly identified between plans.** Even though the RSTs were tasked with developing the plans simultaneously during the 8-week sprint, the teams effectively identified areas of overlap and connection between the plans. Most, but not all, of the industry specific plans relied on the Education and Skill Building plan to detail their approach to workforce development. In turn, the Education and Skill Building plan highlighted all strategies from other plans that aligned with its goal. Similarly, most plans embraced the ethos of the Community Benefits Framework and relied on that approach to articulate equity benefits to communities. Moving towards implementation, S2J2 should build on this strong foundation with more industry-specific applications of the cross-cutting plans.
- **In-depth stocktaking of partners and existing initiatives.** In addition to being well-grounded in data and evidence from the planning phase, the RST's Investment Plans strategically recognize that this work is connected to other ongoing efforts in the region. Most plans clearly identify potential partners and specify desired roles as well as situate their interventions in the context of existing initiatives.
- **Strong initial articulation of implementation approaches.** The RST's Investment Plans included implementation details well beyond what was required in the State's guidance for the Regional Plan Part 2. In particular, the stakeholder mapping and assessment of potential risks was thoughtfully developed across most plans. Responsible Food Systems, Education and Skill Building, and Community-Based Health Care Workforce all stood out for the detail in the proposed activities and timeline. (One exception to this observation is the lack of detailed cost estimates across many Investment Plans). Now that all plans are developed, the S2J2 coalition can consider overall timing and interdependencies across plans to develop an overarching implementation strategy.

- **Multiple strategies identify similar approaches which could be better coordinated, including innovation hubs, peer learning networks and four-county collaborative bodies.** For example, innovation hubs are included in both the Responsible Food System and Clean Energy Investment Plans while peer learning appears in Responsible Food Systems and Small Business/Microenterprise. S2J2 can consider whether centralized resources and/or a singular coordinating body could serve the needs of multiple strategies or if the technical scope and likely partners require a differentiated approach.

Next Steps and Areas for Improvement

- **Looking holistically across Investment Strategies, there is a stronger focus on economic diversification and resilience and climate action over equity.** While many of the strategies look to the Education and Skill Building and Community Benefits Framework to deliver equity benefits, the Investment Plans would benefit from more specific strategies by topic and greater specificity around targeted subgroups to ensure these benefits are delivered. Further, due to possible resistance to and challenges implementing the Community Benefits Framework, a more diversified strategy for delivering benefits to disinvested communities would help strengthen the Regional Plan.
- **More attention needed to centering disinvested communities in alignment with the equity goals of S2J2.** The equity domain received lower assessment ratings across Investment Plans, on average, in our analysis. Many plans failed to address both the procedural and distributional elements of equity to ensure that disinvested communities were engaged in strategy development and stand to benefit directly and indirectly from its implementation. In many cases, strategies discussed benefits to community members broadly, but did not specify who the disinvested communities were nor how they would be targeted. In other cases, there was a commitment to these populations, but the details of how they would be reached remained vague. S2J2 could refer back to the definition of disinvested from the baseline assessment and decide whether there is a singular analysis of disinvested across Investment Plans, or whether each plan requires its own analysis. The ZEV Transition Plan stands out as a reference for specifying disinvested communities.
- **Consider distribution of harms as well as benefits.** Very few plans engaged with how the implementation activities could cause harm in communities, but the Community Benefits Framework does establish a goal of incorporating potential harms into its future assessment procedures. Given the scale of regional investment anticipated, RSTs are encouraged to consider potential harms such as pollution, job displacement, etc. and factor that into the plan's equity and community benefits analysis.
- **More analysis needed related to strategy implications for job quality and access, moving beyond assumption that job creation = quality job creation.** Similar to the equity domain, there were some common gaps within the RST Investment Plans under 'job quality and access' as it relates to defining the specific elements of family sustaining jobs for the sector and describing how the strategy would support workers potentially impacted by at-risk industries and prevent displacement of incumbent workers. While some plans included detailed projections of workforce trends, further disaggregation by race, ethnicity, and income would help make connections between job quality and equity.
- **Further specificity needed for climate benefits.** Many of the climate strategies help position the region to contribute to State and Federal climate goals; for example, through supporting fleet transition to EVs, production of clean energy that would exceed energy use demands in the region, and exploring carbon capture. However, across these strategies climate impacts are often implicit and expected to be positive. Most of the strategies do not describe how they will limit the impacts of economic development on the environment, per the State requirement. Further,

stronger connections could be made between how the strategies could build resilience to climate shocks and improve air and water quality locally, with benefits to public health outcomes, especially in disinvested communities. S2J2 could consider building on some missed opportunities for co-benefits to strengthen the focus on these elements across the strategies. For example, the Broadband Investment Plan could emphasize climate resilience-building elements such as protecting broadband infrastructure and implementing emergency coordination plans that hinge on broadband access.

- **Consistent integration of quantitative outcomes and targets.** Some, but not all, investment plans include quantitative target outcomes such as jobs created, number of graduates, health care savings, CO2 diverted, etc. The Responsible Food Systems Investment Plan serves as a strong reference point for effective identification of outcomes. Other RSTs could consider identifying relevant outcomes and establishing targets to support monitoring, evaluation and community accountability.
- **Demonstrating state policy alignment beyond grant programs.** Nearly all of the RSTs signaled how the investment strategy is aligned with State-level policies or programs, however, most did this through identifying programmatic sources of funding. RSTs could build on this analysis by making broader connections to State-level policies and goals to demonstrate alignment and policy support. The S2J2 coalition should explore this bi-directionally: how might state policy and priorities advance local implementation? How could local implementation advance state priorities and goals? In particular, S2J2 should consider alignment with the four policies that the State identifies in its Regional Plan Part 2 guidance.

Potential Conflicts

- Recommendations to streamline permitting (e.g. Circular Manufacturing plan) may conflict with Community Benefits Framework (“end government exemption of certain projects from CEQA/NEPA processes”).
- Nature-based Solutions frames its community engagement and local hire recommendations as optional and primarily for the purposes of risk management (“to mitigate litigation risk”). This is in conflict with the spirit of the principles themselves and the more enforceable terms in the Community Benefit Framework. NBS is an outlier in this regard.
- Conflicts between the climate solutions and responsible food systems plans may emerge through implementation. For example, one strategy under climate solutions calls for an increase use of organic materials for biofuels, but does not include safeguards around how to not incentivize monoculture crop development to meet this demand.
- Many of the strategies make implicit assumptions that local governments within the region will align around policy and regulatory changes required, however, there is not currently a mechanism to coordinate with regional and state stakeholders to decrease barriers to meet the S2J2 vision. The Community Benefits Framework offers a Joint Powers Agreement approach, but the coalition is encouraged to think of strategies for dealing with potential legal challenges and resistance to such coordination and explore models from other regions where this has been successfully implemented.
- Across Investment Plans there is limited evidence of existing industry partnerships or plans to engage directly with industry, although industry is named in some plans as necessary implementation partners. This was most common in the workforce development strategies, with an emphasis on aligning workforce offerings to industry needs. The Clean Energy plan offers a reference for other RSTs by going beyond generic categories of “private sector” and naming specific partners. However, several of the strategies including standards around family sustaining jobs may be met with resistance by industry partners, which should be addressed in more depth. The Responsible Food Systems plan makes a nod to this but is encouraged to explore further.



Appendix 8

Summary of Strategies and Assessment
of Alignment with CA Jobs First

Analysis of Regional Workgroup submissions in advance of the Regional Plan Part 2 Submission

Prepared by Sara McTarnaghan, Catherine Harvey, Samantha Fu, Rebecca Marx, and Gabi Velasco | Urban Institute

August 2, 2024

In order to support the development of the Sierra San Joaquin Jobs (S2J2) Regional Plan Part 2 for submission to the State of California under the CA Jobs First program, the Central Valley Community Foundation requested that the Urban Institute review the plans and strategies submitted by the Regional Workgroups in July 2024. We analyze how the strategies identified within the Regional Workgroups' Investment Plans address the three outcomes expected of the CA Jobs First program: equity, climate action, and economic competitiveness resilience.

We draw the definitions of these concepts from the CA Jobs First state-wide program guidance (in the original Notice of Funding Opportunity and the April 2024 guidance for Plan Part 2). **Equity** is defined through both procedural and distributional dimensions, specifically that strategies should: 1) engage historically marginalized and disinvested groups in planning process and proposed interventions and 2) ensure indirect and/or direct community benefits, particularly to disinvested communities. While not formally included in the State's definition, we also encourage the coalition to consider the distribution of *harms*. **Climate action** has three elements: 1) "limit the impacts of economic development activities on the natural environment" which we interpret to include both GHG emissions and other forms of pollutants; second, improve resilience and "mitigate the effects of anticipated climate impacts"; and finally, "address public health needs" such as environmental pollutants, with a special emphasis on disinvested communities within the region. **Economic competitiveness and resilience** similarly has three dimensions to: 1) avoid, withstand, and recover from economic shocks, 2) compete effectively in the global economy, and 3) deliver prosperity to communities in the region through family sustaining jobs.

Each Regional Workgroup's Investment Plan is organized under the Regional Strategies category it will appear under in Regional Plan Part 2 submission: target sector strategy or "industry cluster ([Table 1a](#)), sector neutral strategy or "Essential Infrastructure" ([Table 1b](#)) or additional regional and community development strategies or "community Investments" ([Table 1c](#)). For each topic, we summarize the overarching goal of the Investment Plan in the light blue row. The overall assessment row summarizes how effectively equity, climate action, and economic competitiveness and resilience, as defined above, are addressed by the Investment Plan. Below, we include one row for each of the primary strategies included under the Investment Plan. For each strategy, we assess the three domains as 'strong', 'partial' or 'absent' based on the degree to which the strategy covers the domain. Then, in the right-hand column we provide a narrative assessment and highlight opportunities to strengthen integration of one or more of the three domains. We note, however, that in some cases it may not be necessary/possible for an individual strategy to cover all three outcomes, as long as the overall Investment Plan advances those goals. As the coalition moves towards implementation priorities, it should pay attention to timing and complementarities between strategies to ensure that one of the three pillars is not significantly under resourced.

Summary of Strategies and Assessment of Alignment with CA Jobs First Goals of Equity, Climate Change and Economic Resilience:

1a. Target Sector Strategies – “Industry Clusters”

Strategy	Equity	Climate Change	Economic Resilience	Overall Assessment
Climate Solutions	Four specific Investment Plans are included under the Climate Solutions: Clean Energy, ZEV Transition, Nature Based Solutions, and Carbon Capture. Each Investment Plan is assessed independently.			
Clean Energy	The S2I2 region has a desired portfolio for clean energy buildout via utility-scale production of bioenergy, lithium batteries, and solar electricity that is 1.5 times its need, plus a similarly proportioned production of low-carbon fuels such as hydrogen, biomethane and sustainable aviation fuel. The investment strategies in Clean Energy aim to ensure the economic benefits of the deployment of renewable, low-carbon and clean energy also accrue benefits to the communities where they are generated. These strategies are projected to create 73k new jobs, avoid 128M metric tons of CO2 equivalent, and add 29GW of new clean energy capacity.			
<i>Overall assessment</i>	The conceptual linkages between the proposed investments and the Equity, Climate, and Economic goals could be made more concrete with specific examples of opportunities and analogous efforts in other communities. While it is appropriate for the Clean Energy plan to rely heavily on the Education and Skill Building Investment plan and the Community Benefits Framework, these cross-cutting plans will be easier to apply with a better understanding of how Clean Energy may be deployed in the region.			
Strategy A. Build on skilled workforce capabilities to meet the needs of clean energy and fuels development	Strong	Strong	N/A	The rationale is based on evidence from a community engagement survey, and occupation projections for clean energy industries. Analysis of the economic resilience domain is covered in the Education and Skill Building Investment Plan.
Strategy B. Maximize economic and educational community benefits from clean energy deployment	N/A	Strong	Partial	Additional specifics are needed about the types of economic and climate benefits that the region's communities should be optimizing for. Analysis of equity is covered in the Community Benefits Framework.
Strategy C. Build a clean energy economic development ecosystem to attract and incentivize businesses and clean energy investments	Partial	Partial	Strong	There is a clear unified strategy to attract businesses along the clean energy value chain to the region, which could create jobs and improve economic resilience and competitiveness in the region. The proposal could elaborate on how this plan for clean energy deployment will limit harm to the natural environment and engage historically marginalized groups in its both the planning and implementation phases.
Strategy D. Drive development of the region as an innovation hub for clean energy	Absent	Strong	Partial	These strategies aim to document the competitive advantages and opportunities for clean energy production in the region, explore their feasibility, and invest in innovation. Historically disinvested communities could be involved in this process, and the initial opportunity scan could evaluate the potential for good job creation.
Strategy E. Establish regional coordination to overcome infrastructure and regulatory challenges to clean energy and fuels deployment	Strong	Strong	Partial	While this strategy offers multiple collaborative efforts that could help meet the region's clean energy vision, as written it is disconnected from the goals of economic competitiveness and resilience. The economic benefits of this collaboration and, ultimately, more rapid deployment of clean energy projects and infrastructure, should be clearer.
Zero Emission Vehicle Transition	This plan leverages incoming investment, resources, and infrastructure for fleet transition to improve access to clean transportation and transportation infrastructure for everyone. Facilitating this transition can result in up to ~710k fossil fuel vehicles off the road, and ~4 million metric tons of air polluting emissions reduced in the region, which will yield long-lasting community, health, and environmental benefits and improve outcomes for disadvantaged communities and the region.			

Strategy	Equity	Climate Change	Economic Resilience	Overall Assessment
<i>Overall Assessment</i>	The alignment of this plan with the economic and equity criteria is exceptionally clear and well substantiated. Examples of replicable practices from other localities make for an overall convincing case on the equity and economic criteria. Climate action goals are implicit in the transition to zero emission vehicles (ZEVs) but are also expressly noted in a handful of the strategies.			
Strategy A. Develop a regional workforce to enable and sustain the ZEV transition	N/A	N/A	N/A	This strategy references the Education and Skill-Building Investment Plan. See analysis of that plan under Table 2c.
Strategy B. Support locally based fleets in the ZEV transition	Strong	Strong	Strong	Outreach activities highlight ideas to educate and support urban, rural, limited English proficient, and small business fleet owners. The climate and economic resilience arguments include lower cost of ownership of ZEVs and lower exposure to particulate matter from diesel near freight corridors.
Strategy C. Identify opportunities for new and existing local businesses to thrive in the ZEV transition, especially from the construction and maintenance of charging and refueling equipment at depots	Strong	Strong	Strong	Awareness building and incentives to partner with businesses in disadvantaged communities is the primary focus of this strategy. It proposes several activities to equip local businesses to participate in and benefit from the ZEV fleet transition. While the climate benefits are not explicitly outlined for this sub-strategy, it is a necessary component for meeting the climate goals of the overall strategy.
Strategy D. Increase access to clean, affordable, reliable, safe (CARS) personal transportation options for everyone	Strong	Strong	Strong	This is an exceptionally strong set of recommendations to expand ZEV adoption by low-income consumers, drawing on best practices and examples from across the state and other localities. Importantly, the strategies go beyond education to include monetary incentives, rideshare, and ongoing community engagement activities to improve the responsiveness of interventions. A reduction in air pollution is one anticipated outcome related to Climate Action.
Strategy E. Enable timely, cost-effective build-out of ZEV charging infrastructure	Absent	Strong	Partial	The economic competitiveness arguments in Table 2 are multiple ways of stating that there could be indirect benefits to a robust charging infrastructure. Some projections around family sustaining jobs and long-term resilience would strengthen this case. The workgroup should also consider how marginalized communities would be engaged in the design and build out of the infrastructure. While the climate benefits are not explicitly detailed, charging infrastructure is cornerstone to the success of a fleet transition, which promises significant climate benefits, as described above.
Nature Based Solutions	Nature-based Solutions (NbS) harness the power of nature to remove and store carbon from the atmosphere, act as a buffer against climate impacts, and build resilience to future climate-driven extremes. Examples include cover crops, urban greening, and re-greening of dry watersheds. The S2J2 region plans to leverage related efforts – including the comprehensive approach in the One Water chapter – to implement this plan and contribute to state goals, conserving ~142k acres and sequestering and drawing down ~5 million metric tons of CO2e.			
<i>Overall Assessment</i>	Compared to other chapters, this plan has relatively less detail about how to implement its strategies. Due to lack of detail across the implementation plan, alignment and potential for contribution to the three key outcomes (Equity, Climate, Economic Resilience) is generally assessed lower than other plans. The nature-based solutions plan frames its community engagement and local hire recommendations as optional and primarily for the purposes of risk management (“to mitigate litigation risk”). This is in conflict with the spirit of the S2J2 and CA Jobs First principles themselves and the more enforceable terms in the Community Benefit Framework. NBS is an outlier in this regard.			

Strategy	Equity	Climate Change	Economic Resilience	Overall Assessment
Strategy A. Assess investment approaches based on various land cover types	Partial	Strong	Partial	This strategy names objectives like enhanced community engagement and financial assistance to small farms but stops short of citing pertinent examples or details on best practices. The proposal is comprehensive in listing tailored solutions based on land-cover types.
Strategy B. Implement integrated water management and sustainability programs	Partial	Strong	Partial	Community-based organizations are called upon to “lead technical assistance” to facilitate floodplain restoration but there is no plan for how they will be resourced to carry out this directive. On the Economic Competitiveness criterion, local hiring is “encouraged,” which does not align with local hiring requirements laid out in the Community Benefit Framework. Furthermore, these local hires are for the purposes of “managing” local stakeholders; this could be interpreted to mean that some community members will be deputized to quell dissent from local residents. The section needs further attention and clarification.
Strategy C. Begin biomass utilization by using renewable organic material from plants and animals to produce biofuels, natural products, and other sustainable materials	Partial	Partial	Partial	This section references the Community Benefit Framework, yet mentions job training without a reference to the Education and Skill Building chapter. The level of detail on implementation is relatively low compared to other chapters.
Strategy D. Promote sustainable tourism (including eco- and agri-tourism) to educate the public, support local economies, and conserve land	Partial	Partial	Partial	This strategy needs clearer linkages between its recommendations for eco- and agri-tourism and the stated outcomes. For instance, how does agri-tourism tackle the challenge of small businesses that do not compost? What is the promise of youth outdoor education in maintaining greenbelts, public parks and urban greenery?
Strategy E. Encourage corporate social responsibility and investments in voluntary ecosystem service	Partial	Partial	Partial	This is an example of a recommendation that cuts across all three criteria but needs further explanation and explicit connection to the criteria.
Strategy F. Integrate hazard- and disaster-planning and implementation into climate resiliency efforts	Partial	Partial	Partial	While the case is compelling, the activities for implementing it need further development.
Exploring Carbon Capture				
Carbon management strategies may help safeguard the region's agriculture, local economies, and environmental stability while advancing environmental justice efforts. These carbon neutrality initiatives aim to identify suitable workforce opportunities in carbon management and integrate advanced regenerative agricultural practices, improve area-specific management of wetlands and forests, and explore bio-based energy sources to enhance climate resilience through nature-based solutions.				
Overall assessment				
This plan does not lay out clear individual strategies and is an outlier in this regard. The main opportunity the workgroup identifies as a potential path forward is the CalDAC project, a partnership between Berkeley Law and the Lawrence Berkeley National Laboratory, funded by the DOE's Regional Direct Air Capture (DAC) Hubs Funding Opportunity Announcement (FOA). This initiative is just getting started, and its implementation is a central dependency for the region's carbon capture investment strategy.				
No detailed strategies are included in the Carbon Capture Investment Plan.				
Responsible Food & Agriculture Systems				
The Responsible Food Systems workgroup vision is centered around a prosperous agricultural sector that serves as the foundation for thriving communities and healthy ecosystems. The group envisions an agricultural landscape where long-term economic growth, public health outcomes, and improved food access are facilitated by innovative and sustainable farming practices. These efforts include initiatives that empower farmworkers and promote resilient large and small farms and food production operations. These initiatives and the adoption of innovative technologies aim to create a food system that is resilient, economically prosperous, equitable, and environmentally sustainable. The strategies collectively call for approximately \$360 million of investment spanning the agricultural				

Strategy	Equity	Climate Change	Economic Resilience	Overall Assessment
	industry and local communities. When successfully executed, the investment plan will deliver the following outcomes across the four county S2J2 region: 3,500 to 7,600 in direct and indirect jobs created; 8k to 15k graduates from education and skill development programs; \$16.5M to \$31.5M in healthcare cost savings and productivity gains; and, \$32M to \$96M in community and economic revitalization benefits.			
Overall Assessment	This plan devotes an entire section (2.2) to describing how the investments strategies align with the S2J2 principles of equity, environmental stewardship, community benefits, and economic diversification and resilience. The workgroup should be commended for deliberately considering how its proposed investments meet the original criteria in the California Jobs First “Planning Phase deliverables Regional Plan Part 2: Outline and Additional Guidance.” Where there are shortcomings, they are in the definitions of the recommended implementation activities or in the details of how the strategies advance these criteria. One component that is overlooked in multiple strategies is job quality.			
Strategy 1. Create pathways for improved food access and public health outcomes for the local community by establishing local food hubs, urban farms, and healthier food retail options	Strong	Partial	Strong	The strategy emphasizes the dual benefits of local food economies and stronger local supply chains and public health. Some definitions are missing (such as agritourism) or mentioned in the strategy description but not in Section 2.2, where the strategy is linked to the criteria.
Strategy 2. Develop an ecosystem that enhances the use of innovative technologies for sustainable agriculture	Partial	Partial	Partial	All three criteria are named but the link to the investment strategy is not clear. For instance, what mechanisms or evidence will ensure that new technologies will provide “equal access” to local farmers? How will these technologies “promote long-term economic stability and resilience”? Job quality and the potential for job displacement due to technological and other structural changes should also be addressed.
Strategy 3. Support opportunities to increase the adoption of sustainable agriculture practices by focusing on education, advisory services, and financial incentives	Absent	Strong	Strong	This is a good example of the level of specificity in how the investment strategy leads to the climate and economic outcomes articulated in the CA Jobs First program requirements. The workgroup should consider how the benefits of sustainable agriculture would accrue, especially to disinvested groups.
Strategy 4. Launch programs to empower farmworkers and support their career advancement opportunities through career training and enhanced legal protections	Strong	Partial	Partial	The workgroup recommends a holistic approach to farmworker wellbeing and advancement that includes workforce training programs, legal protections, and investments in public health. The career advancement program description should be clearer and explicitly linked to sustainable agriculture, the desired climate outcomes, and family sustaining jobs.
Strategy 5. Provide access to resources and systems that support resilient small farms and food producers through distribution infrastructure and collective models for marketing and management	Strong	Strong	Strong	This strategy prioritizes the inclusion of small farmers in multiple sustainable agriculture solutions, bringing a focus to a group that is often overlooked. The equity and economic arguments are bolstered by specific recommendations, such as cooperative models, which directly address the financial burdens of small farmers and consumers to participating in a more environmentally responsible food economy.
Strategy 6. Stimulate investments in infrastructure and policy changes that balance both prosperous communities and local industries , primarily in the agricultural sector	Strong	Partial	Partial	Some definitions and implementation details (e.g. farmland conservation, succession planning) are missing from an otherwise strong case for equity, climate, and economic resilience.

Strategy	Equity	Climate Change	Economic Resilience	Overall Assessment
Circular Manufacturing	This work group developed a regional plan to support circular manufacturing. They identified existing manufacturing capacity and gaps (infrastructure, workforce, transmission, etc.) given climate economy plans; identifies strategies/projects to use renewable and recoverable inputs, design products for re-use, recover excess and manufacturing byproducts, and reduce waste. S2J2 seeks to create quality jobs with competitive wages by enhancing, attracting, and growing circular manufacturers. Circular manufacturing is a specific approach that emphasizes sustainable processes and use of resources. A shift towards circular could align a portion of the manufacturing sector with the region's economic and climate goals, and potentially create ~2,000 manufacturing jobs, abate ~550 tons of waste, offer ~1,750 paid manufacturing internships, and support more than 2,000 manufacturers with low-cost capital and technical assistance.			
<i>Overall assessment</i>	Across the 6 strategies that make up the circular manufacturing investment plan, economic competitiveness and resilience goals are adequately addressed, with some assumptions that could be further substantiated. For example, it is hard to know if traditional manufacturing job growth projections will translate into "climate-forward" or high-quality manufacturing jobs. How will the region ensure that incumbent and disinvested workers and communities are actively targeted, trained, and centered in these impressive employment gains? While there are clear potential benefits for both climate mitigation and resilience, these outcomes and benefits are generally more implicit or less specified across strategies. In general, there is an opportunity to center both procedural and distributional equity more intentionally, by focusing on potential benefits and harms to historically marginalized and increase engagement in the planning and implementation of these strategies.			
Strategy 1. Drive circular Transformation Promote and research sustainable manufacturing practices to enhance efficiency and reduce environmental impact.	Absent	Partial	Strong	This strategy centers on the engagement of the strong existing manufacturing sector within the region to provide them with tools, R&D, and incentives to move towards circular practices, all of which promise to strengthen resilience of the local economy. The focus on efficient resource-used and waste management practices also offers promise for delivering outcomes in the climate action domain. The proposal could speak to resilience to climate shocks.
Strategy 2. Enhance infrastructure Enhance infrastructure to provide reliable and increased availability of water, electricity, and logistics networks.	Partial	Strong	Strong	By focusing on upgrades to needed infrastructure to support manufacturing industry and seizing the opportunity to transition to clean sources of energy and more efficient transportation, this strategy promises to deliver for the economic competitiveness and resilience and climate action outcomes. While there is nod to community engagement in planning transportation infrastructure, there is no discussion of how the strategy could deliver direct or indirect benefits to historically marginalized communities.
Strategy 3. Leverage the local supply chain Develop local supply chains to reduce dependency on distant suppliers, which might decrease costs and increase efficiency.	Absent	Partial	Partial	This strategy emphasizes economic resilience through reduced dependence on local suppliers but does not speak to potential effects on jobs and workers. The proposal should elaborate on the climate benefits of waste reduction and re-use.
Strategy 4. Expand workforce development Invest in capability-building and training programs to create a skilled workforce that meets the needs of manufacturers.	Partial	Absent	Strong	By emphasizing a prepared workforce, this strategy contributes to a globally competitive local manufacturing industry. The strategy does discuss new career pathways and aims to address access barriers; however, it does not explicitly state how these efforts will be targeted to those disinvested communities.

Strategy	Equity	Climate Change	Economic Resilience	Overall Assessment
Strategy 5. Offer economic development incentives Apply for federal and state grants to potentially reduce operational cost and offer incentives for small businesses.	Absent	Absent	Partial	The strategy references incentives and supports to small businesses which could support their economic resilience but ignores the potential downsides of technology on job quality (potential negative impact on job quality and/or worker displacement by technology).
Strategy 6. Support streamlined permitting Streamline and harmonize local regulations zoning for clarity and consistency.	Absent	Partial	Partial	The strategy references removing barriers to business creation or expansion which could support the region's economic competitiveness, but it is not clear how this strategy would support equity or climate goals. For changes to zoning code in particular, there is an opportunity to better integrate equity analysis of the potential benefits and harms to communities, especially around environmental justice issues.

1b. Sector Neutral Strategies – “Essential Infrastructure”

Strategy	Equity	Climate Action	Economic Resilience	Overall Assessment
One Water	This workgroup identified and prioritized One-Water projects to support a proactive, watershed-scale approach that plans for drinking water, wastewater, groundwater, and surface water. The investment plan promotes an industry cluster including public and private actors that would provide planning and administration, land use and siting, engineering and design, materials and supply chain, building and construction, operations and maintenance, and monitoring and testing around the region's water system. The recommendations are intended to provide a range of viable options for landowners, the region's communities, and the environment to achieve a sustainable and healthy future.			
Overall assessment	The climate benefits of the various proposals are strong and speak to how the investments would address public health needs, such as through drinking water infrastructure upgrades, as well as mitigate against future harm, such as flooding and drought. The Collaborative Action Program (CAP), which authored these investment recommendations, lays out a set of criteria to evaluate investments (2.1.1), several of which align strongly with the three outcomes expected of the CA Jobs First program: equity, climate, and economic resilience. The coalition would do well to revisit their own criteria when seeking to fill the gaps in their proposals, which are mainly around equity and economic resilience. Several of the proposed investments lend themselves to an analysis of the potential economic resilience impacts and quality job creation potential, which is largely absent from the current draft. The draft should also be updated to specify ways these investment strategies will engage, prevent harm, and ensure benefits for historically marginalized communities and workers.			
Strategy 1. Safe Drinking Water Investments to advance the goal of providing safe and reliable drinking water to all residents by 2025.	Strong	Strong	Partial	The primary focus of this strategy is to invest in communities with at-risk or failing public water systems, which addresses the equity requirement. The job quality and skills/educational requirements of the jobs needed to implement this strategy (e.g. TA providers 2.2.2.3) is not clear, although there is some acknowledgement that career and technical training is needed.
Strategy 2. Ecosystem Restoration Investments to advance a regional landscape with increased habitat areas to support an array of species and healthy aquatic ecosystems, including floodplain, riparian, wetland, on-farm, and upland habitat.	Partial	Strong	Partial	The strategy references past examples of when funding was leveraged to build public spaces in underserved communities (Mendota and Firebaugh) but does not explain how to replicate that success. This strategy could also consider the employment needs and types of jobs associated with restoration and protection of acreage targets (2.3.2.1), and how these investments could strengthen economic competitiveness.

Strategy 3. Water Supply Investments to improve the conveyance and storage of water, mitigate environmental impacts, and provide benefits for the Valley communities, agriculture, and ecosystems.	Strong	Strong	Partial	Clear argument for climate mitigation and resilience through water storage, emergency backup, and flood mitigation. Strong case for reinforcing equity and climate benefits from investments such as multi-purpose recharge basins located in disadvantaged communities. Infrastructure repair and upgrades, plus diversified supply development, address some aspects of the economic resilience requirement, but the overall strategy does not address potential to create family sustaining jobs.
Strategy 4. Multi-Benefit Land Repurposing and Demand Reduction Investments builds upon the existing work of MLRP, and related programs, to identify a high-level estimate of the long-term need to fund repurposing of previously irrigated agricultural land, in response to water scarcity.	Partial	Partial	Partial	This strategy is far less developed than the other three. The economic and community benefits of multibenefit land repurposing are referenced but not detailed. There is some discussion of measures to blunt the effect of lost tax revenues in counties impacted by repurposing land (2.5.2.2), but it could go further.
Broadband	Broadband is critical in connecting people to employment opportunities as well as to advancing the clean energy economy and “smart” technologies that can help with water and energy conservation and other resource conservation practices. This plan addresses structural barriers to equitable access to broadband. It aims to support the region’s residents, community institutions, and businesses in accessing affordable, high-speed broadband both in their homes and throughout their daily journeys, and acquiring the digital skills needed to support participation in the digital economy. Projected impact: • 31.5k unserved or underserved locations provided with broadband service • 32k devices provided to households below 200% federal poverty level • 40k households provided with digital skills • 550 people trained broadband deployment related occupation			
<i>Overall Assessment</i>	This chapter stands for its inclusion of exceptionally concrete and reasonable “key enablers” to implement each strategy. While the authors connect the Broadband strategy to the viability of the Clean Energy strategy which promises climate benefits, climate action is not the focus of this strategy and is thus scored as N/A.			
Strategy 1. Support middle mile and last mile connectivity in the region by sharing existing infrastructure and building new last-mile infrastructure.	Absent	N/A	Absent	This strategy naturally lends itself to equity and economic resilience case making: the authors need only connect the dots.
Strategy 2. Launch a regional process to increase broadband availability and affordability across the region.	Strong	N/A	Strong	Collaboration between counties could produce economies of scale that allow the region a competitive advantage while keeping broadband costs down for consumers. The strategy offers some concrete initial steps for implementation.
Strategy 3. Facilitate an enabling environment to deploy broadband for Multi-Dwelling Units (MDUs).	Partial	N/A	Absent	While MDUs appear to be more prevalent in historically disinvested communities, the focus of this strategy is property owners. The strategy could elaborate on the profile of property owners—and whether that group also contains members of disinvested groups—and effective ways to reach them.
Strategy 4. Provide centralized technical application assistance to local entities to access funding sources.	Strong	N/A	Partial	Awareness of resources and technical assistance for institutions to advance digital equity are a clear objective of this strategy. Implementation is left up to “CBOs, nonprofits, and local governments” without an explanation of why and how these stakeholders could help further economic competitiveness and resilience in the region.

Strategy 5. Establish programs to assist individuals in strengthening digital skills.	Partial	N/A	Absent	The recommended programs to improve access to digital skills and devices would be stronger if they cited relevant examples or evidence of effectiveness. While there is mention of “workforce competitiveness,” this strategy does not make the link between digital skills and competitiveness.
Strategy 6. Develop workforce skills for local talent that result in Good Jobs, increased broadband deployment and enhanced career pathways in technology.	Strong	N/A	Partial	While this strategy includes direct job creation from broadband deployment, it could also project indirect job creation and economic competitiveness resulting from a more digitally skilled workforce. The workgroup could consider referencing relevant aspects of the Education and Skills Training and Community Benefits Framework chapters. Barriers to training are adequately addressed in this section.
Strategy 7. Enable long-term capacity building to support digital equity planning.	Partial	N/A	Partial	Plans to sustain and expand broadband investments in the region include an intention to include underserved communities and the organizations that serve them. This strategy should also account for the other component of the Equity criterion – distributed community benefits—by building the capacity and financially resourcing these same stakeholders. Doing so would also strengthen the economic resilience case for this strategy.

1c. Additional Regional and Community Development Strategies – “Community Investments”

Strategy	Equity	Climate Action	Economic Resilience	Overall Assessment
Small Business & Microenterprise	Building on existing plans, this workgroup identified the supports needed for small businesses to engage in the climate economy; prioritized strategies to support small businesses across the clean energy, circular manufacturing and one-water industry supply chains; and identify funding streams. This group makes the case that by increasing available capital and creating an expanded system of support for marginalized business owners, the region can contribute to environmental preservation and create a robust economy that benefits all residents. This dual approach is essential for inclusive and sustainable long-term economic growth.			
<i>Overall assessment</i>	Equity is central to this proposal, with multiple strategies designed to equip people of color, women, limited English proficient, and other marginalized groups to own small businesses in the region. While there are some mentions of environmentally sustainable business practices and emerging green industries, the links between these and the proposed resources for small business owners are not clear. The authors also need to account for job quality in their analysis of economic competitiveness and resilience.			
Strategy A. Establish a flexible fund to provide capital Capital options are designed address the specific capital concerns of BIPOC- and women-owned small businesses, allowing them to test and refine business ideas, accelerate growth of promising small businesses, support diverse contractors, and provide long-term stability.	Strong	Partial	Partial	The proposal is designed to explicitly address the barriers to small business ownership and success for BIPOC and other marginalized communities. Self-sustaining revolving loans and the promise of local business ecosystems to reinvest in the region are two strong arguments for economic competitiveness and resilience, but there is no analysis of job quality. The proposal assumes that by helping the region meet the matching funds requirement, the strategy will help unlock funding from state and federal climate resilience efforts given priority designation through CalEnviroScreen and EPA Justice 40 Initiative. However, the climate benefits are assessed as partial because the proposal does not specify how the fund would be specifically targeted to climate mitigation or resilience projects, but rather speaks to the small business ecosystem more broadly.
Strategy B. Expand the regional ecosystem of support for small businesses owned by people of color, women, and other	Strong	Partial	Partial	What constitutes a green industry and which industry experts might liaise CBOs is missing from the otherwise sound strategy to equip disadvantaged entrepreneurs with business know-how delivered by trusted CBOs in a language they understand. As with Strategy 1, there is no

Strategy	Equity	Climate Action	Economic Resilience	Overall Assessment
marginalized population, by integrating the support of community-based organizations.				discussion of how this strategy will advance family sustaining jobs, which is a component of the economic resilience requirement.
Strategy C. Map the current small business ecosystem in the region to inform the design of a resource tool for small businesses.	Partial	Absent	Partial	It is difficult to interpret this strategy. It appears that the mapping is a precursor to improved tools and resources (including capital) to serve small business owners, but this is not clear. It is also not stated whether this “data-driven picture of the small business ecosystem” would have a climate or sustainable business component.
Community-Based Healthcare Workforce	This plan proposes to invest in flexible, effective, and efficient delivery of healthcare in the region by workers who are intimately connected with and invested in the health of that community. These investments will address social determinants of health and fill system gaps to help the region tackle pressing health equity issues—including those linked to environmental degradation, pollution, and climate change—and support a healthy workforce transitioning to a new climate economy. As a result, the community-based healthcare workforce will: • Be paid thriving wages and benefits • Access good and culturally congruent jobs • Be equitably reimbursed for the critical services they provide • Have access to appropriate education, training opportunities, and opportunities for desired career development • Be recognized by and integrated into the healthcare system, and • Have access to affordable physical and mental healthcare themselves.			
<i>Overall Assessment</i>	The plan repeatedly asserts that investment in community healthcare workers (CHWs) is vital to the regional strategy and a way to employ and serve marginalized communities, but the case is scant on data and rationale. Nearly all the strategies stop short of discussing the related benefits to public health (and other climate outcomes), and economic competitiveness. Overall, the plan would benefit from more explanation and examples.			
Strategy A. Research and data on the community-based healthcare workforce toward a greater understanding of the cost-benefit of strengthening the community-based healthcare workforce, successful models and best practices of the workforce, and the local workforce landscape	Partial	Partial	Partial	The strongest argument for collecting data is to monitor efficacy of community-based healthcare interventions and to adjust them to be more equitable, cost effective, etc. Identifying gaps and responding to them is a worthy goal but it is not clear who, where and how the data would be collected and analyzed. The workgroup could build on existing workforce and market trends cited in the plan.
Strategy B. Advocacy and capacity-building to develop a resilient and robust community-based healthcare workforce to create a supportive environment that recognizes, values, and supports the community-based healthcare workforce	Partial	Partial	Partial	The workgroup makes a compelling case that community-based health workers are well equipped to monitor the health impacts of economic development (and presumably development centered on climate action). Beyond this, raising awareness about the importance of community health workers is not logically linked to the equity, climate and economic outcomes.
Strategy C. Living wages, benefits, and reimbursement for the community-based healthcare workforce informed by Strategy A	Strong	Absent	Strong	The workgroup could elaborate on the importance of health care access for health care workers by describing the benefits to public health, which is the relevant component of the Climate Action criterion.
Strategy D. Appropriate skill-based education, training opportunities to pave	Partial	Absent	Strong	With a focus on upward career mobility, this strategy lays out a case for standard credentials and training in the CHW careers. The workgroup should consider the track record of

Strategy	Equity	Climate Action	Economic Resilience	Overall Assessment
the way for upward mobility within the CHW workforce				credentiaing in other industries on people with barriers to employment (e.g. money for training) in considering the equity impact of this strategy.
Strategy E. Equitable access to good jobs in community-based healthcare careers through more accessible training options	Absent	Absent	Partial	In general, this strategy is very high level. The authors could reasonably speculate about the equity and climate benefits of a well-trained community healthcare workforce, but these connections are not detailed in the plan.
Strategy F. Integration of community-based healthcare workers within the healthcare system to build awareness and trust of CHWs in the community and to share resources and knowledge within the workforce	Strong	Partial	Partial	The title of this strategy implies that CHW jobs could be pathways for underserved communities to join the traditional healthcare workforce, where they could earn better wages and access career mobility. However, the contents of the strategy focus instead on intra-sector coordination and skill-building rather than CHW integration into the broader health care workforce. The workgroup should clarify their goals with this strategy and clearly connect them to economic resilience and competitiveness. This assumption, while strong, should be more explicit. The strategy includes compelling points about the ability of CHWs to follow up with underserved patients, including in the event of a climate crisis, supporting overall community resilience.
Strategy G. Affordable physical and mental healthcare through increased community awareness of services and available financial resources	Partial	Absent	Absent	Absent more information, the strategy does not make a compelling case as a standalone investment.
Education & Skill Building	This plan is to invest in education and skill building efforts that are aligned to the economic development strategies driving growth in the region, especially in the priority industry clusters: one water, broadband, responsible food and agriculture, climate solutions, and circular manufacturing. It establishes pathways into these jobs, leverages local education and trains stakeholders to prepare workers to fill these jobs or create related businesses.			
<i>Overall assessment</i>	This assessment only evaluates the alignment with the Equity and Economic Competitiveness and Resilience objectives, since the Climate Action goals are covered in the respective chapters specific to certain industry investments (One water, broadband, etc.). The equity argument is robust, with sophisticated and evidence-based recommendations to serve historically marginalized groups and to connect job training to employment. In most cases, there is a logical leap that prepared workers will lead to economic competitiveness and resilience. While this is intuitively logical, the case would be stronger if it cited a proof point (or counterpoint). The Education and Skill Building plan is designed to “create the enabling conditions for Climate Solutions” described in other chapters. As such, the Climate Action criteria are not assessed in this chapter.			
Strategy A. Create a robust, four-county infrastructure for stakeholders to work together strategically around a shared vision, goals, and outcomes and develop region-wide capacity to meet emerging workforce needs	Strong	N/A	Partial	This case draws on local and regional examples of best practices to advance equity and institutional sustainability. An intention of prioritizing good jobs is stated but activities to that end could be further detailed. This plan is intended to “speed up the region’s transition to an inclusive, resilient, and sustainable regional economy,” which is covered in other respective chapters.
Strategy B. Reimagine ways for employers and industry partners to work hand-in-hand with other education and workforce stakeholders to develop training opportunities that simultaneously serve their	Strong	N/A	Partial	This strategy emphasizes career training linked to employment and subsidized training and wraparound supports to facilitate participation of low-income and underserved communities. It nods to a need to diversify the sectors that drive the regional economy, without specifying alternative industries or actions that could lead to such diversification.

Strategy	Equity	Climate Action	Economic Resilience	Overall Assessment
workforce needs and lead workers to quality jobs				
Strategy C. Design flexible pathways to quality, high-wage, in-demand jobs and entrepreneurship opportunities so workers can attain multigenerational economic mobility	Strong	N/A	Partial	The strategy accounts for students and workers with barriers to employment in emerging industries and effectively argues for upskilling teachers and trainers on emerging technology and industry needs. The strategy could further detail how it would prioritize pathways to good job quality and strengthen economic competitiveness.
Strategy D. Ensure communities can access programs and supports to thrive at all stages of their education and career, and equip community-based-organizations to support them	Strong	N/A	Partial	Lack of awareness and access to existing workforce and skills development, especially by marginalized communities, is central to the set of activities this strategy advances. The case would benefit from a proof point about how/why access to skills-based training for more diverse community members will strengthen the region's economic.
Community Benefits Framework	The Community Benefits workgroup envisions a future where significant climate infrastructure investments in the Sierra San Joaquin region result in equitable community benefits that not only protect marginalized and historically underserved communities from further burden or harm, but also explicitly advance reparative economic and environmental justice across the region. This Community Benefits Framework offers a new way of thinking, a shift from “business as usual,” because without a new paradigm, S2J2 communities continue to be at risk of falling into the same cycles of extractive economic harm that they have already endured for generations. The Framework is organized into two primary functions: 1) mechanisms to <i>capture</i> community benefits by establishing minimum regional requirements to help position the right projects for the region, and 2) mechanisms to <i>distribute</i> community benefits in an equitable, inclusive manner by defining need and historic harm; establishing mandatory engagement processes; and maintaining community oversight. Both components of equity – engagement of historically marginalized and disinvested groups in planning process and proposed interventions and ensuring indirect and/or direct community benefits, particularly to disinvested communities – are thoroughly addressed in this proposed regional Community Benefits Framework. An emphasis on repairing past harms to disadvantaged communities and ensuring careful impact measurement to prevent future harm are present throughout the framework. Potential impacts on public health and family finances are explicit in a couple illustrative examples, but are largely assumed to be contained in the relevant chapters on Climate Solutions. The Community Benefits Framework is designed to “create the enabling conditions for Climate Solutions” described in other chapters. As such, the Climate Action criteria are not assessed in this chapter.			
Overall Assessment	Both components of equity – engagement of historically marginalized and disinvested groups in planning process and proposed interventions and ensuring indirect and/or direct community benefits, particularly to disinvested communities – are thoroughly addressed in this proposed regional Community Benefits Framework. An emphasis on repairing past harms to disadvantaged communities and ensuring careful impact measurement to prevent future harm are present throughout the framework. Potential impacts on public health and family finances are explicit in a couple illustrative examples, but are largely assumed to be contained in the relevant chapters on Climate Solutions. The Community Benefits Framework is designed to “create the enabling conditions for Climate Solutions” described in other chapters. As such, the Climate Action criteria are not assessed in this chapter.			
Strategy 3.1.1 Minimum regional requirements for climate developers and investors to satisfy to maximize benefit and minimize harm to the community	Strong	N/A	Strong	This aspect of the framework offers clear definitions and examples to guide development decisions that optimize for health, economic, agricultural and other impacts. These include impact studies, defined community engagement processes, and bans on development in already overburdened communities. Importantly, the workgroup offers mechanisms for all phases of a project, through planning to end-of-life.
Strategy 3.1.2. Potential regional mechanisms for capturing community benefits including legal mechanisms and policy change	Strong	N/A	Partial	The workgroup offers possible legal mechanisms, while acknowledging the need to further solidify equity in their design and implementation. It also makes a compelling case for why regional collaboration yields superior economic and community benefits compared to individual competition between cities and counties. The strategy could be further developed to anticipate and guard against likely resistance by business interests who might view the Framework as an obstacle to development.

Strategy	Equity	Climate Action	Economic Resilience	Overall Assessment
Strategy 3.2.1 Mandatory engagement process by developers to meaningfully engage diverse, local communities in ways that are data-driven and evidence-based	Strong	N/A	Absent	This strategy offers solutions to address a range of barriers to participation in traditional community engagement processes and includes offers recommendations to engage tribal and indigenous communities in the region. Economic competitiveness and resilience is not a focus of this section.
Strategy 3.2.2 Community oversight of promised community benefits through monitoring and enforcement	Strong	N/A	Absent	Straightforward and actionable recommendations are included to ensure that community leaders are equipped to monitor projects for community impacts and benefits. Economic competitiveness and resilience is not a focus of this section.
Strategy 3.2.3 Potential structures for regional community benefits leadership by grassroots individuals and organizations	Strong	N/A	Absent	The workgroup offers examples of successful models from other communities to implement a regional leadership model to facilitate ongoing engagement, monitoring, and enforcement of community benefits engagement. Economic competitiveness and resilience is not a focus of this section.



Appendix 9

Catalyst Request for Proposals
Project Catalog



Catalyst Request for Proposals Project Catalog

Through a competitive Catalyst Request for Proposals (RFP), we gathered a remarkable portfolio of projects aligned with our regional framework and vision. Opened in early March and closed in April, the RFP resulted in **over 50** submissions across **eight focus areas**: Climate Solutions, Responsible Food & Agriculture, Circular Manufacturing, Water, Broadband, Small Business & Microenterprise, Education & Skill Building, and Community-Based Health Workforce. With funding requests totaling over **\$60 million**, this impressive response highlights the incredible work being advanced across the four-county.

Listed below are brief summaries of each project submitted.

Project Summaries

Project Name: Center for Ag-Tech Innovation and Entrepreneurship
Project Submitter: California State University, Fresno
Location: Fresno (urban)
Budget Request: \$700,000.00
Summary: Support startups and innovators in the San Joaquin Valley to help expand the economic ecosystem in the region. It would provide state-of-the-art facilities, including ag-tech and bio-tech labs, office spaces, and areas for mentoring and training.

Project Name: Development of Clean Energy Course and Laboratory
Project Submitter: California State University, Fresno
Location: Fresno (urban)
Budget Request: \$677,398.00
Summary: Meet the rising demand for skilled professionals in the clean energy sector by developing clean energy coursework, fostering local collaborations and establishing a state-of-the-art laboratory. The project will prepare students for clean energy careers and support regional sustainability efforts.

Project Name: Youth Employment & Skill-Building (YES)
Project Submitter: Career Nexus
Location: Fresno
Budget Request: \$400,000.15
Summary: Launch an Internship Center for youth and young people in Fresno County, providing 200-hour internships across various industries, including business, construction and manufacturing, with a focus on climate-forward practices.

Project Name: Agriculture Worker to Business Tech 101

Project Submitter: Central Valley Resource Center

Location: Fresno (rural)

Budget Request: \$55,000.00

Summary: Provide an 8-week basic technology course for farmworkers in small group settings. Participants will gain essential computer skills to explore new career paths or entrepreneurial ventures, with guidance provided for further education or professional growth.

Project Name: Kerman Industrial Park Master Plan Project

Project Submitter: City of Kerman

Location: Fresno (rural)

Budget Request: \$240, 350.00

Summary: Complete a feasibility study around expanding the Kerman Industrial Park by 100 acres. This project includes developing a Master plan through data-driven analysis, public and stakeholder engagement, and detailed planning. Intended outcomes would include creating a resilient local economy, reducing commute times, supporting business growth, and attracting new companies.

Project Name: Empowerment Fellowship: Investing in the Future

Project Submitter: Education Leadership

Location: Fresno

Budget Request: \$550,000.00

Summary: Reinvest in college students by offering paid fellowships and apprenticeships in diverse settings such as nonprofits, small businesses, and healthcare clinics. Having been successful in the past, their expanded program would include needs assessments, support services, and align students' skills with career goals.

Project Name: Cultivating Community Aquaponics

Project Submitter: FIRM

Location: Fresno

Budget Request: \$612,036.00

Summary: Address the lack of land access for Fresno community gardeners by installing and operating an aquaponics system to provide culturally responsive education on aquaponics and small-scale food production. The project will showcase aquaponics to urban producers and small-scale farmers, helping them adapt to climate change and improve their livelihoods.

Project Name: Development of a Resilient Local Food Hub - Strengthening the Supply Chain for Local BIPOC Farmers

Project Submitter: Fresno BIPOC Produce

Location: Fresno (rural)

Budget Request: \$1,808,245.71

Summary: Develop a local food hub on 2.6 acres in a disadvantaged Fresno community to support

over 200 small BIPOC farmers. The facility will feature advanced cold storage, processing, and packaging technology, enhancing market access and logistics. This project aims to address food insecurity, and economic challenges faced by BIPOC farmers.

Project Name: POWER: Promoting Opportunities through Widespread Engagement for Resilience
Project Submitter: The Children's Movement

Location: Fresno

Budget Requested: \$261,001.80

Summary: Enhance community engagement and drive critical job initiatives, focusing on renewable energy and amplifying marginalized voices.

Project Name: Nuestro Valle Project

Project Submitter: Fresno Regional Workforce Development Board

Location: Fresno

Budget Request: \$1,000,000.00

Summary: Enhance job training and career education accessibility for both undocumented and recently documented clients in Fresno County. Use existing federally funded workforce development structures to serve all workers, regardless of documentation status.

Project Name: Social Service Transit Project: CVRC x IT

Project Submitter: Inspiration Transportation

Location: Fresno

Budget Request: \$641,824.00

Summary: Utilize sustainable transportation technologies to meet the needs of under-served and underprivileged communities throughout the region to diminish barriers towards self-sufficiency and upward mobility.

Project Name: Domestic Violence Services

Project Submitter: Marjaree Mason Center

Location: Fresno

Budget Request: \$8,366,273.00

Summary: Provide support services for adults and children affected by domestic violence while striving to end the cycle of abuse through education and advocacy. These services include 24/7 crisis response services and stabilizing services.

Project Name: Pathways to Employment

Project Submitter: Neighborhood Industries

Location: Fresno (urban)

Budget Request: \$200,000.00

Summary: Provide paid, hands-on training in the green economy to overcome employment barriers. Offering skill development, mentorship, and wrap-around services to help participants secure sustainable careers.

Project Name: S2J2 Transforming Organic Waste into Climate and Clean Energy Solutions Project
Project Submitter: Sierra Resource Conservation District
Location: Fresno (rural)
Budget Request: \$1,049,840.00
Summary: Address the region's pollution concerns and unlock job prospects by converting excess biomass from municipalities, agriculture, and forests into valuable resources. Develop a biomass industry cluster, establish the Fresno County Tribal Biomass Utilization Campus and Implement Carbon Soil Biotechnology.

Project Name: West Fresno County SocioEnvironmental Justice Action
Project Submitter: SocioEnvironmental & Education Network
Location: Fresno (rural)
Budget Request: \$1,471,922.04
Summary: Recruit and train local community members and provide educational opportunities for children and adults with a focus on skill-building, small business support, environmental justice, and sustainable agriculture.

Project Name: Sustainable Housing Affordable Development Ecosystem (S.H.A.D.E.)
Project Submitter: South Tower Community Land Trust
Location: Fresno (urban)
Budget Request: \$2,000,000.00
Summary: Address Fresno's affordable housing crisis by combining sustainable building practices, community empowerment, and economic development into a comprehensive urban renewal model.

Project Name: AweStruck Leadership™ - Emerging & Accomplished Women of Color Leadership Skills Development
Project Submitter: StellaVersed Consulting Firm, LLC
Location: Fresno
Budget Request: \$750,210.00
Summary: Transform women of color into leaders and emerging leaders by leveraging awe-inspiring experiences to enhance their leadership abilities. The program's two main goals are to transform leaders and inspire growth.

Project Name: Southeast Asian Community and Workforce Empowerment Program (SEAWEP)
Project Submitter: The Fresno Center
Location: Fresno
Budget Request: \$2,000,000.00
Summary: Create an inclusive and sustainable economy in Fresno County by providing equitable access to quality jobs and economic opportunities. The program includes three main components:

Education, Training & Capacity Building, Workforce & Business Development and Partnerships & Collaboration.

Project Name: The Sembrador Project, Seeding Rural Economic Development with the Green Energy of Microenterprise Finance (CDFI)

Project Submitter: Westside Family Preservation Services Network

Location: Fresno (rural)

Budget Request: \$2,000,000.00

Summary: Develop a robust economic development model for rural communities experiencing poverty and stagnation. Formulate strategies to tackle climate change and historical resource management inequities. Create a "shovel-ready" plan that equips disadvantaged residents with essential skills in financial literacy, home economics, business management, and strategic thinking to foster sustainable enterprises.

Project Name: Rural Green New Deal, Housing and Economic Justice

Project Submitter: Central Valley Empowerment Alliance

Location: Kings and Tulare

Budget Request: \$1,000,000.00

Summary: Address the shortage of affordable housing due to high poverty rates, by completing a feasibility study to support the development of 200 affordable housing units in the rural community of Poplar.

Project Name: Hanford Community Incubator

Project Submitter: Hanford Chamber of Commerce

Location: Kings and Tulare

Budget Request: \$1,958,109.22

Summary: Develop a coworking space (community incubator) for the business community of Hanford that aids the development of new business ventures by providing low-cost commercial space, management assistance, and shared services.

Project Name: Salt + Light Social Enterprise

Project Submitter: Salt + Light Works

Location: Kings and Tulare

Budget Request: \$1,576,312.00

Summary: Salt+Light Enterprise is a comprehensive training and employment initiative for individuals facing homelessness, job barriers, or healing from past challenges. The program components include a Community Works Program and a Social Enterprise Program.

Project Name: Flood Water Management and Green Infrastructure Implementation Plan

Project Submitter: Tulare Basin Watershed Partnership

Location: Kings and Tulare

Budget Request: \$1,218,052.00

Summary: Establish comprehensive and cost-effective Flood Water Management and Green Infrastructure Implementation Plan for Frontline Communities. The plan will address the needs of historically underserved and disadvantaged communities.

Project Name: A Catalyst Project to Foster Climate-Forward Economic Development by Training Promotoras and CHWs in Tulare County

Project Submitter: Vision y Compromiso

Location: Kings and Tulare

Budget Allocation: \$571,380.96

Project Summary: Develop and provide training & workforce development for disinvested and disadvantaged communities, in rural/unincorporated areas of Tulare County to improve community health and create housing-wage jobs.

Project Name: HarvestSkills

Project Submitter: Central Valley Opportunity Center

Location: Madera

Budget Request: \$1,087,350.00

Summary: Support farmworkers by offering comprehensive training and support services through a partnership with local organizations. Key activities include occupational and language training, job readiness programs, and small business development, with a focus on improving economic stability and self-sufficiency.

Project Name: Downtown Revitalization

Project Submitter: City of Madera

Location: Madera

Budget Request: \$4,040,000.00

Summary: Revitalize Downtown Madera by creating a vibrant, mixed-use pedestrian center that fosters a sense of community and attracts private investment.

Project Name: Madera Microenterprise Investment Project

Project Submitter: Madera Coalition for Community Justice

Location: Madera

Budget Request: \$559,660.00

Summary: Support the entrepreneurship of immigrants and limited English proficient individuals who face significant employment barriers. Provide micro entrepreneurial training and technical assistance to target populations, supporting them in starting or maintaining a small business.

Project Name: Madera County Hope Program

Project Submitter: Madera County Department of Public Health

Location: Madera

Budget Request: \$944,482.00

Summary: Develop, pilot, and evaluate community resilience programming in Madera County with a focus on climate resilience, conservation, and workforce development towards an equitable climate forward economy.

Project Name: Equity in Nature and Green Jobs

Project Submitter: Madera NAACP

Location: Madera

Budget Request: \$41,030.00

Summary: Enhance equity in access to nature and green job opportunities for Black, Indigenous, and People of Color (BIPOC) young adults. Address disparities in outdoor access and representation in green sectors by providing experiential nature-based learning trips to build comfort and familiarity with natural environments.

Project Name: Valley Green Futures

Project Submitter: Access Plus Capital

Location: Regional

Budget Request: \$1,060,150.00

Summary: Support small businesses in their transition to sustainable operations through three interconnected components: a Revolving Loan Fund, Small Business Technical Assistance, and Capacity Building, and a Green Climate Finance Consultant.

Project Name: Prosperity & Access for Sustainable Solutions (PASS)

Project Submitter: Binational of Central California

Location: Regional

Budget Request: \$777,879.50

Summary: Establish 'Opportunity Centers' in select disinvested communities with mobile economic units to bridge resources to rural areas.

Project Name: Valley Advance Initiative

Project Submitter: California Central Valley EDC

Location: Regional

Budget Request: \$825,000.00

Summary: Collaborative funding initiative for regional efforts to educate, attract targeted industry and retain businesses in California and the San Joaquin Valley.

Project Name: Launchpad Renewal

Project Submitter: Center For Community Transformation

Location: Fresno, Kings, and Tulare

Budget Request: \$467,043.00

Summary: Support the startup of small businesses, integrate green business strategies with the

California Green Business Network, and provide hands-on support to entrepreneurs from marginalized communities.

Project Name: Central Valley Circular Recycled Paper Mill

Project Submitter: Central Valley Circular LLC

Location: Madera, Fresno (rural), Kings, and Tulare

Budget Request: \$1,800,000.00

Summary: Initiate the exploratory phase for a closed-loop recycling facility in the Central Valley to provide sustainable, cost-effective packaging solutions. This phase includes identifying an optimal location, conducting an environmental review, and engaging community stakeholders.

Project Name: Farmworker Resiliency Project

Project Submitter: Central Valley Farmworker Foundation

Location: Madera, Fresno (rural), Kings, and Tulare

Budget Request: \$892,424.00

Summary: Provide healthcare access and support services to farmworkers in the San Joaquin Valley to improve their quality of life and address health disparities.

Project Name: Making it in America: Strengthening Socio-Economic Mobility Opportunities for Latino

Project Submitter: Central Valley Immigrant Integration Collaborative

Location: Regional

Budget Request: \$688,400.00

Summary: Empower Latino immigrants in the Central Valley by providing access to free immigration legal services, digital literacy training, and entrepreneurship opportunities.

Project Name: Healing Roots: Cultivating Financially Viable BIPOC and LGBTQ+ Mental Health Providers

Project Submitter: ExpresArte Cultural Wellness Collective

Location: Regional

Budget Request: \$1,814,995.00

Summary: Enhance the professional development of BIPOC and LGBTQ2S+ mental health providers by raising awareness of systemic issues and oppression in community mental health with a focus on improving the mental health system.

Project Name: Valley Entrepreneur Alliance

Project Submitter: Fresno Area Hispanic Foundation

Location: Regional

Budget Request: \$2,189,799.00

Summary: Expand successful wraparound services for underserved entrepreneurs across the region, enhance data collection and case management systems among Alliance members, and

support early-stage businesses in developing climate-friendly technologies and green jobs.

Project Name: Fresno EOC Food Services Expansion Project

Project Submitter: Fresno EOC

Location: Regional

Budget Request: \$2,000,000.00

Summary: Multi-phase initiative to enhance Fresno EOC's capacity to meet food and nutrition needs, implement environmentally responsible production practices, strengthen local supply chains, and create jobs in the Central Valley.

Project Name: Central Valley Regional Simulation Center ("CVR Sim Center")

Project Submitter: HealthForce

Location: Kings, Tulare, and Fresno (rural)

Budget Request: \$238,829.21

Summary: Develop a regional healthcare simulation center to serve the Central Valley and improve access to quality healthcare training and education.

Project Name: JA NorCal Empowers Young Entrepreneurs for a Climate Forward Future

Project Submitter: Junior Achievement of Northern California

Location: Regional

Budget Request: \$525,000.00

Summary: Empower Central Valley youth by providing essential skills and knowledge in entrepreneurship and environmental sustainability, as well as building capacity for career readiness and career-connected learning.

Project Name: Ripple Effect Initiative: Connecting Communities for Sustainable Water

Project Submitter: Kings Water Alliance

Location: Kings, Tulare, and Fresno (rural)

Budget Request: \$300,000.00

Summary: Improve water management, promote climate resilience, and facilitate workforce development in rural communities through collaboration and community engagement.

Project Name: Language Access Plus, VALLE Digno Initiative

Project Submitter: Language Access Plus

Location: Regional

Budget Request: \$1,315,505.10

Summary: Establish the Central Valley Language Access Academy to train new language access leaders, provide pro-bono interpretation services, and launch a Language Access Summit and a Workers Center.

Project Name: Fresno-Madera Renewable Energy Strategic Master Plan

Project Submitter: Madera County Administrative Office

Location: Madera and Fresno (rural)

Budget Request: \$1,227,042.00

Summary: Develop actionable master plans for Madera and Fresno Counties, focusing on modernizing public infrastructure and transitioning to clean energy solutions to reduce greenhouse gas emissions, improve air quality, create clean energy jobs, and enhance energy resilience.

Project Name: Tu Problema Es Mi Problema y Juntos Lo Resolveremos

Project Submitter: Organización Las Panchas

Location: Regional

Budget Request: \$277,200.00

Summary: Establish support groups for immigrant, agricultural workers, and monolingual communities in central California. Groups will address various challenges such as navigating education systems, health care, immigration, and essential services.

Project Name: Building Cultural and Social Capital for Workforce Preparation in Madera and Kings Counties

Project Submitter: Pequeños Empresarios/ Restore 180

Location: Madera, Fresno (urban) Kings, and Tulare

Budget Request: \$499,160.00

Summary: Enhance professional development for community residents to foster workplace success and upward mobility. Builds social and cultural capital, self-confidence, and leadership skills in a safe learning environment for adults and youth.

Project Name: Good Equitable Resilient Jobs Program

Project Submitter: Proteus, Inc.

Location: Fresno, Kings, and Tulare

Budget Request: \$1,063,982.00

Summary: Empower farmworkers through paid employer apprenticeships, focusing on workforce development in key sectors such as agricultural, energy, and transportation.

Project Name: Parkway Ambassadors Internship Program

Project Submitter: San Joaquin River Parkway & Conservation

Location: Madera and Fresno

Budget Request: \$555,164.40

Summary: The pilot Parkway Ambassadors Internship (PAI) program will supplement the existing Youth Parkway Ambassadors program by expanding on career exploration with participants and will further career pathway development for those who wish to further explore the environmental field.

Project Name: S2J2 Native Plant Nursery and Regional Restoration Planning & Partnership Project

Project Submitter: Sequoia Riverlands Trust

Location: Regional

Budget Request: \$974,821.83

Summary: Enhance a native plant nursery and develop a regional restoration strategy to address land use changes, achieve climate resilience and biodiversity goals, and create conservation jobs for the local workforce.

Project Name: Birdie Lou Counseling Center Expansion / Continuation & New Residential SUD Facility

Project Submitter: Sierra Meadows Foundation

Location: Fresno, Kings, and Tulare

Budget Request: \$1,995,199.90

Summary: Expand the Birdie Lou Counseling Center's trainee program and establish a residential substance use disorder facility.

Project Name: Climate Smart Empowerment Project

Project Submitter: USGBC Central California

Location: Regional

Budget Request: \$204,700.00

Summary: Build regional expertise in climate solutions through education, networking, and capacity-building.

Project Name: Rural Entrepreneurship Initiative (REI)

Project Submitter: Valley Community Small Business Devel. Center

Location: Regional

Budget Request: \$357,582.00

Summary: Conduct high-quality workshops and offer one-on-one consulting for entrepreneurs and small businesses in rural and underserved communities. REI will equip them with the education and tools needed to build successful, sustainable businesses.

Project Name: Redefining Equity through Policy 559 (REP 559)

Project Submitter: Youth Leadership Institute

Location: Madera and Fresno

Budget Request: \$555,000.00

Summary: Launch an equity-driven community engagement process to shape workforce education, climate, and health priorities. Generate community-driven findings and data-informed recommendations for change. Promote youth development and civic engagement opportunities.