

Kern County Regional Plan, Part 1

A report for the Community and
Economic Resilience Fund

JANUARY 2024

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INTRODUCTION

In response to the devastating effects of COVID-19 on communities and the economy and a rapidly changing climate, the State of California launched a \$600 million Community Economic Resilience Fund – recently renamed California Jobs First (CJF) – to diversify local economies and build an equitable and sustainable economy across California’s regions in the overall transition to a carbon-neutral economy. The program supports communities and coalitions in producing regional roadmaps for economic recovery and transition that prioritize the creation of accessible, high-quality jobs in sustainable industries. To achieve California Jobs First’s desired outcomes for long-term economic resilience in the transition to a carbon-neutral economy, regional coalitions are being funded to convene and engage diverse stakeholders in a highly participatory planning process. These collaboratives must center workers and communities, prioritize equity, sustainability, and job quality, and advance shared prosperity where workers and communities across California’s diverse regions share equally in the benefits of a carbon-neutral future. Kern County is one of 13 regions throughout the state that received a planning grant.

The Kern County Regional Plan, Part 1 has five sections, including a Stakeholder Map; a Regional Summary which includes subsections for the economy and economic development, climate and environmental impact, and public health; a Labor Market Analysis; an Industry Cluster Analysis; and a SWOT Analysis. The purpose of the Regional Plan is to identify challenges and opportunities for creating a more equitable, inclusive, and sustainable economy in Kern County. The Plan focuses on how workers and communities in Kern have been impacted by both the COVID-19 pandemic and by the adverse effects of climate change. In particular, the plan emphasizes traditionally marginalized workers and communities.

The first section of the Regional Plan shares the goals, vision and principles guiding the Kern Coalition and California Jobs First program. The next section summarizes community feedback on jobs and the climate – collected from workshops and representative surveys – identifying job sectors of interest, barriers to employment, climate concerns, and preferences for climate investments.

Area 1 - the Stakeholder Map, includes resources to help identify and outreach to active stakeholders in the region, particularly those who work with or intersect with vulnerable and hard to reach populations. It identifies disinvested communities in the region and the economic barriers they face. It provides information on key climate and economic development initiatives in the region, and opportunities for collaboration.

Area 2, Section 1 - Economy and Economic Development, begins with a summary of the economy and economic development in Kern County, analyzing occupations and industries with the highest and lowest earnings. The plan finds that only a small fraction of even the highest wage industries pays a sufficient wage to avoid chronic and severe housing and food insecurity in Kern. It specifically assesses three important sectors in Kern – Agriculture, Energy, and Warehousing – and their impact on the local economy, the workforce, public health and the climate. Agriculture and energy have been historically important economic sectors for the county – employing large segments of the population and acting as a driving force in the region as a major producer of food products, oil, and renewable energy. While nearly half of Kern County’s gross domestic product comes from oil and gas, agriculture, and utilities, these industries account for only 5% of California's GDP. The warehouse sector, while employing fewer people, is the fastest growing sector in Kern, increasing its number of employees by 332% over a ten-year period.

This section of the regional plan also includes a subregional analysis of the main economic drivers for each of the five subregions of Kern – East Kern (military), West Kern (oil and gas), North Kern (agriculture), South Kern (agriculture) and Central Kern (oil and agriculture), as well as locally relevant proposed economic development and climate projects. It provides local examples of projects that are supported or opposed by local stakeholders and identifies sources of tension or controversy around local climate and economic development initiatives.

Area 2 - Climate and Environmental Impact, describes climate impacts anticipated and already experienced in the region, the unique climate vulnerabilities of Kern residents, and the industrial sectors that generate greenhouse gas emissions and other environmental harm. Using CalEnviroScreen, the regional plan finds that a majority of census tracts in Kern County are disadvantaged and identifies the specific vulnerability factors that are heightened in each disadvantaged community in the region as well as potential sources of localized pollution. The agriculture sector, including dairies, oil and gas and refining, and transportation and freight transit are some of the primary sources of pollution in Kern County.

Area 2 - Public Health Analysis, identifies mortality rates and worker health and safety concerns associated with different industries and finds that warehousing, agriculture and energy ranked among the least safe for workers. Persons who had worked in these sectors had earlier median ages of death than Kern County as a whole. In 2022, warehousing and storage had one of California's highest rates of non-fatal occupational injury and illness. Agricultural work presents greater health risks than any other occupation due to lack of standards and enforcement, as well as extreme heat (and exposure to particle pollution), lack of rest breaks, lack of sanitation, wage theft, and pesticide exposure. Additionally, the plan finds that Kern County headed into the pandemic with some of the state's highest risk factors for COVID-19, including below-subsistence income levels, jobs at high risk of COVID-19 exposure, low rates of health insurance, and lack of access to the safety net. And in fact, during the COVID-19 crisis, Kern County experienced significantly worse outcomes than most other parts of the state.

Area 3 - Labor Market Analysis, focuses on potential workforce development approaches and makes the argument that efforts to increase pathways to good careers must begin with raising industry-wide working standards. Kern has few large occupational categories that pay a living wage; and for every well-paying job there are several low-paying jobs required to support the same workplace/industry – creating a tiered and pyramidal employment structure. A promising approach to advancing Kern economic and climate resilience involves tying labor standards to state-funded public subsidies in industries critical for advancing climate and economic resilience, such as agriculture, warehousing, energy, and healthcare. The regional plan also identifies and recommends Kern High Road Labor Standards, including sustainable living wages, benefits, stable and predictable work schedules, worker's right to mutual aid and protection, grievance management systems and industry-led problem-solving mechanisms, skill attainment, and workplace health and safety.

Area 4 - Industry Cluster Analysis, examines four industries critical for efforts to advance the State's high road approach for economic and climate resilience – agriculture, warehousing, energy (e.g. oil and gas extraction, carbon capture), and healthcare. Workers in both agriculture and oil and gas are at risk of displacement. The regional plan identifies the number of workers at risk of displacement and offers recommendations for worker supports based on occupation and experience. The regional plan highlights that in all four Kern industries, in all but three cases (physicians, registered nurses, and supervisors/managers in each industry) the largest occupations pay median wages below a living wage. This underscores the urgent need for the state to align existing investments and subsidies with the high road; to incentivize employers willing to work in broad-based collaboration with community and labor stakeholders; and to advance public interest in raising industry and environmental standards.

Finally, Area 5 - SWOT Analysis includes an in-depth analysis of regional Strengths, Weaknesses, Opportunities, and Threats as it relates to equitable economic resilience and growth of sustainable industry clusters. The SWOT breakdown draws upon the regional plan analysis, community stakeholder convenings, and feedback from the Kern Coalition.

The regional plan is designed to serve as a resource to the Kern Coalition and Governance Council and provide stakeholders with baseline data needed to co-create an inclusive economic development plan that delivers real, measurable results for the people and communities of Kern County.

MISSION, VISION AND PRINCIPLES

The CJF planning grant is being led by the Kern Coalition, a collaborative of local organizations and communities, led by five co-convening organizations: Kern Community College District (Kern CCD), B3K Prosperity, Kern Inyo Mono Central Labor Council (KIM CLC), Community Action Partnership of Kern (CAPK), and Building Healthy Communities Kern, with the Kern Community College District serving as the fiscal agent.

The Kern Coalition's mission is to unify and bolster local efforts that advocate for the equitable attainment of good quality jobs that promote a resilient economy with positive health, social, and environmental outcomes in disinvested communities through diverse representation and direct investments leading to economic development strategies.

The vision of the Kern Coalition is to eliminate generational poverty and promote equitable, economic mobility for all in Kern County by ensuring investments dismantle systemic barriers. Economic inequity, environmental inequity, and health inequity are interrelated as all are rooted in systemic injustices that disproportionately affect marginalized communities. For example, low-income and communities of color are more likely to be exposed to environmental hazards and have limited access to quality healthcare, education, and good quality job opportunities. And this ultimately impacts the health outcomes and life expectancy of people living in disadvantaged communities.

Principles to Achieving Inclusivity in the Regional Plan

- Economic Equity: Focus on eliminating barriers for all people, regardless of race, gender, or nativity, so that they can contribute to and access the opportunities of a strong, resilient economy.
- Environmental Equity: Focus on projects that promote sustainability and do not cause harm to the environment.
- Health Equity: Focus projects that prioritize holistic health and the health of the community.

Workforce development is a crucial element in shaping the economic prosperity of any region. However, the success of such efforts lies in the active participation and engagement of the community it seeks to serve. The Kern Coalition firmly believes that equity and inclusion must underpin all economic planning initiatives, making it essential to involve community stakeholders in workforce development endeavors. Through strategic partnerships with trusted community-based organizations, the Kern Coalition aims to uplift marginalized communities and ensure their voices are heard in shaping Kern County's economic future.

Creating Stronger Communities through Inclusion

Government support plays a crucial role in fostering community development. True transformative change is only possible when disenfranchised people are empowered to drive it. The Kern Coalition's implementation and development of its California Jobs First program endeavors to support all people, local governments, businesses, and community stakeholders in crafting new economic plans that generate high-quality job opportunities that are accessible to all residents of Kern County. To achieve this ambitious goal, the Kern Coalition recognizes the indispensable need to actively engage with the community and understand their unique needs and aspirations.

Partnerships with Community-Based Organizations

To ensure that the voices of underrepresented and marginalized communities are heard, the Kern Coalition actively collaborates with trusted community-based organizations. These organizations have a proven track record of providing outreach and education to marginalized communities and ultimately driving resident participation to the sub-regional meetings.

Uplifting Under-Voiced Community Needs

By engaging the community in workforce development, the Kern Coalition aims to uplift the needs of under-voiced segments of the population. These individuals often face barriers to accessing quality jobs, affordable healthcare, and social safety nets, making them particularly vulnerable to economic crises like the COVID-19 pandemic.

Creating Inclusive Economic Recovery Plans

The COVID-19 pandemic exposed the stark inequality that exists in communities lacking access to quality jobs and essential services. By involving the community in workforce development initiatives, the Kern Coalition ensures that recovery plans consider the diverse needs of the population, providing a fair chance for all to thrive.

Community Readiness for a Sustainable Future

In addition to addressing immediate economic challenges, CJF also focuses on mapping and supporting local community readiness for a transition towards a carbon-neutral future. Engaging the community in discussions around sustainability and environmental responsibility fosters a sense of ownership and responsibility among residents. It encourages them to actively participate in shaping a greener tomorrow while providing benefits from new opportunities and industries emerging in the sustainable sector.

Engaging the community in workforce development efforts is not just essential; it is a moral imperative. The Kern Coalition's commitment to equity and inclusion in economic planning drives its partnerships with community-based organizations, ensuring marginalized voices are heard and uplifted. By actively involving the community in shaping economic strategies and fostering inclusive economic recovery plans, the Kern Coalition paves the way for a more resilient, equitable, and sustainable future for all residents of Kern County.

The Kern Coalition is committed to working with a variety of stakeholder groups to ensure long-term success. As such, it will work with local organizations committed to advancing local climate initiatives that advance environmental justice and include balanced representation from labor, business, community, government, and other stakeholders, including, but not limited to, economic development, philanthropy, education, and workforce partners. Together, these partners will form the Kern Coalition to plan for strong economies and opportunities that lead to high quality jobs accessible to all.

CJF provides the platform to develop transformative collaborations that will leverage resources and community assets to ensure communities are equitably represented with a focus on environmental, economic and health equity. Diverse representation of stakeholders within the subregional collaboratives are key to identifying gaps and opportunities resulting in transformative change.

COMMUNITY OUTREACH, ENGAGEMENT AND FEEDBACK

This section summarizes community outreach and engagement efforts relevant to the CJF program, as well as feedback received from Kern residents on issues related to jobs, workforce development, community infrastructure, and climate investment. This information was collected through Kern Coalition's outreach and engagement efforts, stakeholder meetings hosted by the Kern Coalition, and two community needs assessments conducted contemporaneously to the CJF process: 1) a random sample phone survey of residents and workers in the entire Kern region through the Kern Regional Strategies High Road Training Partnership; and 2) a randomized door-to-door community needs survey of residents in Wasco, Arvin, Lamont, and East Bakersfield.

Kern Coalition Stakeholder Meetings

From June 22, 2022 to September 1, 2023, the Kern Coalition engaged Kern residents and partners in a total of thirty-two distinct public events. These events included twenty-six public meetings with the Kern sub-regions, five updates, and one webinar.

During the public engagement process, the Coalition conducted public education with the public and community organizations about CJF components and processes, including the planning and implementation phases. The Kern Coalition held in person sub-region meetings simultaneously with an online zoom option. During in-person meetings, the Kern Coalition grouped community members together to discuss five questions among each other. The facilitator then led discussion, in-person and over Zoom, and collect responses using Google Jamboard and through Zoom’s chat function.

The Coalition made a conscious effort to increase public meeting accessibility and participation by holding meetings in a hybrid format with Spanish interpretation, rotating meeting facilitation between the co-convenors, and providing childcare to in-person participants.

Between July 7, 2022, and July 21, 2022, the Kern Community College District kicked off the CJF project with a series of community engagement meetings in Bakersfield, Taft, Delano, Ridgecrest, Lake Isabella, and Arvin. Community members discussed five discussion questions centered around jobs, including:

1. What does a good job mean to you?
2. What job sectors do you think will provide the most opportunities?
3. What businesses/organizations would you like to see in your community?
4. What barriers have you observed that people report in not finding a job?
5. What can your community offer that will be beneficial for job creation?

Responses from the community covered several common themes. The community members’ responses to question number one, “What does a good job mean to you?” aligned with the state’s definition of a “quality job” and focused on 1) living-wages and higher pay, 2) employee benefits, and 3) job accessibility. These themes were consistent across all subregions. Residents expressed that a quality job should support the cost of living, offer stability and competitive salaries and provide benefits such as health insurance, paid sick leave, paid holidays, retirement, childcare, strong union contracts, opportunities for upwards mobility, flexible work schedules and a good and safe work environment. Some regions identified the importance of local hiring and incentivizing businesses to hire from the local workforce as well as incentivizing more small businesses to locate near population centers to take advantage of the local workforce. In some regions, community members raised concerns about the availability of quality jobs in their towns, and the accessibility of such jobs, particularly for justice-involved individuals.

A second theme that emerged from discussion question number one was the importance of having access to education and training opportunities. Members expressed that quality jobs require a skilled workforce, which requires an expansion of and access to public education and training programs. Residents discussed education in relation to skill development, which would provide opportunities for upward mobility as well as wage increases.

Themes that emerged from the second and third discussion questions on sectors that provide the most opportunities and businesses/organizations participants would most like to see in their communities can be categorized into four main sectors consistent across the regions: education, health care, technology, and renewable energy. Other recommendations included more grocery stores, agricultural co-ops, restaurants, nonprofits, recreation and tourism, construction, logistics and distribution, and opportunities for entrepreneurship.

Members expressed a desire for the growth of the education industry because it would provide the most opportunities and address the lack of current educational programs. Members expressed a need for higher educational attainment in the region to create more employment opportunities and higher

wage jobs. Residents also expressed that they would like access to education services such as special education programs and centers, childcare centers, youth development organizations, and training programs.

Members expressed that the health care sector will provide the most opportunities and address the local need for health care services such as access to hospitals, mental health services and behavioral health services. The healthcare industry was also discussed as an opportunity to bring in a sizable number of jobs to meet the local need.

Participants discussed the potential of the technology sector provide a range of jobs, including information technology, cybersecurity, aerospace, agriculture, jobs related to automation, and STEM more broadly. Lastly, residents discussed jobs in renewable energy sectors. Members expressed an interest in environmentally conscious jobs described as green and sustainable jobs, alternative energy jobs, climate friendly jobs, and jobs that are not water intensive. In particular, members expressed an interest in jobs related to wind and solar energy.

The primary themes for the fourth question on significant barriers to finding a job centered on the lack of quality jobs, accessibility of available jobs, and lack of adequate education and training required for jobs. Participants also mentioned the propensity of employers to hire non-local employees. These themes were consistent across all subregions. Residents described the lack of quality jobs as stemming from low wages or lack of high pay, non-comparative salaries within their region, and an overall lack of availability of any jobs. Community members expressed another barrier was the lack of accessibility to current jobs. The main concerns around accessibility were language barriers, criminal records, undocumented status, lack of a driver's license, location and transportation barriers, the lack of childcare options or the inability to afford childcare, and long commutes. Members expressed that training and certifications to prepare workers were largely inaccessible to non-English speakers, especially for indigenous populations. However, members expressed that interpretation services could be useful in addressing those barriers. Members also discussed that location or proximity to work was often a barrier, especially given the high prices of gas, barriers to obtaining a driver's license, and lack of public transportation infrastructure.

The primary themes for the fifth question on what their community could provide to benefit job creation mirrored many of the previous themes and centered on the need for more educational programs and job training, accessibility to those programs, and assistance meeting the general educational requirements of employers. Participants called for specific educational programs such as adult education programs, English classes, business and finance programs, early college education, and computer and technology educational programs. They identified the importance of training programs such as paid internships and fellowships, on-the-job training, accessible trainings with stipends, and resume workshops. Some regions recommended establishing and promoting a circular economy by supporting local businesses, creating local jobs and retaining local workers.

During community engagement with the subregions, facilitators also solicited recommendations to increase community participation. Some of the recommendations for the coalition were to engage community by working with trusted community-based organizations to conduct outreach, engage students and parents, promoting meetings and events, and use public platforms for greater public engagement. Members also suggested the coalition collaborate with other stakeholders such as the chamber of commerce. Lastly, they suggested making meetings accessible by continuing to provide interpretation, hosting meetings at varying times, using socially and culturally relevant outreach strategies, and continuing to host meetings through Zoom.

The Regional Plan is one step of a longer process and future plan to systematically collect, organize, and incorporate community voice and guide research. Several steps are currently in place to ensure members' input in plans and data narrative. Technical Assistance experts will continue to coordinate with community members to document feedback, data collection, and the overall proposals.

Kern County Regional Strategies High Road Training Partnership Survey

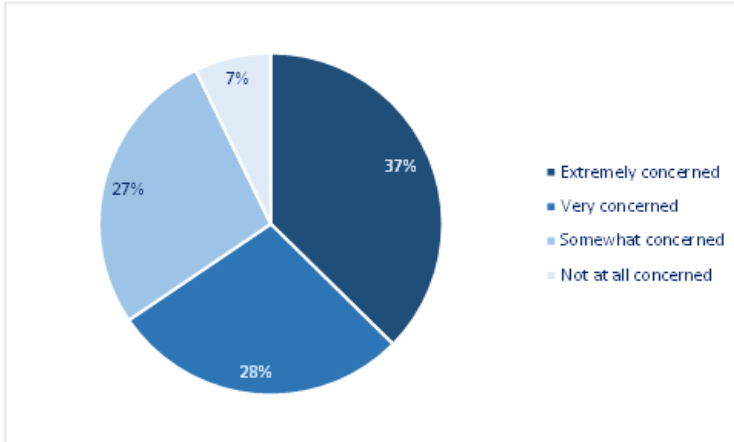
The UC Merced Community and Labor Center, together with the Kern-Inyo-Mono Central Labor Council and the Central Valley Worker Center, designed and conducted a Kern Community Needs Assessment survey, asking adult Kern residents' views on jobs, the environment, and policymaking. The survey was conducted via a random sample of phone lists and conducted by phone in English or Spanish. Overall, 813 respondents completed the survey. The largest number of respondents lived in Bakersfield (46.3%) and Delano (17%), with smaller numbers in Ridgecrest (8.5%), Shafter (6.3), California City (3.9%), McFarland (2.7%), Tehachapi (2.7%), Arvin (0.9%), Weldon (0.6%), Mojave (0.6%), Rosamond, Willow Springs (0.4%), and Wasco (0.1%).

The Kern survey found that Kern residents are deeply concerned about the environment, and strongly support the state playing an important role in creating better jobs and improving the environment. When residents were asked, *"How concerned are you about the environment, from a scale of 1- not at all concerned, 2- somewhat concerned, 3- very concerned, 4- extremely concerned?"* two in three residents expressed that they were either "extremely concerned" (38%) or "very concerned" (28%) about the environment. Another one in four residents expressed they were somewhat concerned (27%). Altogether, ninety-two percent of residents expressed some level of concern for Kern's environment.

Most Kern residents were supportive of more tax dollars being invested to create quality jobs in more environmentally sustainable forms of development, by wide margins. Respondents were told, *"Government might invest more tax dollars to create quality jobs. For the following items, please mark whether you believe government should invest tax dollars."* and their response options were "encourage," "discourage," or "neither." Kern residents expressed encouragement for greater public investment for quality jobs in sustainable farming (83%), reforestation (81%), renewable energy (77%), retrofitting buildings (76%), public transportation (73%), zero emission fleets (62%), zero emission trucks/vans (60%), and zero emission passenger vehicles (59%). They also expressed encouragement for high-speed rail at a rate of (53%). Responses discouraging public investments in these areas were very low, ranging between 9% (sustainable farming) and 30% (high speed rail).

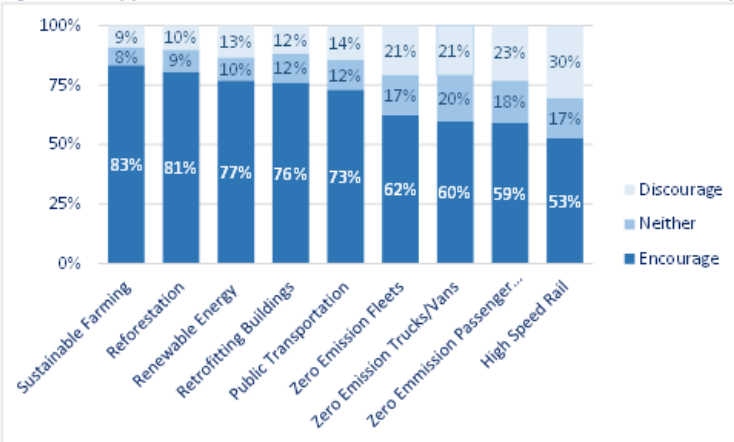
There was remarkable support for government and/or business to immediately address a wide range of environmental issues in Kern. Respondents were asked, *"How important will it be for government and/or business to address these issues within the next two years? Please respond on a scale of 1- Not at all important, 2- Somewhat important, 3- Somewhat important, 4- Extremely important."* A majority of respondents expressed that it was "extremely important" for government and/or business to address water quality (74%), drought (71%), air quality (69%), wildfires (68%), excessive heat (61%), climate change (56%), and pesticide exposure (55%) in the next two years. Including "very important" responses, a large majority (between 77%-92%) of respondents expressed that government and business should address the environmental issues mentioned above within the next two years.

Figure 1.1 Level of Concern with the Environment, Kern County



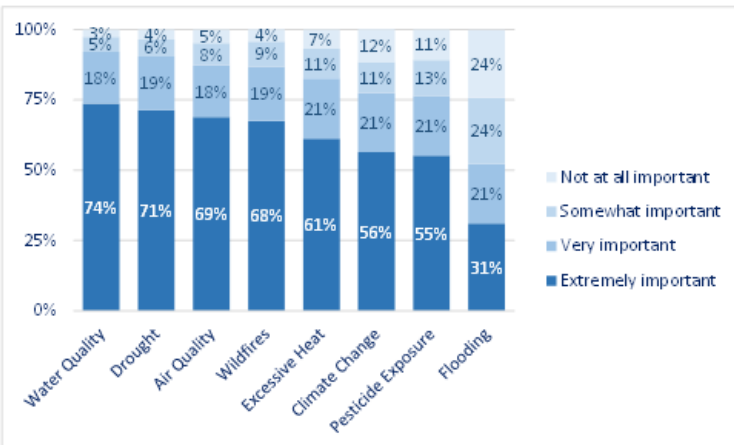
Source: UC Merced Community and Labor Center analysis of Kern H RTP Community Needs Assessment Survey 2022

Figure 1.2 Support for Government Investment of Tax Dollars to Create Quality Jobs



Source: UC Merced Community and Labor Center analysis of Kern H RTP Community Needs Assessment Survey 2022

Figure 1.3 How Important Will it Be for Government and/or Business to Address these Issues in the Next Two Years



Source: UC Merced Community and Labor Center analysis of Kern H RTP Community Needs Assessment Survey 2022

Table 1.1 Level of Concern for the Environment by Region

| | <u>All Localities</u> | <u>Arvin</u> | <u>East Bakersfield</u> | <u>Wasco</u> | <u>Lamont/ Weedpatch</u> |
|---|-----------------------|--------------|-------------------------|--------------|------------------------------|
| <i>Level of Concern for Environment</i> | | | | | |
| Not at All Concerned | 8% (64) | 7% (14) | 7% (15) | 11% (23) | 6% (12) |
| Somewhat Concerned | 36% (303) | 28% (59) | 35% (74) | 42% (89) | 40% (81) |
| Very/ Extremely Concerned | 56% (469) | 65% (135) | 58% (123) | 47% (99) | 55% (112) |
| Total | 836 | 208 | 212 | 211 | 205 |

Source: UC Merced Community and Labor Center analysis of Dolores Huerta Foundation Community Needs Assessment 2023.

Only when asked about flooding did a minority (31%) of respondents state that it was “extremely important” to address the issue within the next two years—yet another 21% expressed that flooding was “very important” to address; thus, even during a historic drought a majority of respondents (52%) expressed that it was extremely important or very important for government and business to address the issue of flooding within the next two years.

Kern workers expressed being interested in better jobs, and more work. When asked if they were interested in having a better job, nearly half (46%) said they were “very interested,” and another 20% said they were “somewhat interested.” Only one-third (34%) said they were “not interested at all” in a better job. Among the twenty-five percent of Kern workers who worked part-time (less than 35 hours per week), more than half (58%) expressed wanting to work a full-time job. And within those wanting to work a full-time job, over a third (34%) cited school or training as the main reason for not working full-time, though an additional 9% said they could only find part-time work, and another 3% said that slack business conditions prevented them from working full-time.

Workers expressed interest in good access to healthcare and healthcare jobs. When asked how important they believed “health/dental/vision insurance” benefits were to workers (on a scale of 1-4, with 4 being “extremely important”), 78% responded “extremely important.” This was tied for the highest rate of any other benefit, including retirement benefits (78%), paid sick leave (74%), paid family leave (69%), vacation days (66%), childcare (62%), and employee discount programs (46%). When asked what it would mean to have a better job, the second-most common response after “better pay” (40%) was “benefits” (13%). More than one in three workers (36%) said that their employer did not offer healthcare coverage.

Workers were also interested in better access to healthcare jobs, apart from access to healthcare. Among those who expressed interest in having a better job, when asked for examples of better jobs the most common response (16%) were healthcare occupations. In fact, among women interested in a better job, 27% mentioned a healthcare occupation as an example of a better job.

Lastly, the importance of an economic safety net emerged through the needs assessment. Over half (51%) of Kern workers had ever experienced unemployment, with the median year of their most recent unemployment being 2020 (the year of the onset of the pandemic). When we asked how many months workers would be able to sustain themselves without a job, the median response was three months.

Dolores Huerta Foundation Community Needs Assessment Survey

The Dolores Huerta Foundation, with support from the UCM Community and Labor Center, conducted a community needs survey in three of the five Kern subregions, including Wasco (North region), Arvin and Lamont (South region), and East Bakersfield (Central region). The door-to-door random sample

Table 1.2 Level of Importance for Government to Address Environmental Issues by Region

| <u>Issue</u> | <u>Level of Importance</u> | <u>Arvin</u> | <u>East Bakersfield</u> | <u>Wasco</u> | <u>Lamont/ Weedpatch</u> |
|-----------------------------------|----------------------------|--------------|-------------------------|--------------|--------------------------|
| Quality of drinking water at work | Not Important | 1.5% | 4.8% | 1.4% | 1.0% |
| | Somewhat Important | 2.0% | 1.4% | 1.4% | 0.5% |
| | Important | 9.5% | 13.8% | 17.1% | 9.3% |
| | Very Important | 16.9% | 21.4% | 21.8% | 33.7% |
| | Extremely Important | 70.2% | 58.6% | 58.3% | 55.6% |
| | | | N=201 | N=210 | N=211 |
| Quality of drinking water at home | Not Important | 1.0% | 4.8% | 1.0% | 1.5% |
| | Somewhat Important | 3.0% | 1.4% | 1.4% | 0.5% |
| | Important | 7.9% | 7.7% | 19.4% | 8.8% |
| | Very Important | 12.8% | 25.4% | 20.9% | 34.6% |
| | Extremely Important | 75.4% | 60.8% | 57.4% | 54.6% |
| | | | N=203 | N=209 | N=211 |
| Air pollution in general | Not Important | 2.45% | 1.9% | 0.5% | 1.0% |
| | Somewhat Important | 2.94% | 3.3% | 1.4% | 0.0% |
| | Important | 7.35% | 9.1% | 17.1% | 11.7% |
| | Very Important | 16.18% | 21.4% | 21.9% | 34.1% |
| | Extremely Important | 71.1% | 64.3% | 59.1% | 53.2% |
| | | | N=204 | N=210 | N=210 |
| Air pollution from agriculture | Not Important | 2.46% | 3.4% | 0.5% | 1.0% |
| | Somewhat Important | 4.93% | 1.9% | 2.4% | 0.5% |
| | Important | 7.88% | 8.6% | 17.4% | 11.2% |
| | Very Important | 18.23% | 25.4% | 21.3% | 33.2% |
| | Extremely Important | 66.5% | 60.8% | 58.5% | 54.1% |
| | | | N=203 | N=209 | N=207 |
| Air pollution from wildfire smoke | Not Important | 4.4% | 2.9% | 1.0% | 2.0% |
| | Somewhat Important | 2.9% | 1.4% | 1.9% | 0.5% |
| | Important | 14.6% | 11.5% | 18.0% | 13.2% |
| | Very Important | 16.0% | 22.5% | 25.1% | 32.2% |
| | Extremely Important | 62.1% | 61.7% | 54.0% | 52.2% |
| | | | N=206 | N=209 | N=211 |
| Excessive heat days | Not Important | 1.5% | 2.4% | 1.9% | 0.5% |
| | Somewhat Important | 3.5% | 2.9% | 2.4% | 0.5% |
| | Important | 7.4% | 12.0% | 18.5% | 11.7% |
| | Very Important | 16.3% | 19.1% | 20.4% | 35.6% |
| | Extremely Important | 71.4% | 63.6% | 56.9% | 51.7% |
| | | | N=203 | N=209 | N=211 |
| Pesticide drifts | Not Important | 5.5% | 4.3% | 1.9% | 2.0% |
| | Somewhat Important | 3.0% | 2.9% | 1.0% | 0.0% |
| | Important | 10.0% | 9.1% | 17.1% | 8.8% |
| | Very Important | 22.5% | 26.3% | 22.9% | 37.1% |
| | Extremely Important | 59.0% | 57.4% | 57.1% | 52.2% |
| | | | N=202 | N=209 | N=210 |

Source: UC Merced Community and Labor Center analysis of Dolores Huerta Foundation Community Needs Assessment 2023.

Table 1.3 Level of Importance for Governmental Action to Create Quality Jobs by Region

| <u>Sector/Area of Job Creation</u> | <u>Level of Importance</u> | <u>Arvin</u> | <u>East Bakersfield</u> | <u>Wasco</u> | <u>Lamont/ Weedpatch</u> |
|------------------------------------|----------------------------|--------------|-------------------------|--------------|--------------------------|
| High-Speed Internet Infrastructure | Not Important | 8.4% | 5.7% | 4.3% | 6.8% |
| | Somewhat Important | 6.4% | 3.3% | 4.3% | 5.9% |
| | Important | 16.3% | 23.6% | 27.5% | 16.1% |
| | Very Important | 20.7% | 21.2% | 19.4% | 29.8% |
| | Extremely Important | 48.3% | 46.2% | 44.5% | 41.5% |
| | | N=203 | N=212 | N=211 | N=205 |
| Public Transportation | Not Important | 4.4% | 1.4% | 1.9% | 1.5% |
| | Somewhat Important | 4.4% | 2.8% | 2.8% | 3.4% |
| | Important | 14.3% | 16.5% | 26.5% | 10.2% |
| | Very Important | 24.6% | 28.8% | 20.9% | 24.9% |
| | Extremely Important | 52.2% | 50.5% | 47.9% | 60.0% |
| | | N=203 | N=212 | N=211 | N=205 |
| Sidewalks | Not Important | 1.0% | 1.4% | 1.9% | 0.0% |
| | Somewhat Important | 4.5% | 2.4% | 3.3% | 0.5% |
| | Important | 10.4% | 11.3% | 21.9% | 10.7% |
| | Very Important | 22.8% | 23.6% | 17.6% | 19.0% |
| | Extremely Important | 61.4% | 61.3% | 55.2% | 69.8% |
| | | N=202 | N=212 | N=210 | N=205 |
| Streetlights | Not Important | 1.0% | 1.9% | 1.9% | 0.0% |
| | Somewhat Important | 3.5% | 2.4% | 1.4% | 1.5% |
| | Important | 8.0% | 10.4% | 20.5% | 7.8% |
| | Very Important | 21.4% | 21.7% | 15.7% | 19.5% |
| | Extremely Important | 66.2% | 63.7% | 60.5% | 71.2% |
| | | N=201 | N=212 | N=210 | N=205 |
| Parks and Recreation Areas | Not Important | 1.5% | 0.9% | 2.4% | 0.0% |
| | Somewhat Important | 3.5% | 2.8% | 2.4% | 1.0% |
| | Important | 11.4% | 13.7% | 18.0% | 11.2% |
| | Very Important | 16.9% | 22.7% | 21.3% | 21.0% |
| | Extremely Important | 66.7% | 59.7% | 55.9% | 66.8% |
| | | N=201 | N=211 | N=211 | N=205 |
| Road Repair | Not Important | 4.0% | 1.4% | 1.9% | 0.0% |
| | Somewhat Important | 4.0% | 2.4% | 0.9% | 0.5% |
| | Important | 14.0% | 9.0% | 19.4% | 7.3% |
| | Very Important | 25.0% | 21.7% | 19.4% | 23.4% |
| | Extremely Important | 52.0% | 65.6% | 58.3% | 68.8% |
| | | N=203 | N=212 | N=211 | N=205 |
| Nearby Grocery Stores | Not Important | 0.5% | 2.8% | 3.3% | 0.5% |
| | Somewhat Important | 3.5% | 4.2% | 3.3% | 1.5% |
| | Important | 10.0% | 14.6% | 21.8% | 9.8% |
| | Very Important | 18.0% | 26.4% | 20.9% | 23.5% |
| | Extremely Important | 68.0% | 51.9% | 50.7% | 64.7% |
| | | N=200 | N=212 | N=211 | N=204 |
| Sewer Systems | Not Important | 1.5% | 4.7% | 4.3% | 0.5% |
| | Somewhat Important | 2.5% | 1.9% | 2.4% | 2.0% |
| | Important | 12.1% | 11.4% | 18.0% | 12.2% |
| | Very Important | 16.1% | 28.4% | 23.7% | 22.0% |
| | Extremely Important | 67.8% | 53.6% | 51.7% | 63.4% |
| | | N=199 | N=211 | N=211 | N=205 |
| Electric Charging Stations | Not Important | 6.4% | 9.4% | 5.2% | 6.9% |
| | Somewhat Important | 7.8% | 8.0% | 2.8% | 3.0% |
| | Important | 13.0% | 11.8% | 18.5% | 14.3% |
| | Very Important | 10.9% | 25.0% | 23.7% | 22.2% |
| | Extremely Important | 61.7% | 45.8% | 49.8% | 53.7% |
| | | N=193 | N=212 | N=211 | N=203 |

Source: UC Merced Community and Labor Center analysis of Dolores Huerta Foundation Community Needs Assessment 2023.

Table 1.4 Percent of Respondents Informed on Renewable Energy Industries

| <i>Green Industry</i> | <u>Percent</u> |
|----------------------------------|----------------|
| Solar Power | 56% |
| Wind Power | 36% |
| Carbon Capture and Sequestration | 22% |
| Direct Air Capture | 22% |
| Hydrogen Energy | 21% |
| Biofuels | 21% |
| Dairy Digesters | 20% |

Source: UC Merced Community and Labor Center analysis of Dolores Huerta Foundation Community Needs Assessment 2023.

methodology allowed survey canvassers to reach hard to count populations such as immigrant communities and undocumented residents. The survey engaged over 800 residents. The survey provides a snapshot of current priorities in Kern’s disinvested towns around issues of the environment and economic development.

The survey showed widespread public support for state climate investments. Most Kern County residents are very or extremely concerned with the environment; express support for government investment in every type of major high road training partnership presented to them; and feel it is extremely important that government and/or business address a range of major environmental challenges within the next two years.

A series of survey interview questions asked residents about their concerns with environmental degradation, climate change, green technologies, and climate investments. Results from the survey interviews on environment, climate, and investments are presented below. The first question asked residents how concerned they are about the environment in general from No Concern to Very or Extremely Concerned. Table 1.1 demonstrates widespread concern for the environment in low-income communities. Overall, a majority of residents are very concerned or extremely concerned about the environment, and this same level of worry showed up in three of the four cities, with nearly half of the respondents in Wasco (47%) also reporting serious concern.

Table 1.2 includes specific preferences in disinvested communities for specific government action on reducing pollution. There is widespread support for state action on the quality of drinking water, air pollution, excessive heat, and pesticides.

Table 1.3 provides information on where disinvested communities would prioritize government climate and environmental investments to create high quality employment, such as from the Inflation Reduction Act (IRA), California Climate Investments (AB 1550, SB 535), and CJF. There is widespread local support for job creation based on community needs within Kern County Disadvantaged Communities (DACs).

Kern residents largely expressed being uninformed about the benefits and risks of newly proposed clusters. The DHF survey asked Kern residents about their familiarity with several of the new

Table 1.5 Preferences for the Growth of Jobs by Sector in 4 Disinvested Kern Communities

| <i>Sector</i> | <u>Percent</u> |
|---------------------------------------|----------------|
| Solar Power/Energy | 78% |
| Land and Oilfield Cleanup | 57% |
| Warehousing | 55% |
| Wind Energy | 47% |
| Highspeed Rail | 46% |
| Technology Sectors | 43% |
| Carbon Management | 39% |
| Electrification/Electric Car Charging | 35% |
| Hydrogen Power | 33% |
| Biofuels | 32% |
| Agricultural Technologies (Agtech) | 31% |
| N= | 837 |

Source: UC Merced Community and Labor Center analysis of Dolores Huerta Foundation Community Needs Assessment 2023.

Table 1.6 Preferences for State Investments of Greenhouse Gas Reduction Funds

| <i>Sector to Invest</i> | <u>Mean Score (1-4)</u> |
|--|-------------------------|
| Clean Drinking Water | 3.68 |
| Protections from Air Pollution | 3.61 |
| Job Creation | 3.60 |
| More Parks and Recreational Space | 3.60 |
| Infrastructure Protections from Extreme Heat | 3.59 |
| Flood Control Infrastructure | 3.54 |

Source: UC Merced Community and Labor Center analysis of Dolores Huerta Foundation Community Needs Assessment 2023.

renewable energy systems and climate technologies expanding rapidly in the San Joaquin Valley in the 2020s (see table 1.4). A majority of respondents reported knowing about the potential risks and benefits of solar energy, and slightly over one third knew about wind power. Yet, for all other new technologies roughly only one in five residents reported awareness.

Table 1.5 provides information on the sectors in the region where Kern residents would like to see more employment opportunities. Solar power was the top preference followed by land reclamation and oil field clean up, and then warehousing. Agricultural technology and agricultural automation were the least desired.

Table 1.6 asks respondents specifically how they prefer the state’s Greenhouse Gas Reduction Funds (GGRF) invested. Although there was not much separation among priorities, there was a strong preference for pollution mitigation and job creation.

AREA 1. STAKEHOLDER MAPPING

This stakeholder map identifies community-based organizations, labor organizations, economic and workforce development agencies and organizations, education and training providers, and business and industry associations that have been historically active in the region and can influence or benefit from a high road economy. The stakeholder map assesses and discusses each stakeholder category's potential role in the CJF process and includes considerations and strategies for engaging and involving stakeholders.

Based on the State's objectives for community and worker-centered economic development and for the inclusion of voices that have been traditionally left out of economic planning, this stakeholder map identifies organizations or entities that serve or intersect with hard-to-reach populations in Kern County that are generally left out of economic planning processes in addition to stakeholders that are traditionally engaged in economic development initiatives. Prioritizing engagement with entities that intersect with hard-to-reach populations will help the Kern Coalition meet the key equity and inclusion objectives of CJF and support investments in underserved jurisdictions and populations.

The stakeholder map also identifies disinvested communities in the region and existing networks and aligned sustainability, climate, and economic development plans, strategies and reports to ensure the CJF process complements existing state and federal infrastructure, climate, business, and workforce initiatives and investments.

Section 1.1 Stakeholder List

The stakeholder map provides a snapshot of historically active stakeholders that can influence a High Road economy in the Kern County region and/or benefit from it. It provides a list of organizations and entities that are located in Kern County or that serve or benefit Kern County residents, workers, or businesses. See Appendix A. The list includes information on specific demographics or sectors served; the region, city or neighborhood served; and the issue area focus of each entity. The stakeholder categories included in the map are: 1) Direct Aid and Service Providers; 2) Base-Building Organizations; 3) Local Community Groups and Neighborhood Associations; 4) Advocacy and Philanthropic Organizations; 5) Labor Organizations and Unions; 6) Education and Training Providers and Programs; 7) Business and Economic Development Organizations; and 8) Industry and Trade Associations. The list identifies strategies for engagement and potential roles for each stakeholder category.

Direct Aid and Service Providers

This section focuses on entities that provide aid or services to target and hard to reach populations, including low-income residents, black, indigenous, and people of color, youth between the ages of 12 and 24, unemployed or under-employed residents, immigrants, farmworkers, and other vulnerable populations. While too numerous to list individually, schools, libraries, government institutions, community centers, and churches have a presence in most Kern County communities and can be especially important in reaching hard to reach populations or communities that may not have many established institutions.

Organizations that provide direct services to vulnerable populations such as those providing mutual aid or supportive services directly to at-risk, hard to reach, or vulnerable populations may be best suited to play an outreach role or otherwise connect Kern residents and workers to the Kern CJF process. Community institutions and service and aid organizations may be willing to provide physical or virtual space (i.e. newsletters, websites, or social media platforms) to help disseminate materials about CJF and share opportunities to participate in the planning and implementation process.

Individuals receiving aid or services face some of the most significant barriers to participation in civic engagement. To engage these populations, the Kern CJF Coalition should ensure that participation is

accessible, requires minimal effort, and directly benefits participants. Strategies may include engaging individuals at the time they receive services or aid, such as providing hard copy surveys or questionnaires at physical locations, disseminating text or phone-based surveys, or providing stipends for resident participation.

Base-Building Organizations

Base-building organizations are those that build collective strength by enabling members of the community to exercise influence over systems that affect community conditions. These groups bring residents together to try and effect changes in community-level social, economic, and physical conditions. These groups align closely with CJF's stated purpose and their involvement will be instrumental in engaging residents who already are committed to reducing inequities in social and economic systems. However, base-building organizations often work outside of established systems that they perceive as unfair or inaccessible. To engage these organizations, the Kern Coalition will have to build trust in the decision-making process and structure and demonstrate an understanding and commitment to systems change. Building trusting relationships over time is a critical component of working collaboratively with base-building organizations. The criteria this stakeholder map uses to determine whether an entity is a base-building organization is whether the organization uses community organizing as a strategy and whether it has an established membership or base of residents with whom it regularly engages or partners.

Local Community Groups or Neighborhood Associations

Local community groups and neighborhood associations can be important stakeholders because of their focus on improving local conditions, their high level of engagement on issues affecting their local communities, their knowledge of local demographics, and their expertise on the specific needs and priorities of their community. Engaging these groups and their members can help the coalition assess needs gaps across the region, identify local priorities, and develop local proposals for possible implementation. Ensuring that residents across different areas of the county are engaged in the Kern CJF process will enable the coalition to meet the diverse needs of the county's sub-regions.

Advocacy and Philanthropic Organizations

Advocacy organizations are important partners because they can provide issue-area expertise, may have extensive knowledge of local conditions, concerns, and potential solutions, and likely intersect with residents, workers, or employers that are critical stakeholders for the Kern CJF program. These organizations can help with outreach, provide input on research, and provide local data to support the initiative. Advocacy and philanthropic organizations may be able to dedicate more time and attention to participating in the process if they believe it aligns with their organizational mission and priorities. Similar to the base-building groups, some advocacy groups will only participate if they trust the decision-making process and the Coalition's commitment to serving the public good.

To align with the intent of CJF, this stakeholder map identifies organizations with a focus on social justice, climate and sustainability, community health, community development, philanthropy, economic justice, or the advancement of vulnerable or marginalized populations.

Labor Organizations and Unions

The goal of the CJF program is to support strategies to develop sustainable industries that create high-quality, broadly accessible jobs for all Californians. Labor organizations and unions are pivotal to the process since the CRF guidelines require that regional processes and plans must be worker-centered, inclusive of voices that have been left out of economic development decisions (which includes labor perspectives), and representative of all relevant stakeholders, including labor. Labor organizations can help identify local high road employers, suitable labor standards, apprenticeship program opportunities, and

workforce training needs. Labor organizations can also provide critical outreach to Kern County workers to participate in the process and provide critical information on their priorities for the region as well as data on local wages, benefits, worker health and safety, and other worker issues.

Education and Training Providers and Programs

Education and training providers are critical stakeholders to ensure that workers and those entering the labor force are trained and prepared for the future labor market, especially for employment in target sectors that will support Kern County's transition to a carbon neutral economy. Education and training providers can provide data on Kern County's existing education and training gaps, student interest areas, and areas of strength upon which to capitalize. Education and training providers and high road employers in the area can collaborate to ensure that local students and workers have established pathways to high road employment. Education and training providers can also identify strategies to reach and serve vulnerable and hard to reach populations to ensure the region increases opportunities for disadvantaged residents and promotes long-term shared prosperity.

Business and Economic Development Organizations

Business serving and economic development organizations have historically been engaged in economic and workforce development processes and are influential in local decision-making. While a key goal of the California Jobs First program is to center community and worker perspectives and include voices that have been traditionally left out of economic planning, it also requires a balanced representation of stakeholders, including economic development partners. The Coalition will need to develop strategies to include business and economic development organizations while providing space and building capacity for those who have not been traditionally at the table to engage fully in the process. Business and economic development organizations can advance the goals of CJF by helping to identify and engage high road employers and by identifying strategies to promote and attract high road employers to the region. Business and economic development organizations serving disadvantaged populations can also play a big role in identifying strategies to promote equitable business opportunities and pathways to shared prosperity.

Industry and Trade Associations

Kern County's economy is heavily influenced by several sectors that are unique to the region. Agriculture and oil production have historically been important drivers of the local economy. Given the primacy and wealth generation related to oil and agricultural production, stakeholders with financial ties to these sectors have traditionally been involved in economic development processes, local politics, and philanthropic efforts. The financial influence of these industries is significant as these sectors contribute a substantial percentage of the local tax base and employ a sizable percentage of the local workforce (Plumer 2022). Industry stakeholders have a close relationship with local elected officials and serve on many local boards, commissions, and nonprofits. While the California Jobs First program requires balanced representation, it should seek to include industry and trade associations that align with the programs' underlying goal to support the transition to a carbon neutral economy.

Section 1.2 State of Disinvested Communities

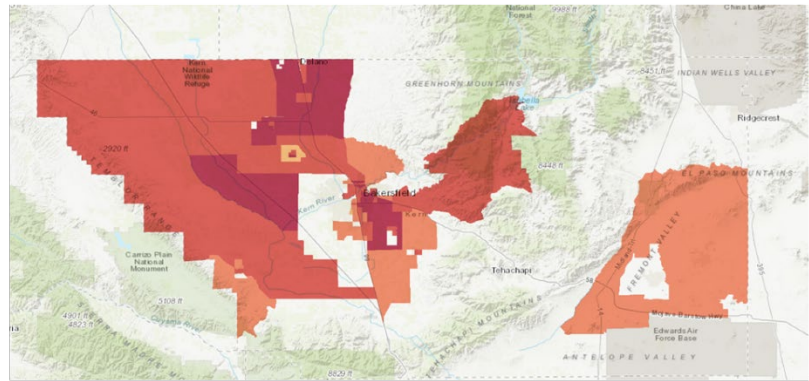
This section of the stakeholder map identifies and provides an overview of the state of disadvantaged communities in each subregion of Kern County, including information on key socioeconomic factors impacting the community, active organizations in the area that may provide a role in outreaching to local residents, and recommendations on

local outreach strategies to ensure the active participation of stakeholders that will be impacted most by the successful implementation of the California Jobs First plans and investments. California defines disadvantaged communities as the areas throughout California which most suffer from a combination of economic, health, and environmental burdens. These burdens include poverty, high unemployment, air and water pollution, presence of hazardous wastes as well as high incidence of asthma and heart disease (Office of Environmental Health Hazard Assessment 2021) The state identifies these areas using CalEnviroScreen, an analytical tool created by the California Environmental Protection Agency (CalEPA) that combines census tract-specific information into a relative score to determine which communities are the State's most burdened or "disadvantaged." This map identifies disadvantaged communities as census tracts within the top 25 percent of overall scores on CalEnviroScreen 4.0. The map also highlights socioeconomic factors for each community scoring in the top 25th percentile. The socioeconomic factors scored include educational attainment, which measures the highest level of education received by individuals in the census tract, the housing burden indicator which measures households that are both low-income and highly burdened by housing costs, the linguistic isolation indicator which measures the number of limited-English speaking households, the poverty indicator which measures the number of households or individuals below the federal poverty level, and the unemployment indicator which measures the number of people who are over 16 years, out of work and able to work, excluding students, retired persons, and individuals who have stopped looking for work.

This section designates various outreach and engagement strategies for disadvantaged and hard to reach communities in Kern County and identifies where they could be most useful. The designations include:

- *Community Partner Outreach.* This strategy relies on trusted community partners to provide outreach to members of the community. This strategy can be employed where communities have a network of service providers and active community-based groups.
- *Isolated Community Outreach.* This strategy should be employed in communities that have few to no active community partners. These communities will likely be unincorporated with small population sizes. The outreach strategy should focus on schools, churches, and any government entities, which may be present even in communities where few other institutions operate.
- *Spanish First Engagement.* This strategy recommends that all materials, outreach, and meetings be written and spoken in Spanish (or other prevalent language) with translation available for English-speakers. This will require that individuals conducting the outreach and presentations be fluent in Spanish or other languages spoken by the community. Meetings should be equipped with headsets and simultaneous-translation available to English-speakers.

Figure 1.4 Top 25% Disadvantaged Communities in Kern County



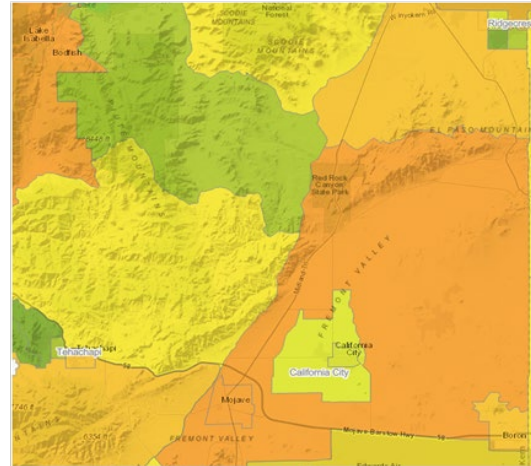
Source: CalEnviroScreen 4.0

- *Virtual Community Engagement.* This strategy can be employed when physical outreach is not possible due to community remoteness and isolation. Outreach can be done via remote access workshops, online surveys, phone banking, or text-based tools. Note that some areas may have limited internet access which will reduce the efficacy of some technology-based outreach tools.

East Kern Subregion

The East Kern subregion is geographically diverse, with portions spread across the Kern River Valley, the Tehachapi Mountains, and the high desert. It includes incorporated cities like California City, Ridgecrest, and Tehachapi and unincorporated communities like Lake Isabella, Boron, Mojave, and Rosamond. This subregion hosts significant military and defense establishments such as the Mojave Air and Space Port, Edwards Air Force Base, and China Lake Naval Air Weapons Station, which contribute more than 21% of total employment in the region (Kern County 2017). While the vast majority of residents in this region have a high school diploma (84.9%), only 18.5% of East Kern residents aged 25 and above hold a bachelor’s degree or higher, significantly lower than state and national rates at 31% and 29.3% respectively (US Census Bureau 2021).

Figure 1.5 Disadvantaged Communities in East Kern County



Source: CalEnviroScreen 4.0

Despite this, East Kern has a higher percentage of college-educated residents compared to other parts of Kern County. The median household income of \$65,810 exceeds Kern’s median income by 10% but falls well short of California’s median of \$91,905. East Kern’s poverty rate of 15.2% is 25% higher than California’s rate (US Census Bureau 2021a). This suggests that while East Kern residents may have a higher income compared to their Central Valley counterparts, they still face disparities when compared to the state.

The East Kern Subregion contains three disadvantaged communities: Bodfish, Lake Isabella, and Mojave. These communities are small, isolated, and remote from potential community partners. However, several schools, churches and government institutions are present in these communities and can serve as potential partners or provide physical locations for outreach activities. The following graphs indicate the CalEnviroScreen score for each disadvantaged community, including the percentile for each socio-economic factor measured by CalEnviroScreen. A score of 80 would indicate that the census tract containing the disadvantaged community scores higher (i.e. worse) than 80 percent of other census tracts in California for that indicator.

| Bodfish and Lake Isabella | |
|----------------------------------|-----------|
| CES Score | 80 |
| Education | 58 |
| Linguistic Isolation | N/A |

Outreach Strategies: Isolated Community Outreach and Virtual Community Engagement

Current Outreach Partners: United Way, Dolores Huerta Foundation

Additional Outreach Resources: Kern River Valley Family Resource Center, Kernville Chamber of Commerce

| | |
|----------------|-----------|
| Poverty | 84 |
| Unemployment | 97 |
| Housing Burden | 36 |

| | |
|----------------------|-----------|
| Mojave | |
| CES Score | 79 |
| Education | 70 |
| Linguistic Isolation | 69 |
| Poverty | 91 |
| Unemployment | 98 |
| Housing Burden | 62 |

Outreach Strategies: Isolated Community Outreach and Virtual Community Engagement

Current Outreach Partners: United Way, Dolores Huerta Foundation

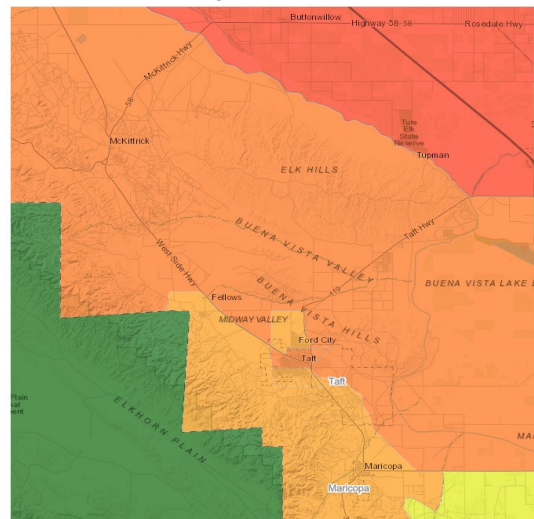
Additional Outreach Resources: East Kern Family Resource Center, The Mojave Foundation, Mojave Chamber of Commerce

West Kern Subregion

Encompassing a cluster of cities and census-designated places (CDPs) in the Valley such as Derby Acres, Lost Hills, Maricopa, McKittrick, Mettler, and Taft, and the mountain communities of Frazier Park, Lebec and Pine Mountain Club. every community in West Kern subregion is classified as disadvantaged. Just over 77 percent of residents in West Kern are high school graduates and 13.1 percent hold a bachelor’s degree or higher (US Census Bureau 2021b). The median household income of \$46,628 in West Kern County is notably lower than the Kern County median of \$58,824, and significantly below California’s median of \$84,097 (US Census Bureau 2021c). The poverty rate of 27.4% in West Kern is double that of California’s rate and 1.5 times higher than Kern’s average. Fossil fuel extraction is the main driver of the local economy.

Every community in the Valley section of the West Kern Subregion scores in the top 25th percentile on CalEnviroScreen 4.0. The City of Taft is the largest community in the area, with a population of just under 10,000. The other unincorporated communities in the area have very few public services or institutions, making physical outreach to these very small communities difficult. The nearest potential partners to these

Figure 1.6 Disadvantaged Communities in West Kern County



Source: CalEnviroScreen 4.0

communities are located in Taft or Buttonwillow, which are likely where residents of nearby unincorporated communities receive public services.

| | |
|----------------------|-----------|
| Taft | |
| CES Score | 82 |
| Education | 77 |
| Linguistic Isolation | n/a |
| Poverty | 81 |
| Unemployment | 43 |
| Housing Burden | 47 |

Outreach Strategies: Community Partner Engagement, Virtual Community Engagement

Current Outreach Partners: Faith in the Valley

Additional Outreach Resources: Shar-On, Westside Outreach and Learning Center, Taft College, Taft Chamber of Commerce

| | |
|----------------------|-----------|
| Ford City | |
| CES Score | 79 |
| Education | 86 |
| Linguistic Isolation | 93 |
| Poverty | 99 |
| Unemployment | 94 |
| Housing Burden | 62 |

Outreach Strategies: Spanish First Engagement, Community Partner Engagement, Virtual Community Engagement

Current Outreach Partners: Faith in the Valley

Additional Outreach Resources: Shar-On, Westside Outreach and Learning Center, Taft College, Taft Chamber of Commerce

| | |
|--------------------------------|-----------|
| Buttonwillow and Tupman | |
| CES Score | 96 |
| Education | 80 |

Outreach Strategies: Spanish First Engagement, Isolated Community Outreach and Virtual Community Engagement

Current Outreach Partners: Faith in the Valley

Additional Outreach Resources: Buttonwillow Community Resource Center, Greenaction for Health and Environmental Justice, Buttonwillow Elementary, Elk Hills Elementary

| | |
|----------------------|-----------|
| Linguistic Isolation | 83 |
| Poverty | 86 |
| Unemployment | 89 |
| Housing Burden | 58 |

| | |
|--|-----------|
| Fellows, Mckittrick and Derby Acres | |
| CES Score | 81 |
| Education | 76 |
| Linguistic Isolation | 58 |
| Poverty | 70 |
| Unemployment | 88 |
| Housing Burden | 17 |

| | |
|----------------------|-----------|
| Maricopa | |
| CES Score | 77 |
| Education | 82 |
| Linguistic Isolation | 53 |
| Poverty | 92 |
| Unemployment | 89 |
| Housing Burden | 30 |

Outreach Strategies: Isolated Community Outreach and Virtual Community Engagement

Current Outreach Partners: Faith in the Valley

Additional Outreach Resources: Mckittrick Elementary School, Midway Elementary School, Belridge Elementary

Outreach Strategies: Isolated Community Outreach and Virtual Community Engagement

Current Outreach Partners: Faith in the Valley

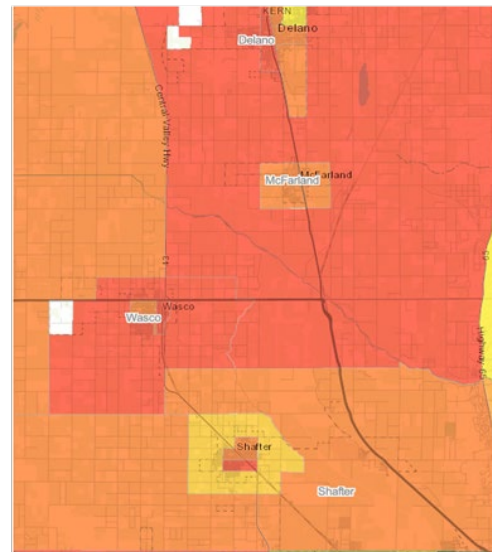
Additional Outreach Resources: Maricopa Elementary School, Maricopa Middle School

North Subregion

The North Kern subregion comprises cities and CDPs such as Lost Hills, Cherokee Strip, Delano, Lost Hills, McFarland, Mexican Colony, Shafter, Smith Corner, and Wasco. Most census tracts in this subregion meet the definition of disadvantaged. The North subregion is largely disadvantaged with very high levels of linguistic isolation and poverty and very low levels of educational attainment. Delano households have a median income of \$47,845 (US Census Bureau 2021d) and Shafter has a median income of \$56,111. Wasco and Delano-McFarland have SNAP participation rates surpassing state and national averages at 25% and 21% respectively. North Kern is heavily reliant on agriculture.

With the exception of Lost Hills, there are a significant number of active community partners in the subregion, including base-building and local community groups who could potentially reach a significant segment of the population. However, many of these groups are not yet engaged in the CJF process but could greatly benefit the effort.

Figure 1.7 Disadvantaged Communities in North Kern County



Source: CalEnviroScreen 4.0

| | |
|----------------------|-----------|
| Delano | |
| CES Score | 80 |
| Education | 85 |
| Linguistic Isolation | 96 |
| Poverty | 81 |
| Unemployment | 93 |
| Housing Burden | 46 |

Outreach Strategies: Spanish First Engagement, Community Partner Engagement

Current Partners: Comunidades Aliadas Tomando Accion, Jakara Movement, Faith in the Valley

Additional Outreach Resources: California Rural Legal Assistance, Delano Community Connection Center, Mexican American Opportunity Foundation, O.L.A. Raza, Inc., Shamrock Community Foundation, Center on Race, Poverty & the Environment, Loud for Tomorrow, Delano Guardians, Delano Chamber of Commerce, Delano Adult School

| | |
|-------------------|-----------|
| Lost Hills | |
| CES Score | 86 |
| Education | 99 |

Outreach Strategies: Spanish First Engagement, Isolated Community Outreach and Virtual Community Engagement

Current Partners: Comunidades Aliadas Tomando Accion, Jakara Movement, Faith in the Valley

Additional Outreach Resources: Lost Hills Family Resource Center, Lost Hills En Accion

| | |
|----------------------|------------|
| Linguistic Isolation | 100 |
| Poverty | 96 |
| Unemployment | 62 |
| Housing Burden | 40 |

| | |
|----------------------|-----------|
| McFarland | |
| CES Score | 86 |
| Education | 99 |
| Linguistic Isolation | 99 |
| Poverty | 97 |
| Unemployment | 92 |
| Housing Burden | 33 |

| | |
|------------------------|------------|
| Shafter (South) | |
| CES Score | 90 |
| Education | 100 |
| Linguistic Isolation | 95 |
| Poverty | 99 |
| Unemployment | 86 |
| Housing Burden | 81 |

Outreach Strategies: Spanish First Engagement, Community Partner Engagement

Current Partners: Comunidades Aliadas Tomando Accion, Jakara Movement, Faith in the Valley

Additional Outreach Resources: McFarland Family Resources Center, Central California Environmental Justice Network, Kern Welcoming and Extending Solidarity to Immigrants, FIELD, McFarland Learning Center, McFarland Chamber of Commerce

Outreach Strategies: Spanish First Engagement, Community Partner Engagement

Current Partners: Comunidades Aliadas Tomando Accion, Jakara Movement, Faith in the Valley

Additional Outreach Resources: Shafter Healthy Start Family Resource Center, Center on Race, Poverty & the Environment, Committee for a Better Shafter, Committee to Preserve La Colonia, Listen to Shafter, FIELD, Westside Energy Services and Education Center, Shafter Chamber of Commerce

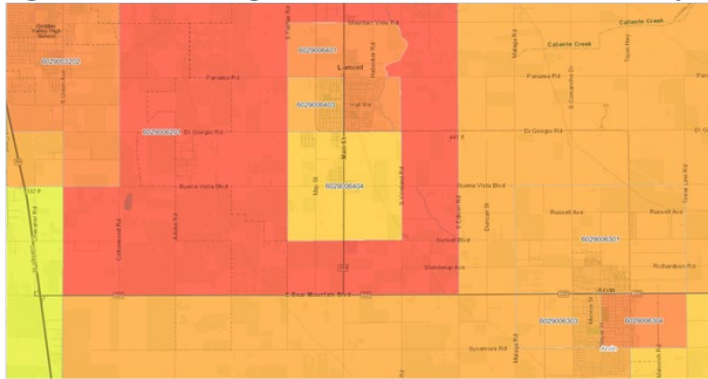
| | |
|------------------------|-----------|
| Shafter (North) | |
| CES Score | 83 |
| Education | 83 |
| Linguistic Isolation | 69 |
| Poverty | 85 |
| Unemployment | 82 |
| Housing Burden | 42 |

Outreach Strategies: Community Partner Engagement
Current Partners: Comunidades Aliadas Tomando Accion, Jakara Movement, Faith in the Valley
Additional Outreach Resources: Shafter Healthy Start Family Resource Center, Center on Race, Poverty & the Environment, Committee for a Better Shafter, Committee to Preserve La Colonia, Listen to Shafter, FIELD, Westside Energy Services and Education Center, Shafter Chamber of Commerce

| | |
|----------------------|-----------|
| Wasco | |
| CES Score | 80 |
| Education | 88 |
| Linguistic Isolation | 87 |
| Poverty | 87 |
| Unemployment | 89 |
| Housing Burden | 18 |

Outreach Strategies: Spanish First Engagement, Community Partner Engagement
Current Partners: Comunidades Aliadas Tomando Accion, Jakara Movement, Faith in the Valley
Additional Outreach Resources: Community Support Options, Orange Heart Foundation, Wasco Adult Education Program

Figure 1.8 Disadvantaged Communities in South Kern County



Source: CalEnviroScreen 4.0

high school education. The South subregion has a poverty rate of 28.77% with 62.67% of households qualifying as low-income (US Census Bureau 2021e). Nearly 30% of children in the region live in poverty and approximately 40% of children live in single-parent households. The subregion is characterized by several leading industry sectors, including agriculture, food manufacturing and logistics.

With the exception of Arvin, all South subregion communities are unincorporated. Without local representation, residents in these communities have historically had less of a voice in local economic development decisions. However, there are a significant number of active community partners in the Valley portion of subregion, including base-building and local community groups who could potentially reach a significant segment of the population. Many of these groups are not yet engaged in the CJF process but could greatly benefit the effort. There are fewer active community partners in the mountain region, requiring alternative community outreach and engagement strategies for Frazier Park, Lebec and Pine Mountain Club.

South Subregion

South Kern subregion comprises Valley-based cities and CDPs such as Arvin, Edmundson Acres, Fuller Acres, Greenfield, Lamont, and Weedpatch. The South subregion has similar characteristics to the North subregion and is largely disadvantaged with very high levels of linguistic isolation and poverty and very low levels of educational attainment. Racial and ethnic minorities account for 87.90% of the population in South Kern. Forty-five percent of residents possess less than a

| | |
|----------------------|------------|
| Arvin | |
| CES Score | 87 |
| Education | 100 |
| Linguistic Isolation | 97 |
| Poverty | 100 |
| Unemployment | 87 |
| Housing Burden | 49 |

Outreach Strategies: Spanish First Engagement, Community Partner Engagement

Current Outreach Partners: Jakara Movement, Dolores Huerta Foundation, Centro Unidad Popular Benito Juarez, Comunidades Aliadas Tomando Accion Change

Additional Outreach Resources: Arvin Family Resource Center, Mexican American Opportunity Foundation, Center on Race, Poverty & the Environment, Committee for a Better Arvin, South Valley Neighborhood Partnership, Arvin Chamber of Commerce

| | |
|----------------------|------------|
| Lamont | |
| CES Score | 89 |
| Education | 100 |
| Linguistic Isolation | 98 |
| Poverty | 95 |
| Unemployment | 87 |
| Housing Burden | 82 |

Outreach Strategies: Spanish First Engagement, Community Partner Engagement

Current Outreach Partners: Jakara Movement, Dolores Huerta Foundation, Centro Unidad Popular Benito Juarez, Comunidades Aliadas Tomando Accion Change

Additional Outreach Resources: California Rural Legal Assistance, Lamont Weedpatch Family Resource Center, Center on Race, Poverty & the Environment, Comite Progreso de Lamont, South Valley Neighborhood Partnership, Unidad Popular Benito Juárez, FIELD

| | |
|----------------------|-----------|
| Greenfield | |
| CES Score | 89 |
| Education | 84 |
| Linguistic Isolation | 40 |
| Poverty | 89 |
| Unemployment | 88 |
| Housing Burden | 49 |

Outreach Strategies: Community Partner Engagement

Current Outreach Partners: Jakara Movement, Dolores Huerta Foundation, Centro Unidad Popular Benito Juarez, Comunidades Aliadas Tomando Accion Change

Additional Outreach Resources: Greenfield Family Resource Center, Greenfield Walking Group

| | |
|----------------------|-----------|
| Fuller Acres | |
| CES Score | 97 |
| Education | 95 |
| Linguistic Isolation | 89 |
| Poverty | 90 |

Outreach Strategies: Spanish First Engagement, Community Partner Engagement

Current Outreach Partners: Jakara Movement, Dolores Huerta Foundation, Centro Unidad Popular Benito Juarez, Comunidades Aliadas Tomando Accion Change

Additional Outreach Resources: Leadership Counsel, California Rural Legal Assistance, Lamont Weedpatch Family Resource Center, Comite Progreso de Lamont, South Valley Neighborhood Partnership, Unidad Popular Benito Juárez, FIELD

| | |
|----------------|-----------|
| Unemployment | 83 |
| Housing Burden | 16 |

| Edmundson Acres | |
|------------------------|------------|
| CES Score | 75 |
| Education | 100 |
| Linguistic Isolation | 98 |
| Poverty | 94 |
| Unemployment | 84 |
| Housing Burden | 36 |

Outreach Strategies: Spanish First Engagement, Community Partner Engagement

Current Outreach Partners: Jakara Movement, Dolores Huerta Foundation, Centro Unidad Popular Benito Juarez, Comunidades Aliadas Tomando Accion Change

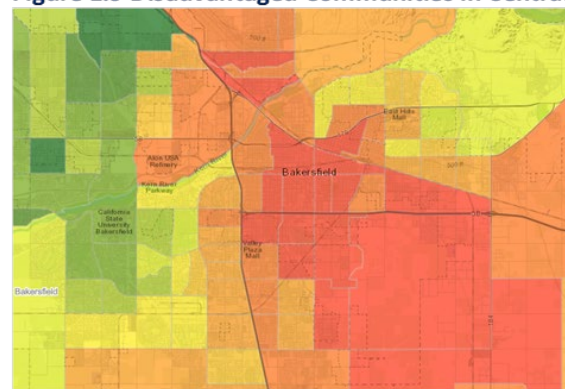
Additional Outreach Resources: Arvin Family Resource Center, Mexican American Opportunity Foundation, Center on Race, Poverty & the Environment, Committee for a Better Arvin, South Valley Neighborhood Partnership, Arvin Chamber of Commerce

Central Subregion

The Central subregion consists of Bakersfield and surrounding areas. Bakersfield is the ninth most populated city in California and the second biggest city in the Central Valley, slightly behind Fresno. Bakersfield has significant disparities in poverty rates among different racial and ethnic groups. While the overall poverty rate is 16.1%, the percentages for specific groups vary significantly. White non-Hispanic residents have the lowest poverty rate at 10.5%, whereas Black residents face the highest rate at 28.6% (US Census Bureau 2021d). Nearby Oildale has a poverty rate of 30.5% despite having a median income of \$49,490. A relatively low percentage of Bakersfield’s population (25 years and over) has a bachelor’s degree or higher (22%) compared to California’s average (33%) (Kern County 2017). The Bakersfield area has been historically driven by oil and agriculture despite having a smaller proportion of workers in the agriculture and oil production sectors than other areas of the county due to the diversity of urban core businesses and services.

Bakersfield contains a significant network of nonprofits, service providers, business organizations and associations, and government institutions. The significant number of active community partners in the subregion, including base-building and local community groups, can potentially reach a significant segment of the population. While the number of Bakersfield organizations serving entities are too numerous to list individually, the stakeholder list of the stakeholder map (see section 1.1) is a good

Figure 1.9 Disadvantaged Communities in Central Kern County



Source: CalEnviroScreen 4.0

reference to identify potential community partners. Downtown and South East Bakersfield areas include a sizable percentage of hard-to-reach populations and increased attention on outreach in these areas would further the goals of the Kern Coalition.

| | |
|----------------------|-----------|
| Oildale | |
| CES Score | 93 |
| Education | 84 |
| Linguistic Isolation | 14 |
| Poverty | 96 |
| Unemployment | 99 |
| Housing Burden | 81 |

Outreach Strategies: Community Partner Engagement
Current Partners: United Way, Greenfield Walking Group, Dolores Huerta Foundation, Jakara Movement, Vision y Compromiso, Community Interventions

Additional Outreach Resources: Oildale Community Action Team, North of the River Chamber of Commerce

Bakersfield Zip Codes

| | |
|----------------------|-----------|
| 93301 | |
| CES Score | 95 |
| Education | 79 |
| Linguistic Isolation | 40 |
| Poverty | 99 |
| Unemployment | 98 |
| Housing Burden | 72 |

| | |
|----------------------|-----------|
| 93304 | |
| CES Score | 99 |
| Education | 86 |
| Linguistic Isolation | 83 |
| Poverty | 99 |
| Unemployment | 97 |
| Housing Burden | 88 |

| | |
|----------------------|------------|
| 93305 | |
| CES Score | 95 |
| Education | 98 |
| Linguistic Isolation | 91 |
| Poverty | 100 |
| Unemployment | 100 |
| Housing Burden | 96 |

| | |
|----------------------|-----------|
| 93306 | |
| CES Score | 79 |
| Education | 97 |
| Linguistic Isolation | 90 |
| Poverty | 98 |
| Unemployment | 92 |
| Housing Burden | 82 |

| | |
|----------------------|-----------|
| 93307 | |
| CES Score | 98 |
| Education | 99 |
| Linguistic Isolation | 93 |
| Poverty | 98 |
| Unemployment | 99 |
| Housing Burden | 95 |

| | |
|----------------------|-----------|
| 93309 | |
| CES Score | 76 |
| Education | 74 |
| Linguistic Isolation | 49 |
| Poverty | 89 |
| Unemployment | 38 |
| Housing Burden | 64 |

| | |
|----------------------|-----------|
| 93380 | |
| CES Score | 88 |
| Education | 41 |
| Linguistic Isolation | 17 |

| | |
|----------------------|-----------|
| 93383 | |
| CES Score | 99 |
| Education | 86 |
| Linguistic Isolation | 83 |

| | |
|----------------------|-----------|
| 93384 | |
| CES Score | 87 |
| Education | 82 |
| Linguistic Isolation | 84 |

| | |
|----------------|----|
| Poverty | 73 |
| Unemployment | 86 |
| Housing Burden | 45 |

| | |
|----------------|----|
| Poverty | 99 |
| Unemployment | 97 |
| Housing Burden | 88 |

| | |
|----------------|----|
| Poverty | 89 |
| Unemployment | 85 |
| Housing Burden | 42 |

| | |
|----------------------|-----|
| 93385 | |
| CES Score | 93 |
| Education | 99 |
| Linguistic Isolation | 88 |
| Poverty | 100 |
| Unemployment | 100 |
| Housing Burden | 93 |

| | |
|----------------------|----|
| 93387 | |
| CES Score | 90 |
| Education | 97 |
| Linguistic Isolation | 89 |
| Poverty | 99 |
| Unemployment | 99 |
| Housing Burden | 73 |

| | |
|----------------------|----|
| 93388 | |
| CES Score | 93 |
| Education | 84 |
| Linguistic Isolation | 14 |
| Poverty | 96 |
| Unemployment | 99 |
| Housing Burden | 81 |

Section 1.3 Existing Networks and Regional Initiatives

The CJF program requires that regional coalitions coordinate, advance, and complement – without supplanting – state and federal investments, state-sponsored local and regional economic, workforce and community development programs, and mission-aligned initiatives. It also requires regional coalitions to connect to existing and emerging high road training partnerships. The stakeholder map identifies related programs and initiatives, including existing high road training partnerships, local climate initiatives and investments, workforce and economic development plans, and land-use planning initiatives. For each plan, program or initiative, the stakeholder map summarizes its goals, partners, and key findings or outcomes.

Kern Coalition - California Jobs First

Goals: The Kern Coalition is a collaborative of local organizations that formed to respond to the opportunities outlined by CJF to build on and leverage the expansive networks of all convener members to ensure all Kern County stakeholders are represented in decision-making.

Key Partners: Kern Community College District (Kern CCD), B3K Prosperity, Kern Inyo Mono Central Labor Council (KIM CLC), Community Action Partnership of Kern (CAPK), and Building Healthy Communities Kern.

Key Findings or Outcomes: Pending

H RTP High Road Training Partnership: Connecting Underrepresented Workers to High Road Jobs Project

Goals: The Energy Innovation Workforce Coalition, a Kern Community College District (KCCD)-led work group of community-based organizations, trainers, labor / union representatives, industry, and educators will develop and support work-based learning, internships, pre-apprenticeship, and apprenticeship in new and emerging energy industries. Over the next three years, this project will provide training to align with current and future increases in demand for workers as each sector scales up and projects become operational. This project is informed by H RTP training strategies, and community and worker priorities. Project design will ensure career pathways for new entrants as well as advancement for incumbent workers and supporting Kern County’s economic and climate resilience.

Key Partners: Kern Community College District, Kern Inyo Mono Central Labor Council (KIM CLC), Kern Inyo Mono Building Trades Council (KIM BTC), International Brotherhood of Electrical Workers (IBEW).

Key Findings or Outcomes: Pending.

High Road Training Partnership - High Road to Regional Workforce Strategies: Kern County

Goals: The Regional Workforce Strategy project in Kern County brings together a coalition of key stakeholders, including those often excluded or under-valued in economic development planning and workforce training opportunities, to develop a community- and worker-centered Strategic Workforce Development Plan.

Key Partners: Kern Community College District; Bakersfield College; Center on Race, Poverty & the Environment; UC Merced Community and Labor Center; Kern, Inyo, and Mono Counties Central Labor Council; Kern, Inyo, Mono Building Trades Council; Committee for a Better Arvin; Committee for a Better Shafter; Comite Progreso de Lamont; Delano Guardians

Key Findings or Outcomes: While the final report is pending, an interim report, The Future of the State: Kern County's Young, Growing, Diverse Population and Dynamic Economy finds: 1) Between 2000 and 2019, Kern's population grew by 41%, and its workforce grew by 51%, both third-highest in the state; 2) Kern's workforce will quickly change, from many migrants to many native-born workers; 3) Since 2009, 22 of 30 industries in Kern experienced job growth (among the highest were: warehousing (552%); animal production (220%); non-oil and gas mining (215%); forestry, fishing and hunting (193%); building services (90%), and utilities (72%)); and 4) Kern workers' earnings decline have been singularly worst among all California counties – since 1979 Kern workers' median wages have declined 13% while every other county has seen wage growth.

High Road Training Partnership – California Legacy High Road to Oil Well Capping

Goals: This strategic partnership aims to bring high-paying, high-quality employment to a region that has become increasingly exposed to economic decline as the state moves away from oil and gas extraction toward more sustainable and environmentally compatible energy sources.

Key Partners: Operating Engineers Union Local 12; Laborers LiUNA/ Local 220; California Legacy Well Services, LLC and principals; Fresno Regional Workforce Development Board; A Better Bakersfield and Boundless Kern (B3K) Prosperity

Key Findings or Outcomes: Pending

A Better Bakersfield and Boundless Kern (B3K)

Goals: To cut the number of local children in struggling families in half by creating 100,000 more quality jobs in Kern County by 2031 and developing pathways to access them.

Leadership Team: A diverse group of executives representing the private and public sectors and community organizations, such as Valley Strong Credit Union, Tejon Ranch Co., Tel-Tec Security Systems, City of Bakersfield, County of Kern, Bolthouse Properties, Cornerstone Engineering, IBEW Local 428,

Dignity Health, Kern Health Systems, United Farm Workers and CSUB

Findings or Outcomes: B3K identified four opportunity industries in which it found that Kern County can be most competitive for investment and growth, and where the share of Quality Jobs is the highest: Business Services, Aerospace, Advanced Manufacturing, and Energy and Carbon Management. Additionally, B3K identified a critical need for investment in entrepreneurship and business ecosystem supports. B3K’s Market Assessment found 1) Kern needs to engage in ambitious collective action, invest in public goods to address economic and social challenges, and create mechanisms for accountability; 2) Kern needs to more fully direct economic and workforce development efforts towards growing and sustaining a broader range of priority clusters; 3) Kern needs to enhance resources supporting entrepreneurs and other general enablers of business dynamism; and 4) Kern needs to expand access to leadership tables and ensure governance reflects its increasingly diverse population. B3K also produced a Strategy Report, which includes an activation plan for pursuing inclusive economic development and deep prosperity in the Bakersfield-Kern region.

Transformative Climate Communities: Southeast Strong Project

Goal: The Southeast Strong’s TCC grant will bring transformative change to the historically disadvantaged community of Southeast Bakersfield by investing in community proposed projects around themes of equitable housing and neighborhood development, mobility and urban greening, and workforce development and economic opportunities.

Key Partners: City of Bakersfield, Housing Authority of the County of Kern (HACK), Community Action Partnership of Kern, Habitat for Humanity – Golden Empire, Circle of Life Development Foundation (dba MLK CommUNITY Initiative), GRID Alternatives, Kern Community College District, Golden Empire Affordable Housing Inc., Bakersfield Senior Center, Building Healthy Communities, Community Interventions, County of Kern Employers’ Training Resource, Kern County Black Chamber of Commerce, Mission Community Services Corporation, Ventura County Community Development, 3C Capital Funding, Greater Bakersfield Legal Assistance

Key Findings or Outcomes: The Southeast Strong Project was awarded \$22,125,000 to work on nine integrated projects, including affordable housing, a mixed-use senior center, low-income energy efficiency program, garden collaborative and re-imagining a park; safe routes to schools and corridor improvements, urban greening, and senior apartments. The project includes six “transformative elements,” including data collection and indicator tracking; community engagement; displacement avoidance; workforce development and economic opportunities; climate adaptation and resilience; and leveraging of funding from additional sources.

Prosperity Neighborhood Project

Goal: The Project will focus on revitalizing East Bakersfield by 1) making infrastructure investments that will include walkability improvement projects, enhanced crosswalks, street and alley pavement, and bike lanes; 2) investing in private property improvements including a Facade Improvement Program, infill development, home rehabilitation, and blighted property acquisition; 3) creating economic opportunity to move families out of poverty by creating asset-building strategies and wealth building, and partnerships with trade schools, colleges, and universities; and 4) raising the quality-of-life indices by investing in early childhood education to improve the literacy rate, collaborating with Public Health and

other partners to improve wellness, and creating community capacity through partnerships with local community-based organizations.

Key Partners: City of Bakersfield

Key Findings or Outcomes: Pending

Shafter Community Air Monitoring Plan and Community Emissions Reduction Program

Goal: The California Air Resources Board’s Community Emissions Reduction Program strives to reduce exposure in communities most impacted by air pollution. Community stakeholders work together to develop and implement new strategies to measure air pollution and reduce health impacts. The program also provides funding to support early actions to address localized air pollution through targeted incentive funding to deploy cleaner technologies in the community.

Key Partners: Representatives from Central California Environmental Justice Network, the Association of Irrigated Residents, Latin Leaders of Kern County, Center on Race, Poverty & the Environment, California Resources Corporation, Forever Board California Inc., Kern County Works Department, Kern County Supervisors Office, City of Shafter

Key Findings or Outcomes: The community steering committee developed the Community Emissions Reduction Program. The Program focuses on reducing exposure to fine particulate matter (PM2.5), toxic air contaminants (TAC), and oxides of nitrogen (NOx). Reduction strategies target a variety of sources including passenger cars, residential energy use, heavy-duty trucks, oil and gas systems, fugitive dust, and agricultural sources including pesticides. The steering committee identified 52 specific strategies that include community-centric investments, enhanced enforcement, increased outreach and training, cross-agency collaboration, and regulatory amendments.

Arvin/Lamont Community Air Monitoring Plan and Community Emissions Reduction Program

Goal: The California Air Resources Board’s Community Emissions Reduction Program strives to reduce exposure in communities most impacted by air pollution. Community stakeholders work together to develop and implement new strategies to measure air pollution and reduce health impacts. The program also provides funding to support early actions to address localized air pollution through targeted incentive funding to deploy cleaner technologies in the community.

Key Partners: Representatives from Central California Environmental Justice Network, Center on Race, Poverty & the Environment, Central California Asthma Collaborative, Leadership Counsel for Justice and Accountability, Grimmway Enterprises Inc, Greater Lamont Chamber of Commerce, Stenderup Ag Partners, Kern Oil & Refining Co., Recology, Kern County Public Works, City of Arvin, Kern County Agricultural Commissioner, Kern County Planning Department, Caltrans

Key Findings or Outcomes: San Joaquin Valley Air Pollution Control District approved the Arvin/Lamont Community Emissions Reduction Program. The CERP includes numerous strategies for implementation in Arvin/Lamont, including incentive funding measures, public engagement strategies, enforcement strategies, and regulatory strategies. This CERP anticipates investing over \$30 million in emission reduction incentives, and a variety of other clean air projects in the Arvin/Lamont AB 617 Community

area. All 31 measures are projected to reduce approximately 136 tons of PM2.5, 421 tons of NOx, and 161 tons of VOCs in Arvin/Lamont, as well as significant reductions in air toxics emissions in the community, particularly with respect to diesel particulate matter from mobile sources, the main contributor to community air toxics health risk.

Communities Local Energy Action Program - Bakersfield

Goal: The community will work with a pilot technical assistance (TA) provider to support community and utility engagement, determine equitable site selection for energy resilience projects, and conduct feasibility analyses with a focus on resilient microgrids and energy storage. The project will prioritize community resilience projects that support low-income, energy-cost-burdened, and historically marginalized households. This information will also prepare the coalition to plan and implement near- and long-term projects that support Bakersfield’s and Kern County’s energy and economic goals.

Key Partners: Bakersfield Economic and Community Development Department, Dolores Huerta Foundation, Kern County Community College District, Center for Strategic Policy Innovation

Key Findings or Outcomes: Pending

Communities Local Energy Action Program - Kern County

Goal: Create an interactive website with technical and economic information on a variety of industries with carbon dioxide (CO2) capture that could utilize subsurface resources in Kern for permanent CO2 storage. The website explains potential benefits and impacts if developed within a Carbon Management Business Park (CMBP) sited in Kern County.

Key Partners: Kern County Planning and Natural Resources Department, Climate Now/Blue Engine, Lawrence Livermore National Laboratory, University of Utah, New Mexico Tech

Key Findings or Outcomes: The Kern County Planning and Natural Resources Department released its interactive website, What is a Carbon Management Business Park?

Alliance for Renewable Clean Hydrogen Energy Systems (ARCHES)

Goals: Leveraging California’s size and diverse geography and economy to produce, transport, store, and use Hydrogen at scale, providing an ideal Hydrogen test-bed for the nation.

Key Partners: University of California Office of the President, Governor’s Office of Business and Economic Development, the State Building and Construction Trades Council and Renewables 100 Policy Institute

Key Findings or Outcomes: ARCHES will steer up to \$1.2 billion in federal funding toward 39 hydrogen infrastructure projects up and down the state, including several that are believed to be located in Kern County.

Aera Direct Air Capture Hub

Goal: Feasibility study for a regional direct air capture (DAC) hub at Aera Energy’s Belridge oil field in Kern County, California. Kern would capture carbon emissions from the atmosphere and safely transport and store them in Aera’s Carbon Frontier sequestration site. The hub would integrate capture, low-carbon energy sources, transportation, and sequestration infrastructure to build an innovative low-carbon supply chain.

Key Partners: Aera Federal, LLC, Battelle, Mosaic Materials and Carbon Capture

Key Findings or Outcomes: US Department of Energy is providing \$2,785,578 in funding for the feasibility study. The study is pending.

Western Regional Direct Air Capture Hub

Goal: Development of a feasibility study of a potential DAC hub initially focused on Kern County, California and adjacent counties. The proposed hub would build upon existing low-carbon technology pilots and other proposed projects planned to occur at Chevron’s San Joaquin Valley assets.

Key Partners: Chevron New Energies

Key Findings or Outcomes: Department of Energy is providing \$3,000,000 in funding for the feasibility study. The study is pending.

Community Alliance for Direct Air Capture

Goal: Develop a comprehensive assessment of the technical, social, and governance feasibility of establishing a Community Alliance for Direct Air Capture in the Southern San Joaquin Valley in California. The project includes a diverse group of technology companies, research organizations, and community partners that will collaboratively develop a DAC hub that achieves technology goals and delivers meaningful community benefits.

Key Partners: Center for Law, Energy, and the Environment (CLEE) at the University of California, Berkeley, Carbon 180, AECOM, AirMyne, Blue Planet, California State University, Bakersfield, Capture6, CarbonBuilt, Clean Energy Systems, Data for Progress, Electric Power Research Institute, California State University, Fresno, Lawrence Berkeley National Laboratory, Mosaic Materials, Origen, Project 2030, PSE Healthy Energy, Rondo Energy, Valley Onward

Key Findings or Outcomes: The US Department of Energy is providing \$2,999,999 in funding for the assessment. The assessment is pending.

California Direct Air Capture Hub

Goal: Design and plan the initial deployment and future development of CalHub, a regional DAC hub comprising both a planned storage site and pipeline transport of CO₂. The project will study low-to-zero carbon-emitting sources of energy.

Key Partners: Electric Power Research Institute, Inc., California Resources Corporation, Climeworks, Avnos, SoCalGas, Kern Community College District, the National Renewable Energy Laboratory, Lawrence Livermore National Laboratory, University of Michigan, and California State University, Bakersfield

Key Findings or Outcomes: The US Department of Energy is providing \$11,829,634 in funding for designing the California Direct Air Capture Hub. The design is pending.

California Renewable Energy Laboratory

Goal: Connect industry, governmental agencies, and workers, including disinvested communities and high-road training partnerships, with the most up-to-date information regarding carbon management technologies, clean energy innovation and microgrid and energy storage technologies, and clean transportation including hydrogen fuel and electrical vehicle technologies that will shape the regional and statewide economy for decades to come.

Key Partners: Valley Strong Credit Union, California Resources Corporation, Carbon TerraVault, NREL, UC Riverside, Project Development Solutions

Findings or Outcome: On-going

Other Notable Reports and Plans

- UC Davis Center for Regional Change, Kern County: Geography of Inequity and Opportunities for Action
- Kern Economic Development Corporation, Strategic Plan 2020-2023
- Kern County, Strategic Plan 2021-2026
- Kern County, Economic Diversification Plan for East Kern County - February, 2017
- City of Bakersfield, Economic Development Strategic Plan
- Kern County, Comprehensive Economic Development Strategy (CEDs), October 31, 2021
- Kern County; Economic Diversification Plan, East Kern County, 2017
- Data USA, Kern County, CA
- Fresno Economic Development Corporation, California Central Valley Export Plan
- San Joaquin Valley and Associated Counties Regional Planning Unit, San Joaquin Valley Regional Plan for 2021-24
- Kern Community College District, Workforce Development Plan

Section 1.4 Opportunities for Collaboration and Partnerships

The Kern Coalition should strive to collaborate with local initiatives and partnerships that align with the program’s goals of equity and inclusion, transition to a carbon-neutral economy, and growth of high road jobs and sectors such as the three High Road Training Partnership programs in the region – the High Road to Regional Workforce Strategies: Kern County project and the California Legacy High Road to Oil Well Capping project. The Coalition would also benefit from partnering with initiatives that have conducted outreach to or collected information from Kern residents on issues around climate, jobs, and community needs to supplement the Kern CJF Coalition’s community engagement efforts. The Coalition should access and analyze any existing community needs assessment and survey efforts. Two ongoing community data collection efforts include the Center on Race Poverty & the Environment’s pending Kern County People’s Plan which involves community needs assessments that identify community infrastructure, employment, and environmental priorities in Delano, Shafter, Lamont and Arvin; and the Dolores Huerta Foundation’s pending Regional Community Needs Assessment based on community survey collection in Arvin, East Bakersfield, Wasco, and Lamont/Weedpatch.

Local community-based climate and pollution reduction initiatives can also inform and supplement Kern Coalition’s process. These include the Transformative Climate Communities initiative in East Bakersfield and the Community Emissions Reduction Programs in Shafter, Arvin and Lamont.

AREA 2. REGIONAL SUMMARY

Section 2.1 Economy and Economic Development

Kern County is California's eleventh most populous county, with 916,108 residents (US Census Bureau 2023). In 2022, Kern County's economy generated \$43.8 billion in Gross Domestic Product (GDP) (US Bureau of Economic Analysis 2023). This ranked fourteenth in California, although its GDP change (-3.3%) from the prior year was eighth worst among the state's 58 counties. Today, Kern County's economic identity is shaped very much by its history as an oil-producing county (Plumer 2022). Kern is the nation's seventh-largest oil-producing county, producing 326,000 barrels of oil per day (Aera Energy 2021).

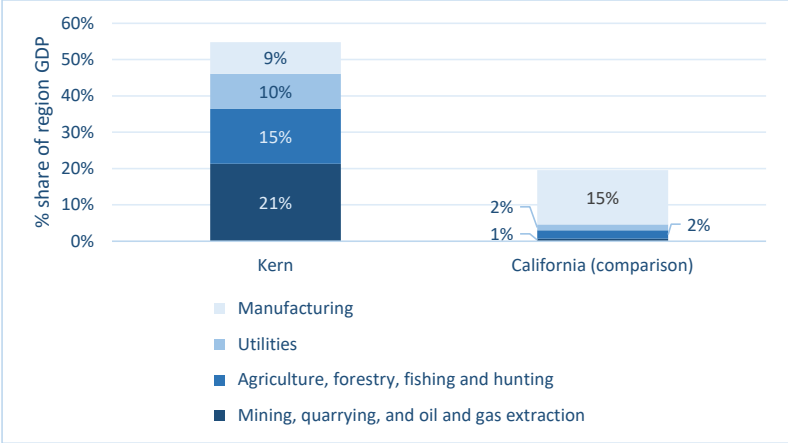
Kern County is distinct from California in its overall economic profile. A UC Merced Community and Labor Center (2022a) analysis found that Kern County's GDP has been dominated by four major industry clusters: mining, quarrying, and oil and gas extraction (21%); agriculture, forestry, fishing and hunting (15%); utilities (10%); and manufacturing (9%) (Figure 2.1). These four industry clusters comprised more than half (55%) of Kern County's GDP in 2019. By comparison, these four industry clusters comprised only 20% of the state's GDP (see Figure 2.1). The GDP share of Kern's top three industry clusters and their share of California's GDP was even more striking (46% versus 5%). In contrast, in 2019, California's four largest industry clusters by GDP (manufacturing, information, real estate, and professional/scientific/technical services) constituted the majority (55%) of the state's GDP but only 22% of Kern County's GDP (see Figure 2.2).

The onset of the COVID-19 pandemic temporarily shifted economic activity away from in-person and non-essential functions, and the need for oil and gas extraction (that fuels transportation and in-person activity). As a result, between 2019 and 2020, four Kern industry clusters declined in GDP: arts, entertainment and recreation (-41%); accommodation and food services (-21%); mining, quarrying, oil & gas extraction (-17%); and educational services (-16%) (see Figure 2.3). Four industry clusters appeared especially resilient despite the pandemic. GDP grew for agriculture, forestry, fishing and hunting (20%); utilities (15%); finance & insurance (5%); and management (3%) (see Figure 2.3).

While the COVID-19 pandemic is officially over, research into the economic shifts that it produced give us insight into state planning for economic and climate resilience—especially as the State advances towards its ambitious climate goals. In this section, we examine primary and secondary research, including UC Merced Community and Labor Center analysis of US Census Bureau American Community Survey (ACS) Public Use Microdata Series (PUMS) 2017-2021 data (see Appendix C). Findings in this section indicate that to improve economic and climate resilience in Kern County, industry-level reforms will be necessary regarding three major industries: oil and gas, warehousing, and agriculture.

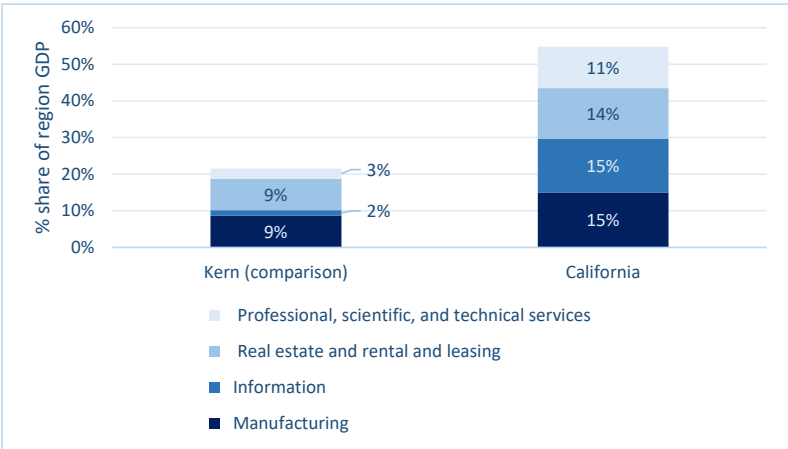
- *Warehousing.* Warehousing employment has increased more than any other Kern industry. Yet it is associated with elevated and concentrated production of GHGs, the steepest wage decline of any Kern industry, ongoing occupational health and safety risks, and the risk of high excess mortality during a major public health disaster.
- *Agriculture.* Agriculture is the second-largest industry of employment in Kern. Yet it also has the highest rate of workers living below a living wage of any Kern industry, ongoing occupational health and safety risks, and the risk of high excess mortality during a major public disaster.
- *Oil and gas.* The oil and gas industry produces the greatest annual GDP of any Kern industry, and one of the highest average wages for Kern workers. Yet it is also the most volatile industry for employment in Kern, and oil and gas extraction jobs are associated with an earlier age of death than most other industries. The oil and gas industry also risks downturn during economic shocks, such as a major public disaster, oil price changes, or as the state moves towards more renewable forms of energy development.

Figure 2.1 Industry share of region GDP (top-5 largest Kern industries), 2019



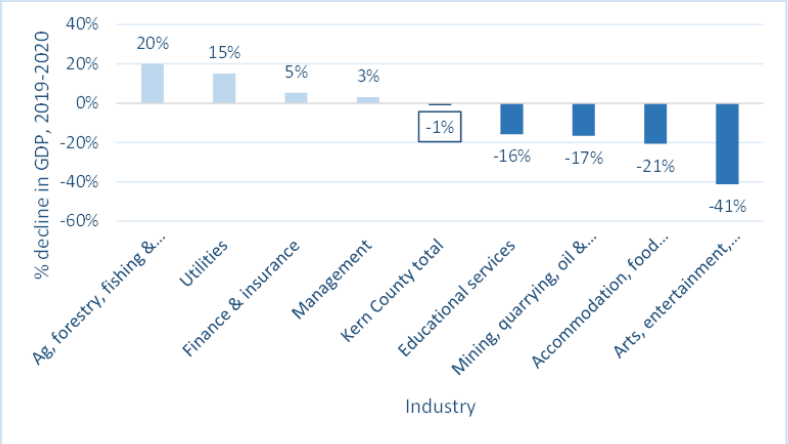
Source: UC Merced Community and Labor Center analysis of US Bureau of Economic Analysis 2019 data

Figure 2.2 Industry share of region GDP (top-5 largest CA industries) 2019



Source: UC Merced Community and Labor Center analysis of US Bureau of Economic Analysis 2019 data

Figure 2.3 Most and least resilient Kern County industries, 2019-2020



Source: UC Merced Community and Labor Center analysis of US Bureau of Economic Analysis 2019-2020 data

Table 2.1 Kern industries, by greatest number of workers, 2007-2011 and 2017-2021

| <i>Industry</i> | Jobs | | | |
|---|----------------|----------------|----------|---------------|
| | 2017-2021 | 2007-2011 | % change | # change |
| Educational | 33,006 | 27,176 | 21% | 5,830 |
| Agriculture | 30,992 | 28,408 | 9% | 2,584 |
| Health | 26,681 | 21,404 | 25% | 5,277 |
| Public Administration | 22,800 | 23,821 | -4% | -1,021 |
| Restaurants and other Food Services | 20,458 | 18,281 | 12% | 2,177 |
| Retail Trade | 18,730 | 20,127 | -7% | -1,397 |
| Construction | 18,323 | 17,004 | 8% | 1,319 |
| Grocery | 13,508 | 9,875 | 37% | 3,633 |
| Oil and Gas Extraction and related mining | 13,427 | 16,421 | -18% | -2,994 |
| Manufacturing | 12,263 | 11,123 | 10% | 1,140 |
| Transportation | 12,095 | 9,688 | 25% | 2,407 |
| Professional, Scientific, and Management | 11,177 | 9,846 | 14% | 1,331 |
| Other Services (Except Public Administration) | 10,675 | 10,509 | 2% | 166 |
| Finance, Insurance, Real Estate, and Rental and Leasing | 9,985 | 10,940 | -9% | -955 |
| Forestry, Fishing and Hunting, Support Activities | 9,438 | 6,635 | 42% | 2,803 |
| Social Services | 7,920 | 6,481 | 22% | 1,439 |
| Wholesale Trade | 7,597 | 7,292 | 4% | 305 |
| Warehousing | 4,733 | 1,095 | 332% | 3,638 |
| Building Services, including Security | 4,364 | 3,226 | 35% | 1,138 |
| Animal production | 4,293 | 2,023 | 112% | 2,270 |
| Arts, Entertainment, Recreation | 4,277 | 3,811 | 12% | 466 |
| Food processing | 4,261 | 4,110 | 4% | 151 |
| Administrative and Support Services | 3,960 | 3,178 | 25% | 782 |
| Information and Communications | 3,407 | 3,613 | -6% | -206 |
| Utilities | 2,637 | 3,371 | -22% | -734 |
| Traveler Accommodation | 2,121 | 1,793 | 18% | 328 |
| Waste Management | 2,008 | 1,154 | 74% | 854 |
| Nursing Care | 1,975 | 1,646 | 20% | 329 |
| Active Duty | 1,965 | 1,932 | 2% | 33 |
| Residential Care | 1,931 | 1,488 | 30% | 443 |
| Landscaping | 1,328 | 1,683 | -21% | -355 |
| Non-Oil and Gas Mining and Quarrying | 655 | 452 | 45% | 203 |
| Bars | 247 | 273 | -10% | -26 |
| Total | 323,237 | 289,879 | | 33,358 |

Source: UC Merced Community and Labor Center analysis of American Community Survey (ACS) Public Use Microdata Series (PUMS) 5-year data, 2007-2011 and 2017-2021

Industry Snapshot and Trends

Kern County had an estimated 323,237 workers in the 2017-2021 period, according to analysis of ACS data (see Table 2.1). While most of Kern’s annual GDP is accounted for by four industry clusters mentioned previously, the distribution of jobs in its labor market is more diffuse. Seven industries employ a majority (53%) of Kern workers. These include education (33,006), agriculture (30,992), health (26,681), public administration (22,800), restaurants and other food services (20,458), retail trade (18,730), and construction (18,323) (see Table 2.1).

Table 2.2 Kern industries, by median annual salary/wages, 2007-2011 and 2017-2021

| <i>Industry</i> | Wages | | |
|---|-----------|-----------|----------|
| | 2017-2021 | 2007-2011 | % change |
| Utilities | \$82,479 | \$87,929 | -6% |
| Public Administration | \$81,565 | \$75,365 | 8% |
| Oil and Gas Extraction and related mining | \$69,007 | \$68,753 | 0% |
| Non-Oil and Gas Mining and Quarrying | \$69,007 | \$68,753 | 0% |
| Professional, Scientific, and Management | \$57,505 | \$55,462 | 4% |
| Manufacturing | \$51,116 | \$49,802 | 3% |
| Active Duty | \$49,455 | \$65,774 | -25% |
| Construction | \$47,980 | \$49,802 | -4% |
| Transportation | \$47,980 | \$53,768 | -11% |
| Finance, Insurance, Real Estate, and Rental and Leasing | \$46,181 | \$50,051 | -8% |
| Educational | \$46,004 | \$46,806 | -2% |
| Information and Communications | \$44,964 | \$43,850 | 3% |
| Health | \$44,496 | \$41,965 | 6% |
| Waste Management | \$40,254 | \$47,549 | -15% |
| Wholesale Trade | \$37,984 | \$35,752 | 6% |
| Food processing | \$36,349 | \$39,342 | -8% |
| Nursing Care | \$34,503 | \$26,126 | 32% |
| Animal production | \$32,786 | \$32,785 | 0% |
| Landscaping | \$32,558 | \$24,620 | 32% |
| Building Services, including Security | \$29,988 | \$24,190 | 24% |
| Residential Care | \$29,534 | \$30,014 | -2% |
| Traveler Accommodation | \$28,753 | \$19,210 | 50% |
| Warehousing | \$27,602 | \$34,377 | -20% |
| Retail Trade | \$27,263 | \$27,502 | -1% |
| Other Services (Except Public Administration) | \$27,263 | \$31,474 | -13% |
| Grocery | \$26,046 | \$25,613 | 2% |
| Social Services | \$26,046 | \$26,228 | -1% |
| Administrative and Support Services | \$25,761 | \$24,752 | 4% |
| Agriculture | \$22,790 | \$18,938 | 20% |
| Forestry, Fishing and Hunting, Support Activities | \$20,702 | \$16,500 | 25% |
| Bars | \$17,273 | \$27,406 | -37% |
| Restaurants and other Food Services | \$17,251 | \$15,737 | 10% |
| Arts, Entertainment, Recreation | \$17,038 | \$19,671 | -13% |
| Total | | | |

Source: UC Merced Community and Labor Center analysis of American Community Survey (ACS) Public Use Microdata Series (PUMS) 5-year data, 2007-2011 and 2017-2021

Across a ten-year period, from 2007-2011 to 2017-2021, the size of Kern County’s labor force grew by 12% (33,358) (see table 2.1). Five of Kern’s seven largest industries accounted for nearly half (49.6%) of the county’s growth. Health jobs experienced the greatest increase among Kern’s largest industries, growing by 25% (5,277). Education jobs increased by 21% (5,830), while restaurant and food services grew by 12% (2,177). Agriculture grew by 9% (2,584) and construction grew by 8% (1,319). Yet two of Kern’s largest industries experienced job losses during the same period. Retail trade jobs decreased by -7% (-1,397) and public administration jobs decreased by -4% (-1,021).

Outside of Kern’s seven largest industries, five industries experienced estimated gains of over 2,000 workers (see Table 2.1). Warehousing jobs grew by 332% (3,638); animal production grew by 112% (2,270); grocery retail grew by 57% (3,633); forestry, fishing and hunting, and support activities grew by 42% (2,803); and transportation grew by 25% (2,407). In the same period, oil and gas industry experienced the greatest absolute job losses of any industry in Kern, declining by 2,994 jobs (-18%).

Major Low- and High- Wage Industries and Occupations

In Kern County, thirteen out of thirty-three industries had over 10,000 workers in 2021 (see Table 2.1). Table 2.2 presents data on industry-level annual median salary/wages for Kern industries (adjusted for 2022 dollars); the thirteen largest industries are clustered near both the highest- and lowest-paying industries in the county.

The median annual salary/wage for jobs in public administration was \$81,565; this ranked second among thirty-three county industries (see Table 2.2). Oil and gas extraction, and related mining (\$69,007) ranked third; and professional, scientific and management (\$57,505) ranked fifth. Only the top-5 highest paying Kern industries had median earnings above the county’s “living wage” for a household with two working parents and two children (in 2022, \$25.07 per hour, or \$52,146 per year) (MIT Living Wage Calculator 2023). In families with two adults and two children, a sole breadwinner would have had to have earned an hourly wage of \$38.14 to avoid chronic and severe housing and food insecurity; only one industry (utilities) in Kern had median earnings above this threshold.

Other industries that ranked among Kern’s highest-paying, but did not pay median wages above a living wage were manufacturing (\$51,116), which ranked sixth; construction (\$47,980), which ranked eighth; transportation (\$47,980), which ranked ninth; education (\$46,004), which ranked eleventh; and health, which ranked thirteenth (\$44,496). The median annual salary/wage for retail trade (\$27,263); other services (\$27,263); grocery retail (\$26,046); agriculture (\$22,790); and restaurants and food services (\$17,251) were all ranked in the county’s lowest-10 paying industries (see Table 2.2).

Warehouse workers experienced the greatest decline in wages of any industry in Kern, excluding the bar industry (which had the fewest workers of any industry, and is prone to statistical error due to small sample size). In 2011, Kern warehouse workers earned median annual salary/wages of \$34,377, but in 2021 this figure was \$27,602. This represents a decline of 20% of median annual salary/wages (see Table 2.2).

Kern County’s top-ten most common jobs include graders and sorters/agricultural workers (32,251); bus drivers (10,013); first line supervisors of non-retail sales workers (9,790); preschool and kindergarten teachers (7,239); home health aides (6,184); parts sales persons (6,100); first-line supervisors of food preparation and serving (5,593); cleaners of vehicles and equipment (5,217); first-line supervisors of landscaping, lawn service, and groundskeeping workers (4,829); and mail clerks and mail machine operators, except postal service (4,775).

Economic Well-Being and the Cost of Living

Few of Kern County’s largest occupations regularly pay above a “living wage,” the amount needed to avoid “consistent and severe housing and food insecurity” (Nadeau 2018, 2). According to the Massachusetts Institute of Technology (2023) Living Wage Calculator, in 2022, a Kern County worker living in a household with two working adults and two children would have to earn \$25.07 per hour (\$52,146 per year) in order to avoid chronic and severe housing and food insecurity. We term this threshold, based on a two working adult and two children household, a “standard” living wage in Kern.

Our analysis found that among the thirty-five largest occupations of employment in Kern County—those with over 2,000 workers in the county—only seven occupations had median earnings above the standard living wage threshold (analysis not shown). Largest-35 occupations with median earnings above Kern’s standard living wage included registered nurses (\$99,558), managers (\$95,417), correctional officers

and jailers (\$86,363), first-line supervisors of construction trades and extraction workers (\$81,565); secondary school teachers (\$79,624); elementary and middle school teachers (\$68,156); and welding, soldering, and brazing workers (\$53,863). These seven “largest 35” occupations, with median earnings above a standard living wage, experienced a 7% growth in employment between 2011 and 2021, from 24,697 to 26,450 workers.

We also examined industry rates of workers earning less than an “actual” living wage. Whereas some analyses (such as the above-mentioned analysis) focus on rates of workers earning above a standard living wage for a family of two working adults and two children, this section analyzes ACS 2022 data and applies living wage thresholds for each household based on their actual structure (i.e. number of working adults and number of children). This analysis provides a better-informed understanding of the wages needed for Kern workers to actually avoid chronic housing and food insecurity, and its relevancy is based on the fact that Kern has a more youthful population than the rest of the state.

Our analysis of ACS data found that, in 2022, four of ten (41%) Kern workers lived in households with earnings below an actual living wage (i.e. adjusting for household structure). In ten industries, workers lived below an actual living wage at rates better-than-average for Kern. These industries are utilities (13% lived below a living wage); professional, scientific and management (20%); public administration (21%); oil and gas and support activities for mining (21%); administrative and support services (30%); information and communications (30%); finance, insurance, and real estate (32%); education (33%); transportation (34%); and health (34%).

In fifteen industries, workers lived below a living wage at rates worse-than-average for Kern. These industries were agriculture (67%); building services, including security (64%); forestry, fishing and hunting, support activities (52%); other services (51%); social services (49%); retail trade (49%); food processing (49%); restaurants and other food services (47%); arts, entertainment, recreation (45%); wholesale trade (44%); grocery (42%); construction (42%); manufacturing (41%); and warehousing (39%).

Economic Shocks

Kern County suffers from high levels of social and economic inequality, leaving it vulnerable to the shocks of major public disasters. UC Merced Community and Labor Center (2021) analysis, of American Community Survey data for the 2014-2018 and 2019 periods, indicated that Kern County headed into the pandemic with some of the state’s highest rates of below-subsistence income, jobs at high risk of COVID-19 exposure, workers in high-risk industries with low rates of health insurance, low rates of immigrant naturalization, and lack of access to the safety net. Kern County was also characterized by high rates of rent burden and poverty.

During the COVID-19 crisis, Kern County experienced a 21.5% increase in deaths—higher than the statewide rate (18.5%) and 12th worst out of 58 counties (UC Merced Community and Labor Center 2021). The following factors contributed to the COVID-19 pandemic having a greater impact on Kern residents’ health and economic well-being (all statistics are sourced from UC Merced Community and Labor Center 2021, unless otherwise noted):

- *High COVID-19 Risk at Work.* In Kern County, over one in four (27.7%) workers worked in jobs with the highest risk of COVID-19 spread. This was the sixth highest rate among California counties.
- *High-Risk Workers and Earnings.* In 2014-2018, Central Valley workers in COVID-19 high-risk industries were disproportionately immigrant (45.2% vs. 25.6%), non-citizen (31.5% vs. 13.3%), lived in larger households (3.9 vs. 2.1 persons), and had a poverty rate nearly twice as high (18.1% vs. 10.6%) (Padilla et al. 2021). In 2019, they earned much less than other workers (\$23,000 vs. \$32,000).

- *High-Risk Workers and Health Coverage.* Kern high-risk workers had even lower earnings (\$20,000 vs. \$30,000) and were less likely to have health coverage (85.4% vs. 89.5%) than other workers. This contributed to greater hardship during the pandemic.
- *Immigrant Naturalization.* The naturalization rate among Central Valley immigrants (45.6%) was second-to-last among the state's ten regions. Kern County's rate (38.7%) was even lower. Many immigrant workers during the pandemic were undocumented, and—as the only group federally prohibited from receiving federal aid—had no access to stimulus checks or unemployment relief.
- *High Unemployment Among Black, Latina and Immigrant Women.* During the peak of the pandemic economic downturn, job loss rates for California's Black (25.4%) and Latina (28.9%) women were among the highest for any groups (Flores and Padilla 2020). Job loss rates were highest for non-citizen immigrant women (36.3%)—many of whom were undocumented and had no access to the safety net.
- *Unclaimed Relief.* Even Kern County residents who qualified for aid often failed to claim aid. The Valley lost an estimated \$951m from unclaimed federal stimulus checks, second in the state only to Los Angeles' \$1.55bn loss (Augustine et al. 2021).

In addition, the analysis also found that Kern County households were vulnerable to major public disasters, such as climate disasters (e.g. record heat, wildfire, droughts or floods) for the following reasons (all statistics are sourced from UC Merced Community and Labor Center 2021, unless otherwise noted):

- *Large and Low-Wage Households.* Kern's median household income (\$53,800) was sixth lowest out of 41 California counties. Worker earnings (\$25,000) were tied for second-lowest, and Kern County's household poverty rate (16.5%) ranked ninth worst in California in 2019. At the same time, Kern's average household size (2.9), and children per household (0.9) were much higher than average—ranking thirteenth and sixth—indicating that many households have not only lower wages but greater social and economic demands.
- *High Rent Burden.* Less than one fourth (22.6%) of all Kern County households, and nearly half (45.0%) of renter households were rent burdened—spending over 30% of household income on rent. This rate was eighth-highest in California in 2019.
- *High Utility Costs.* High utility costs are partially responsible for a large number of the region's households living below a living wage. Despite low regional incomes, Central Valley renters' median annual utility costs (\$2,720) were second-highest in the state. Furthermore, median annual utility costs for Kern County's renters (\$2,300) and high-rent burdened households (\$2,280) were second highest in the Central Valley.

Increasing Kern County's households and workers' climate and economic resilience will require a fundamental shift in how regional economic development is approached. To foster resilience, regional economic development initiatives should raise standards for low-income and working residents. Such standards could raise wages, reduce rent burden, decrease the cost of utilities, and make wage replacement available for those who are not eligible for Unemployment Insurance during disasters.

Challenges remain for a future in Kern County that is marked by shared prosperity. In the meantime, industry and political leaders have articulated a shift towards carbon management as a solution to uneven regional economic development. However, while carbon management may present opportunities for economic growth, there remain many questions about who carbon management will benefit, and how. Prominent debates regarding the topic of carbon management as a form of economic development are discussed in the following paragraphs.

Carbon Sequestration Climate Change Induced Economic Alternatives

Kern County officials have identified carbon capture and sequestration as a lucrative economic sector as it has the potential to produce high revenue and jobs for the county as well as support climate change mitigation efforts (Cantu 2023). Multiple large-scale carbon capture and sequestration projects are currently proposed for Kern County. The largest project is the Carbon Management Business Park that is estimated to generate about \$68 million in tax revenues to Kern County per year and 23,000 new jobs (O'Rourke 2023, Bakersfield.com 2023, Cantu 2023).

A carbon sequestration project at this scale would require the construction of giant solar farms across 47 square miles (Cantu 2023) to power the massive machines that would capture and transport carbon dioxide from the air and store them in underground geologic formations (Bakersfield.com 2023). The captured carbon dioxide would then be transformed into liquid using pressure processes and injected into porous rock formations in geologic basins. The transformed carbon dioxide could also be transported to industrial complexes for use (O'Rourke 2023).

Though laudable in concept, some climate scientists and policy experts view carbon sequestration as a tactic for the fossil fuel industry to use public funding to subsidize existing business; they also emphasize that subsidies could encourage the construction of new sources of carbon to capture. (Sekera and Goodwin 2021). Such development could also increase local air pollution and divert solar energy that would otherwise replace existing fossil fuel demand. (Cantu 2023). This, along with concerns about the safety of transporting and storing carbon dioxide near residential areas and other sensitive receptors, have raised doubts and questions from residents, environmentalists, community-based organizations and other stakeholders.

Carbon Sequestration Tensions

Research has emphasized that climate change induces conflicts and tensions within and between communities and countries. In Kern County, environmental concerns arising from earmarked carbon sequestration projects is igniting tensions between Kern County officials and groups of stakeholders challenging the viability of the projects. Groups against the establishment of carbon sequestration plants in Kern County argue that the process does not reverse the harmful impacts of climate change because it does nothing to reduce the sources of pollution that drive climate change in the first place; and they do not envisage how such projects will reduce devastating climate change impacts like wildfires and droughts in Kern County (Bakersfield.com 2023). That the county needs to intentionally generate carbon dioxide in order to help oil companies and other businesses collect subsidies for sequestering the carbon dioxide calls into question the validity of these projects and their ability to protect the environment (Cantu 2023).

Some critiques, citing a pipeline break (that lead to forty-five people seeking hospital treatment and an evacuation of 200 people) in a small Delta town in Mississippi (Strong 2023), challenged the *raison d'être* of the projects, and maintain that the technology must first be tried (and its environmental protection and human safety capacity tested)—particularly for those close to such pipelines—before it may be implemented in Kern County. Environmental justice advocates argue that carbon sequestration development would be financially irresponsible; it would advance oil and gas industry interests and continue pollution (O'Rourke 2023). This standpoint is supported by the oil and gas industry's lobbying for the acceptance of carbon sequestration to begin carbon capture in Kern County (Cantu 2023, Bakersfield.com 2023).

Finally, some advance that the projects will continue polluting the environment for the already over-burdened communities that are likely going to be at the frontline of the carbon sequestration experiment (O'Rourke 2023). This difference in perspective from Kern County officials and industry stakeholders on the one hand, and community-based and environmental justice organizations on the other will likely create continuing conflict in the region and raises significant questions on the role of carbon capture and sequestration in the County and under what conditions it should proceed.

Section 2.1 Sub-Regional Profiles

The sub-regional profiles highlight each of the five subregions in Kern: East Kern, West Kern, North Kern, South Kern, and Central Kern. The profiles identify the main economic drivers and employers in each subregion, economic challenges specific to the subregion, a sample of recent economic development or climate initiatives in the subregion, and their alignment with a transition to a high road economy.

Section 2.1A East Kern

The East Kern subregion spans a diverse geography, including parts of the Mojave Desert, the Tehachapi Mountains, and the Kern River Valley. The region's economy is driven primarily by two military installations—Naval Air Weapons Station-China Lake and Edwards Air Force Base—and a handful of other major employers including the Rio Tinto borax mine in Boron, the Mojave Air & Spaceport, and the California Correctional Institution in Tehachapi.

The military sector is a dominant force in East Kern's economy, controlling vast amounts of real estate assets and employing thousands of full-time personnel (Kern County 2017). These installations provide approximately 11,000 full-time positions, from specialized technical roles to administrative positions (Natelson Dale Group 2023). Federal government civilian jobs constitute more than 21% of total employment in the region, significantly higher than the national average of about 2% (Kern County 2017). The military installations also support an additional economic ecosystem formed by suppliers and service providers, such as retail, food service, and healthcare, that serve military personnel, civilian contractors, and their families. High-wage opportunities in East Kern are often tied to defense-related positions while lower wage jobs are clustered in the service sectors that support military operations and personnel.

Recognizing that its reliance on a single economic sector makes the region vulnerable to unforeseen changes in military operations in the area, the East Kern Economic Alliance developed an economic diversification plan that identified five sectors to promote in East Kern. These include Aerospace Products, Services, Research, & Testing; Natural Resources & Clean Energy; Outdoor Recreation & Tourism; Logistics & Distribution; and Health Care. Of these sectors, clean energy, outdoor recreation and tourism, and health care are most aligned with a high road economy.

Renewable energy is a major factor in East Kern's economic landscape. The Tehachapi Mountain's abundant wind resources have led to the installation of more wind turbines than any other county in the nation, positioning Kern as a frontrunner in wind energy generation. Moreover, East Kern hosts dozens of commercial scale solar projects, including a new solar energy project at Edwards Air Force Base with close to 2 million photovoltaic arrays. The Coso Geothermal Project at the China Lake Naval Weapons Center sits just outside the Kern County border but provides both energy and job opportunities to East Kern County.

New types of renewable energy storage projects are also proposed for the region. The Willow Rock Energy Storage Center is a compressed air energy storage project currently proposed near Rosamond. This project would store excess generation from California solar and wind projects during periods of low customer demand by compressing air and storing it on the project site. The proposed facility could provide up to 500 megawatts (MW) of new electrical capacity, allowing solar and wind resources to be directly converted into reliable, on-demand peaking capacity. Project proponents estimate 25-40 full-time equivalent jobs during operation, and an estimated peak workforce of 700 jobs during construction (Willow Rock Energy Storage System 2023).

Renewable energy companies have also expressed interest in developing green hydrogen projects at the Tehachapi wind farms (SJ Green Hydrogen 2021, Cox 2021). The US Department of Energy recently awarded \$1.2 billion dollars from the Bipartisan Infrastructure Act to California's Alliance for Renewable Clean Hydrogen Energy Systems (ARCHES) to support hydrogen production and market development in

the state, including supporting 39 specific projects throughout the state (Bergert 2023). As green hydrogen rolls out across the country, stakeholders disagree about key aspects of its development, especially regarding what qualifies as green or renewable hydrogen, for what purposes it should be used, and the safety of hydrogen production, transport, and storage (Bergert and Wolman 2023). These conversations are relevant to any green hydrogen project proposal in East Kern or other subregion and may impact community perspectives on the development.

Despite the solar property tax exemption through 2027, (California Revenue and Taxation Code § 73) renewable energy projects can generate significant local property taxes. These projects also can generate a significant number of construction jobs, though increasing efficiency in project development has led to lower construction workforce needs than in the past (Osborne 2023). The long-term operation of renewable energy facilities will provide a smaller number of permanent full-time jobs in operations and maintenance. Solar, wind, energy storage, and geothermal energy projects will shift the economy toward zero emission energy sources and benefit local residents by decreasing air pollutants and their associated health risks.

Other industrial sector highlights in the region include the relocation of aerospace companies outside California. This has put pressure on the local aerospace industry. However, the Mojave Air and Space Port infrastructure continues to provide research for the aerospace and other scientific and technical industries in the region. It also is working on plans for a microgrid that would save on utility bills and increase energy reliability for the facility (Gatlin 2022). While the aerospace industry provides high-wage employment opportunities, the local workforce may face significant barriers to accessing jobs that require advanced degrees due to the low percentage of individuals with a college education (US Census Bureau 2021a).

The logistics sector is also growing in the subregion. The Mojave Inland Port, set to be operational by 2024, will be built on 400 acres next to the Mojave Air & Space Port (Powell 2022). The facility will receive containers by rail from the Ports of Los Angeles and Long Beach for distribution across California and the nation. Project proponents estimate that the establishment of the Mojave Inland Port may generate around 3,000 new jobs in Kern and contribute \$80 million in local taxes (Murillo 2022). Warehouse and logistics jobs may be more accessible to the local workforce; however, the warehouse and distribution sector generally offers relatively low-wages and difficult working conditions.

While there are multiple emerging industries and industry drivers in the subregion, certain sectors are most aligned with a transition to a high road economy. Clean renewable energy and energy storage aligns with a transition to a carbon-neutral economy and can protect communities and the environment by displacing the need for fossil fuels. Increasing health care options and access, increasing local tourism, investing in community infrastructure, developing a more robust network of community-based organizations, and providing more opportunities for higher education and four-year degrees locally all potentially align with a transition to a high road economy.

Section 2.1B Sub-Regional Profile: West Kern

The West Kern subregion encompasses a cluster of cities and census-designated places (CDPs) such as Derby Acres, Lost Hills, Maricopa, McKittrick, Mettler and Taft, built around the oil industry, the farm working community of Buttonwillow and the Tejon Mountain communities of Frazier Park, Lebec and Pine Mountain Club. Oil production continues to be the primary economic driver in the region. The Midway-Sunset Oil Field is the largest known oilfield in California and the third largest in the United States. The oil field runs from east of Maricopa to south of McKittrick. The towns of Taft, Maricopa, and Fellows are built directly on the oil field. Other oil fields in the subregion include the Cymric Oil Field, McKittrick Oil Field, Elk Hills Oil Field, and the South Belridge Oil Field. Other economic sectors in the subregion include

renewable energy, agriculture, and retail. Clean Harbors Buttonwillow Landfill between Buttonwillow and McKittrick is one of only two operating hazardous waste landfills in the state.

The fossil fuel industry has been a hallmark of the local economy. However, this industry has raised environmental concerns due to its significant carbon footprint and negative impacts on the environment and public health. Legislative efforts aimed at carbon neutrality and the natural decline of oil production in Kern impact the stability of this industry, affecting jobs and economic activity in the region.

The region has turned its attention to the burgeoning carbon management industry, including carbon capture and sequestration (CCS) and direct air capture (DAC) carbon management strategies. CCS involves capturing carbon from industrial point sources, transporting it, and storing it deep underground. DAC involves removing carbon directly from the atmosphere and storing it deep underground. The Department of Energy recently awarded nearly \$20 million to support the development of carbon capture projects in West Kern County as local officials aim to turn the southern San Joaquin Valley into a hub for the industry (Office of Fossil Fuel and Carbon Management 2023).

Proponents of this industry view West Kern as an ideal location for carbon storage projects because depleted oil reservoirs can serve as a natural receptacle for stored carbon. However, environmental groups, climate advocates, community-based organizations, and local residents are concerned that subsidies for stored carbon create perverse incentives to increase carbon production, that capturing carbon promotes continued fossil fuel oil production, that pipelines near communities pose a health and safety risk, and that underground storage may not permanently remove carbon from the atmosphere due to long term leaks or seepage (Central Valley Air Quality Coalition et al. 2023).

The transition to carbon management and storage technologies is uncertain and, if it moves forward, will require substantial investments in risk mitigation, infrastructure, research, and workforce development. Most jobs associated with carbon management are in the construction phase rather than in long-term operation of projects. For example, the proposed carbon storage projects in Kern that have disclosed job estimates, estimate hiring a few hundred workers during the construction phase, but only between 25-80 workers for permanent positions (Cox 2023, 2021). While there is little information on job quality, wages, and skillset required for employees during the construction or operation phases of a carbon capture project, local officials in Kern believe that fossil fuel workers would be well suited to employment in this field. (O'Rourke 2023). In general, heavy industry and electric power generation jobs tend to offer higher wages than other sectors in the region.

Oil well remediation, gravity storage, and geothermal energy storage may offer pathways to a high road economy that are unique to the West Kern subregion. These opportunities have the potential to create well-paying jobs, protect communities and the environment, support the transition to carbon neutrality, and beneficially reuse fossil fuel infrastructure.

Currently about sixty-eight percent of the 41,568 marginal, idle, or orphaned wells in the state are located in Kern County, and many of them in West Kern (Sierra Club 2023). These wells will become a liability to the operator/owner who must plug and decommission the wells and restore the well site to its prior condition. If a well is not properly sealed and closed, it may provide a pathway for hydrocarbons or other contaminants to migrate into drinking water or the atmosphere. Plugging all of the state's idle and likely orphaned wells could create an estimated 6,842 jobs in California (King 2023). A 2021 report found that a total of 2.4 jobs are created for every million dollars spent on plugging orphaned oil and gas well (Pollin 2021). While responsibility for plugging and remediating wells falls to the owner/operator of the wells, the state has provided funds to plug the state's 378 highest-priority wells and decommission 51 facilities at an estimated cost of \$80 million (California Geologic Energy Management Division 2023). One hundred and twenty-nine (129) of the wells are located in Kern County.

Senate Bill 1295 (Limón, Chapter 844, Statutes of 2022) requires that California Geologic Energy Management Division (CalGEM) administered work to plug and abandon wells, decommission production facilities, or otherwise remediate well sites to be considered public work. As such, all contractors are

required to pay prevailing wages and comply with apprenticeship utilization requirements pertaining to public works projects. In addition, SB 1295 requires CalGEM, after January 1, 2028, to ensure that contractors selected to carry out state abandonment work enter into a project labor agreement to use a skilled and trained workforce. The 2022/2023 State Budget appropriated \$20 million to the California Workforce Development Board to create a workforce training pilot to train displaced oil and gas workers in Kern and Los Angeles Counties in remediating legacy oil infrastructure. The Oil and Gas Well Capping Pilot initiative aims to assist state-registered apprenticeship programs in creating curricula for training apprentices and to upskill journeypersons on well capping projects (California Geologic Energy Management Division 2023).

Energy storage is another potential sector that can utilize West Kern's fossil fuel infrastructure. Bakersfield startup Renewell Energy is working on its first commercial gravity storage system in West Kern which will use renewably powered winches to lift weights from near the bottom of oil wells. After the sun goes down and wind stops, lowering the weights will run a generator that feeds the grid (Cox 2023a). Another Bakersfield company, Premier Resource Management LLC, hopes to turn depleted oil reservoirs in West Kern into synthetic geothermal storage by gathering energy from the sunlight using an array of parabolic mirrors. This will heat the groundwater when sunlight is available and store the energy in an underground reservoir to be used when power is needed (Cariaga 2023). If these projects turn out to be feasible and safe, they could become models for beneficially using depleted fossil fuel infrastructure in East Kern.

Section 2.1C Sub-Regional Profile: North Kern

The North Kern subregion comprises cities and census designated places such as Cherokee Strip, Delano, Lost Hills, McFarland, Mexican Colony, Shafter, Smith Corner, and Wasco. The region's prominent industry is agriculture, with approximately 60,000 acres of orchards and vineyards – primarily almonds, pistachios and grapes. The region hosts three state prisons – Wasco State Prison-Reception Center, Kern Valley State Prison, and North Kern State Prison. The region is also growing its logistics and distribution sector. Other prominent industry sectors include food manufacturing, business services, healthcare and retail.

North Kern faces significant climate and environmental challenges. Drought, extreme heat, energy price hikes, and reduced grid stability in the North Kern subregion threaten communities and its key industries. The drought's impact on North Kern's agricultural sector has been substantial. Water scarcity limits the ability to irrigate crops and sustain livestock, leading to reduced yields and crop failures. This causes financial stress and job losses within the sector. More importantly, prolonged droughts and heat waves have a devastating effect on the people of Kern and particularly the farm working community. Death from heat stroke among outdoor workers has risen over the past two decades along with temperatures (Gross and Aldhous 2023). Agricultural workers face more than 35 times the risk of heat-related deaths than other occupations (Gubernot and Hunting 2015). Eighty-three of the 168 farmworkers who died suddenly at work in California from 2018 to 2022 perished when temperatures exceeded 80 degrees Fahrenheit (Gross and Aldhous 2023).

From an economic standpoint, decreased agricultural output can disrupt supply chains, affecting related industries such as food processing and distribution. The overall economic slowdown reverberates through the community, impacting local businesses and communities that rely on the agriculture-driven economy. To navigate challenges posed by climate-related impacts, the agriculture sector should invest in water-efficient technologies and irrigation systems and consider shifting crops to those that are less water-intensive. Diversifying the local economy beyond agriculture and fostering industries less susceptible to water-related shocks can also help build resilience against future economic challenges.

The local agriculture sector is a driving force for two pending biomass with attached carbon capture and sequestration (BECCS) proposals in North Kern – Covanta in Delano, and Pelican Renewables

in McFarland (Cox 2023b). Biomass facilities convert organic material, such as agriculture waste, to biofuel. The previously operational Covanta biomass facility in Delano, shuttered in 2015; like most of state's biomass facilities, it was unable to compete with the growing efficiency of other renewable energy sources. However, the industry is gaining new life with the emergence of carbon capture and sequestration technology and related carbon capture subsidies. Both projects face local opposition from residents who are concerned about the air quality impacts of the process as well as the safety of transporting and storing carbon underground.

North Kern has embraced Kern County's growing distribution sector, and hosts one of the largest warehouse centers in the county - the Wonderful Industrial Park, a 1,625 acre Master-Planned Industrial Park outside of Shafter on the Burlington Northern Santa Fe Railway line (City of Shafter). Current tenants include Amazon, Target, Ross, and Walmart, among others. More warehouses are proposed for development in the region. While the logistics and distribution sector will increase the number of job opportunities in the region, nearby communities have expressed concern with the impact of increased trucking on local air quality and traffic. There are also concerns about low wages and the job quality associated with this sector.

Other prevalent industries in North Kern, including retail, agriculture, manufacturing, and construction, also tend to be characterized by lower-wage jobs that require minimal formal education. This concentration of lower-wage industries can contribute to economic disparities, limiting upward mobility and opportunities for residents who may lack access to advanced education or training. This creates a cycle where economic growth becomes constrained by the lack of high-paying employment options. The higher-wage opportunities in North Kern include public administration, information, and construction. These sectors often involve specialized skills and government involvement, offering relatively higher earning potential.

While there are multiple emerging industries and industry drivers in the subregion, they are not all supported by the local community or aligned with a transition to a high road economy. Building electric transportation infrastructure, increasing energy efficiency for homes, improving local water systems and infrastructure, increasing education and training programs, and increasing health care options and access all potentially align with a transition to a high road economy.

Section 2.1D Sub-Regional Profile: South Kern

The South Kern subregion includes the communities of Arvin, Lamont, Edmundson Acres, Fuller Acres, Greenfield, and Weedpatch. The subregion is characterized by several industry sectors, including agriculture, food manufacturing, business services, healthcare, retail, and logistics. Similar to North Kern, the most common occupations in South Kern are low-wage jobs in the agriculture sector. One of the largest employers in the region is Grimmway Farms. South Kern faces the similar climate-related risks such as drought and extreme heat as North Kern, as well as their significant impacts to the agriculture sector and farmworkers.

The subregion hosts Blossom Valley Organics, the largest greenwaste composting facility in the United States between Lamont and Arvin. It is permitted to receive 3,692 tons of waste per day. Much of the waste originates in Los Angeles and is transported by truck to the site. The facility has a problematic history. While under the management of the previous owner, two underage workers were overcome by hydrogen sulfide when cleaning a drainage pipe. Tragically, they both passed away from the exposure. After being shuttered by the County and years of litigation, the owners sold the facility (Herbets 2014). After initially facing intense opposition from nearby community groups, the new owner (Recology) and residents in Lamont and Arvin were able to negotiate a Good Neighbor Agreement, including additional protections for the community, a community benefit fund, and a commitment to reduce emissions from

the plant by over 80 percent (Recinos 2017). The Good Neighbor Agreement is a model that can be replicated to improve project conditions and collaboration between willing communities and businesses.

Another major facility in the region is Kern Energy, formerly known as Kern Oil and Refining, near Fuller Acres. The company recently announced plans to begin refining 100 percent renewable diesel. Despite the shift, nearby residents continue to be concerned about its operation due to its close proximity to the nearby residential neighborhood. Community groups in North and South Kern have led the statewide charge to increase the distance between oil and gas infrastructure and sensitive receptors such as homes and schools.

The City of Arvin is advancing a number of climate initiatives. It recently was awarded \$2.9 million by the Federal Transit Agency to purchase two additional electric buses and construct microgrid infrastructure. The microgrid is estimated to save the city at least \$1 million in energy costs over the next 10 years. Arvin also committed to building more sidewalks and bike paths, and planting trees throughout the community. Tasteful Selections' specialty potato plant, a 1,100-employee agricultural facility in Arvin, constructed a 5-megawatt solar, natural gas and battery microgrid, expected to cut the plant's power bill by 40% (Cox 2021a). This project established the first microgrid in Kern County.

Bakersfield College also committed to open the Arvin Educational Center, a satellite campus to serve the residents in Arvin. This will help overcome barriers to higher education in Arvin and has been a long-term priority for Arvin residents. This new center will provide an opportunity to prepare local residents for a high road economy with training programs and classes specially tailored to local opportunities.

South Kern offers important lessons for a transition to a high road economy. Residents in this region are especially engaged in public processes and advocating for their health and well-being. They have demonstrated how to navigate building relationships and agreements with neighboring businesses, and how to build community-centered improvements to their communities. The region will benefit from increased educational opportunities. Increasing and improving health care and community infrastructure in the region are other areas of potential focus.

Section 2.1E Sub-Regional Profile: Central Kern

Central Kern includes Oildale and Bakersfield, including the neighborhoods of North Bakersfield, East Bakersfield, Northeast Bakerfield, Southeast Bakersfield, South Bakersfield, Southwest Bakersfield, and Northwest Bakersfield. The Kern River Oil Field extends across the northeast of Bakersfield, and sits just beyond Oildale. This area is the densest operational oil development in the state of California. Similar to other subregions, Central Kern's primary industries are agriculture and oil. Bakersfield serves as the home for both corporate and regional headquarters of companies engaged in these industries. However, in comparison to other areas, Bakersfield has a smaller proportion of workers in agriculture and oil production due to a more diverse local economy. Bakersfield also has a growing manufacturing and distribution sector, largely centered on the region's agricultural food products.

Energy prices and reliability has affected residents and the economic stability of industry sectors in Central Kern. Given the primacy of intermittent solar and wind renewable energy in the county, Kern County has recently engaged in efforts to increase energy storage and resilience. The City of Bakersfield, in partnership with the Kern Community College District, received a grant to increase local understanding of energy resilience technology with a focus on microgrids and energy storage. Microgrids are self-sufficient energy systems, usually powered by solar or other distributed energy sources, that can operate independently from the utility grid. It is also a form of local energy that creates energy for nearby customers. Researchers with the US Department of Energy will provide technical assistance on siting, designing and operating systems that generate, store and direct power for use on independent networks of different sizes (Cox 2022). In a second project, residents of southeast Bakersfield will receive training on

how to design, set-up and maintain microgrid technology funded by a grant backed by the California Office of the Small Business Advocate. Kern County will likely need additional local energy storage and production to guard against power shut-offs and to cover daily gaps between supply and demand for renewable electricity.

A more controversial renewable energy source in Central Kern is dairy digestion. Dairy digesters capture methane from manure lagoons, convert it to biomethane, and inject it into utility pipelines as renewable compressed natural gas to power trucks, buses, and cars. Most digesters are now part of clusters, with biogas from multiple dairies sent to a centralized cleaning hub. In Kern County, 16 dairies, mostly around Bakersfield, are part of the Kern County Dairy Biogas cluster. The dairies collectively produce approximately 6 million diesel gallon equivalents per year from around 60,000 milk cows.

The controversy surrounding this renewable energy source stems from the subsidies the industry receives and the perverse incentives they can create. Critics argue that generous financial incentives provide a profit motive for dairies to increase methane production (Briscoe 2023). Community advocates contend that methane digesters increase negative health impacts in surrounding communities by driving dairies to increase herd sizes, thereby increasing local ammonia and particulate pollution.

Developments more widely supported by residents and community organizations are the installation of 30 electric vehicle charging ports throughout the city, the installation of LED streetlights, the expansion of Mercy Hospital Southwest, and the recently announced large state investment to “transform” Southeast Bakersfield with nine integrated projects, including affordable housing, low-income energy efficiency program, garden collaborative and re-imaging a park, a mixed-use senior center, safe routes to school and corridor improvements, urban greening, and senior apartments.

Finally, the subregion continues to increase warehouse capacity, especially in North Bakersfield. The most recent proposals are proposed for the area around Meadows Field Airport. These developments seek to build on the momentum from the giant Amazon distribution center that opened in 2020 north of Merle Haggard Drive. Other industrial buildings have been built nearby. A casino is also proposed for the area (Cox 2023c).

While there are multiple emerging industries and industry drivers in the subregion, they are not all supported by the local community or aligned with a transition to a high road economy. Focusing on energy projects supported by the community such as building microgrids and expanding storage, projects that improve community infrastructure, or address deficiencies in needed services such as health care all potentially align with a transition to a high road economy.

Section 2.2 Climate and Environmental Impact

The impacts of global warming on communities and economies around the world are massive. In California and Kern County in particular, experts have outlined various dominant forms of hydroclimatic extremes affecting the county's people and the economy. These dominant forms of hydroclimate extremes contribute to intense air pollution, rising sea and carbon dioxide levels (Swain et al. 2018).

Climate change triggers historic floods and storms that result in drowning, electrocution, fire explosion, property destruction and exposure to toxics including post-traumatic stress, food insecurity, property destruction, housing insecurity and displacement (Neil et al. 2017). Extreme heat manifests in short or sustained high heat waves escalated by photochemical reactions that produce smog and ground level ozone, which can cause heat stroke, cardiovascular failure, respiratory diseases, and even death. In addition, droughts lead to excess pumping of depleted groundwater sources and the lowering of water tables, increasing the presence of toxic contaminants in drinking water—such as industrial chemicals (e.g. pesticides) or minerals (e.g. arsenic)—leading to cancer, liver or kidney problems among those that depend upon that water.

Shifting water tables and land may also place pressure on public water infrastructure and, during atmospheric rains, increase the risk of infrastructure failure and floods. Larger floods and rising sea levels may damage businesses and public buildings, schools, recreational sites as well as impede the transportation of goods between Kern County and other parts of the state, country and the international market. Increasing greenhouse emissions and other pollutants enabling climate change equally promote forced migration and civil conflicts. The overall climate change situation has worrying impacts on both the environmental, physical, social, mental, emotional, and occupational wellbeing of Kern County residents as well as the security, business and economy of the county as a whole.

Even though climate change has enormous impacts on the entire state of California just like other parts of the world, its repercussions on the people of Kern may be considered more precarious due to the county's heavy reliance on agriculture and the oil and gas sector (Advancement Project 2019). Experts have predicted that the county will experience even worse hydroclimatic extremes characterized by higher daily temperatures, heatwaves, wildfires and diminishing snow with severity by the 2050s (Advancement Project 2019). Extreme droughts are predicted to render water availability for agricultural irrigation scarcer, produce more dust storms that create the conditions favorable for extensive wildfires that would in turn disrupt services like energy transmissions. Continuous climate change will produce floods with damaging consequences for business, public and private facilities and hence loss of revenue and sources of income for businesses and the people of Kern respectively. Kern County ranks as one of the counties with the poorest air quality in the nation (Center for Biological Diversity 2021), yet under forecasts of an escalating climate crisis increased food insecurity, health challenges and poor water quality for domestic use are also anticipated to occur.

The greatest immediate and long-term impacts of climate change on the people of Kern County are, and continue to be, record heat, catastrophic wildfires and wildfire smoke, excessive drought, epic floods, and the worst air quality in the nation. Such climate issues have profound implications for water access, agricultural production, economic transitions, unemployment, and populations lacking a safety net, to name a few.

Section 2.2A Short- and Long-Term Impacts of Climate Change on Kern Residents and the Economy

Climate Change Effects on Kern County Residents

While climate change has already escalated in recent years, experts predict that climate conditions will further worsen by the 2050s (Fernandez-Bou et al. 2021). They predict that Kern County will experience higher daily temperatures and more heat waves, resulting in increasing wildfires and big reductions in snowpacks. Winter temperatures are forecasted to increase by 3-4 degrees Fahrenheit; summer by 5-6 degrees; heat waves to last longer by 3-5 days; and precipitation to decrease by 1-2 inches by 2050. (Ramos 2020, Advancement Project 2019). Also, wildfires are anticipated to increase by four to six times above current wildfire season averages while snowpacks are projected to decrease by approximately nine inches, resulting in less than four-inch snowpacks by 2090 (Advancement Project 2019). Also, droughts are expected to become more frequent and intense as precipitation drops, and as wildfires and floods escalate. Experts also predict that weather conditions will result in water scarcity for irrigation and intense cold snaps.

The impacts of climate change on the people of Kern County differ based on demographic characteristics, including age, class and race. According to the Environmental Defense Fund's Climate Vulnerability Index, Kern County ranks in the 94th percentile nationally for the vulnerability of its population to climate change factoring in health, the environment, social and economic vulnerabilities, and infrastructure (the sixth highest in the state out of 58 counties) (Environmental Defense Fund 2023). The most vulnerable to climate change include the very old, the very young, those with fragile health conditions, outdoor field workers, people without means of evacuations, low-income earners, individuals without access to air conditioners, the disabled, those with English language barriers; and people living in communities with no green spaces (Ramos 2020, Neil et al. 2017). In terms of race, Latinos (constituting about 52 percent of the population) followed by Black people (five percent), Asian people (five percent) and other people of color (Indian Americans/non-whites, about two percent of the county population) are more vulnerable to climate change effects (Advancement Project 2019). People who fall within many of these categories may experience multiple risk factors that heighten their vulnerability to climate change.

The above groups of Kern County residents are particularly vulnerable because they often have poor infrastructure, limited access to public services, and lack transportation options that not only make emergency response challenging, but also expose them to more climate change harms that aggravate their current conditions (Advancement Project 2019). It is estimated that about ten percent of households are linguistically isolated—they do not have a single person above the age of fourteen with English proficiency. Also, as of 2010, less than seven percent of families in these groups owned a car, a necessary resource to move should weather conditions mandate emergency evacuation. Moreover, an overwhelming majority of people within these groups are at greater risk of heat-related illnesses, poor air quality, displacement, psychological distress, depression and death.

Despite the severity of climate related impacts and vulnerability of the population in Kern County, only four of the California state-designated DACs in the county are covered by a city level climate action plan (CAP)—all in the city of Delano. Hence, nearly 95 percent of the most pollution-impacted communities have no formalized planning in place to protect vulnerable populations from climate change and only 52,000 out of the 917,000 residents of the county are covered by a CAP (less than 6 percent). Using the US Environmental Protection Agency (EPA) 2022 Environmental Justice Screening Tool, over two-thirds (72%, 101 of 151 census tracts) of the Census Tracts are designated as Disadvantaged in Kern (EPA 2022).

Kern County's disadvantaged profile places it in a position to receive federal and state funding for climate-related investments. Indeed, as of 2021, the county has already received over \$19 million dollars in climate investments. A county level climate investment plan involving key community and labor sector stakeholders could lead to much more civic participation in the regions most impacted by pollution and climate change.

Occupational Impacts

In general, outdoor workers are at greater risk from climate-related impacts. Farmworkers are exposed to extreme heat in Kern County and are at heightened risk of acute and chronic heat-related health conditions. Reports indicate that in 2010 approximately 48,620 outdoor workers, mostly farmers, were exposed to heat waves (Advancement Project 2019, O'Rourke 2023) and between 2005 to 2010, 193 people visited the emergency room for heat-related illnesses (Neil et al. 2017). This translates into twenty-four emergency room visits per 100,000 persons, which is 2.4 times the statewide rate of ten emergency room visits per 100,000 persons (Neil et al. 2017). Outdoor workers experience a heightened risk of respiratory and cardiovascular diseases from wildfires. Smoke from wildfires contains chemicals, gases and fine particles that can harm health. The greatest hazard comes from breathing fine particles in the air, which can reduce lung function, worsen asthma and other existing heart and lung conditions, and cause coughing, wheezing and difficulty breathing (Cal/OSHA 2021). Rising temperatures favor agricultural pests, diseases and disease vectors. Climate change has already made conditions more conducive to the spread of certain infectious diseases, including Lyme disease, water-borne diseases, and mosquito-borne diseases (Mojahed and Mohamadkhani 2022). Outdoor workers are at increased risk for vector-borne illness. Between 2015 and 2019, seventy-nine cases of severe vector-borne illnesses characterized by fever, headaches, rash, muscle weakness, nausea, and vomiting were registered in Kern County (Advancement Project 2019). Finally, climate-induced extreme weather events interrupt work. In a 2023 survey by Dolores Huerta Foundation and the Community and Labor Center, in Arvin, East Bakersfield, Wasco, and Lamont/Weedpatch, over one in five households reported interruption of work due to extreme heat days in the past year and over one in ten households reported loss of work due to flooding (see Appendix B).³⁹

Agricultural Production

Annual water supply is projected to reduce twenty percent by 2040; as such, about 900,000 acres of farmlands or fifty percent in some towns may be fallowed (Escriva-Bou et al 2022, Escriva-Bou et al 2023). This will pose a severe challenge to Kern's agricultural industry varying consequences on different categories of crops. Almond production, for example, will not be greatly affected by the climate crisis due to the crop's ability to survive in such weather conditions. But other crops like pistachios, grapes, carrots and oranges will be severely affected by the extreme climate condition (Cox 2020). Weathered heatwaves and cold snaps in recent years have lowered the quality of crops like cherries and reduced pollination (Cox 2023b). Higher temperatures reduce the chill time trees like pistachios require to produce, while other crops such as carrots do not do well in extreme hot weather conditions. Such decline in the production of these crops will hurt the economy of the county, as the county makes about \$7.25 billion gross output per year from agriculture (Cox 2020). Any reduction in productive agricultural land will result in lost wages and employment. Finally, food insecurity will be high as Kern County already experiences food challenges. In 2016, about 13.6 percent of residents experienced food challenges (Advancement Project 2019). The anticipated decline of the agricultural sector due to climate change, and its expected fallowing of about 900,000 acres of farmlands in the San Joaquin Valley, is projected to lead to a 2.3 percent decline of the economy of Kern County by 2040 (Escriva-Bou et al. 2023).

Job and Income Insecurity

As one of the nation's largest oil, gas and food production county, the oil and gas and agricultural sectors are major employers in Kern County. Climate change mitigation strategies mandate a transition from fossil fuels to renewable energy to prevent the escalation of the climate crisis. Oil and gas workers are at risk of displacement as their jobs are vulnerable to volatility in the fossil fuel sector. Second, the already low-wage burdened county will experience even lower wages as the oil and gas sector's well-paying jobs disappear (US Department of Energy 2022). The transition away from fossil fuels will also significantly reduce property taxes in Kern County, potentially leading to cuts in public service and public sector jobs.

Section 2.2B Significant Sources of Pollution and their Impacts on Communities

Air pollution, measured in particulate matter, is among the highest in the United States. One national ranking of ppm calculates Kern County with the second-highest air pollution levels in the country out of the 3,108 counties in the US. High concentrations of particle pollution are associated with increased hospitalizations, asthma attacks, cardiovascular disease, lung cancer, COPD, heart attacks, and premature death. In 2012, fourteen percent of Kern County adults (out of which ninety-two percent were people of color) were diagnosed with asthma (Advancement Project 2019). Other pollution-related diseases such as cancer, and preterm births are also common in Kern County due to the poor air quality (Center for Biological Diversity 2021) Water quality in Kern is also among the worst in the state. The index for drinking water contaminants in the San Joaquin Valley was 742 for the years 2011 to 2019 (San Joaquin Valley Public Health Consortium 2022). Groundwater wells are easily contaminated by agricultural runoff and fuel byproducts like nitrogen oxide (State of California Department of Justice 2019).

The county's industrial sectors contribute to and exacerbate poor health conditions in Kern. Some of Kern's oil and gas production facilities and wells are sited in close proximity to disadvantaged communities, increasing their risk of exposure to toxic air contaminants and fossil fuel byproducts. Construction and operation of production wells increase fugitive emissions. In addition, many wells still use diesel-powered construction equipment that emit toxic pollutants and further exacerbate local emissions. These emissions, combined with leaks, generate odors that have considerable health impacts.

The county generates about .16 tons of air diesel particular matter pollution per year (San Joaquin Valley Public Health Consortium 2022) while diesels, gasoline and other byproducts of combustion fuels from cars (transport sector) emit monoxide (CO), lead, nitrogen dioxide (NO₂), particulate matter, ozone, and sulfur dioxide (SO₂) into the atmosphere (Sulbaran and Sarder 2013). These gasses are harmful to human health and the environment. Nitrogen oxide for example is noted for posing higher risk of cancer, heart conditions and respiratory problems particularly in children and elderly as well as a major water pollutant. These transportation related emissions may increase as the county welcomes mega warehousing projects that involve the movement of fleets of trucks to and from the county.

Farmworkers and communities near agricultural fields may be exposed to pesticides, including Latino children who are more likely to attend schools exposed to pesticides when compared to white and wealthier residents (Hartzog et al. 2017). Dairies are a subset of agricultural land uses that pose a threat to the region's air and water quality. They also emit ammonia, hydrogen sulfide, particulate matter, volatile organic compounds and hazardous air pollutants, as well as unpleasant odors.

In this next section, we examine CalEnviroScreen census-level data to better understand the localized impact of pollution on Kern communities. CalEnviroScreen is a science-based method for identifying impacted communities by measuring pollution exposure and its effects, as well as health and socioeconomic status, at the census-tract level. CalEnviroScreen measures environmental exposures (ozone, particulate matter 2.5, drinking water, diesel particulate matter, traffic, lead, pesticides, toxic releases), environmental effects (cleanup sites, groundwater threats, hazardous waste, impaired water bodies, and solid waste), sensitive populations (low birth weight, asthma, cardiovascular disease) and socioeconomic factors (linguistic isolation, poverty, unemployment, housing burden) to present a relative ranking of cumulative impacts and community vulnerability across census tracts in the state of California.

CalEnviroScreen 4.0 reports that 73 of the 151 Census Tracts (48%) in Kern County are designated as Disadvantaged Communities (DACs) by SB 535 (Office of Environmental Health Hazard Assessment 2021). DACs are low-income communities that suffer from heightened levels of environmental hazards. Nearly half of the census tracts in the county are burdened by multiple sources of pollution while simultaneously experiencing limited economic resources. Kern County contains a total of 151 census tracts, and this next section identifies the number of census tracts within Kern County that score in California's top 25 percent for each environmental exposure, environmental effect, and sensitive

Table 2.3 Number of Kern County Census Tracts in Top 25% for CalEnviroScreen Indicators (out of 151)

| Exposures | |
|------------------------|-----|
| Ozone | 150 |
| Sensitive Populations | |
| Asthma | 81 |
| Low birth weight | 50 |
| Cardiovascular Disease | 113 |
| Pesticides | 38 |
| Drinking Water | 53 |
| Lead from Housing | 48 |
| Environmental Effects | |
| Cleanup Sites | 21 |
| Groundwater Threats | 21 |
| Hazardous Waste | 36 |
| Impaired Waters | 0 |
| Solid Waste | 31 |

Source: California Office of Environmental Health Hazard Assessment, CalEnviroScreen 4.0

population indicator. This section also summarizes what each indicator measures, the health impacts or risks associated with each indicator, the likely sources of environmental exposures or effects in Kern, and any distributional pattern of high scoring census tracts in Kern County.

Environmental Exposures

Environmental exposures generally involve movement of chemicals from a source through the environment (air, water, food, soil) to an individual or population. CalEnviroScreen uses data relating to pollution sources, releases, and environmental concentrations as indicators of potential human exposures to pollutants. CalEnviroScreen uses eight indicators to assess environmental exposures. They include:

- *Ozone.* Virtually every census tract in Kern County is in the top 25 percent of California census tracts most impacted by ozone pollution (150/151 census tracts). Ozone pollution causes numerous adverse health effects, including respiratory irritation and exacerbation of lung disease. Ozone is formed when heat and sunlight cause chemical reactions between oxides of nitrogen and volatile organic compounds. These pollutants are commonly emitted from vehicles, power plants, refineries, chemical plants and other industrial sources. The region’s geography and pollution from agriculture, oil drilling operations, vehicular traffic, and large industrial facilities are likely responsible for much of Kern County’s ozone pollution.
- *Particulate Matter 2.5.* One hundred and seventeen (117) Kern County census tracts score in the top 25 percent of census tracts most impacted by fine particle pollution. Particulate matter pollution, and fine particle (PM2.5) pollution in particular, has been shown to cause numerous adverse health effects, including heart and lung disease. PM2.5 contributes to substantial mortality across the state. These pollutants are commonly emitted from agricultural operations, industrial processes, combustion of wood and fossil fuels, construction and demolition activities and road dust. The region’s geography and pollution from agriculture, diesel trucks, rail freight, and traffic on the I-5 and Highway 99 are likely responsible for much of Kern County’s fine particle pollution. Census tracts in North, South, and Central Kern, and Taft are high scoring for this indicator.
- *Drinking Water.* Fifty-three (53) Kern County census tracts score among the top 25 percent of census tracts most impacted by drinking water contaminants. Contaminants may be introduced into drinking water sources in many ways, including natural occurrence, accidental discharge,

Table 2.5 Kern County Census Tracts in Top 25% for CalEnviroScreen Indicators

| <i>Indicators</i> | <u>Bodfish</u> | <u>Mojave</u> | <u>Taft</u> | <u>Ford</u> | <u>Buttonwillow</u> | <u>Fellows,</u> | <u>Maricopa</u> | <u>Delano</u> | <u>Delano</u> | <u>Lost</u> | <u>McFarland</u> | <u>McFarland</u> |
|------------------------------|--------------------------|---------------|-------------|-------------|---------------------|------------------------------------|-----------------|---------------|---------------|--------------|------------------|------------------|
| | <u>and Lake Isabella</u> | | | <u>City</u> | <u>and Tupman</u> | <u>Mckitterick and Derby Acres</u> | | <u>(East)</u> | <u>(West)</u> | <u>Hills</u> | <u>(East)</u> | <u>(West)</u> |
| <i>Exposures</i> | | | | | | | | | | | | |
| Ozone | 95 | 89 | 89 | 89 | 80 | 75 | 85 | 82 | 82 | 71 | 82 | 82 |
| Particulate Matter 2.5 | 48 | 4 | 93 | 92 | 94 | 57 | 51 | 97 | 97 | 52 | 98 | 97 |
| Diesel Particulate Matter | 2 | 33 | 38 | 16 | 15 | 9 | 11 | 57 | 89 | 7 | 50 | 62 |
| Toxic Releases | 6 | 59 | 58 | 60 | 68 | 91 | 50 | 3 | 3 | 52 | 28 | 27 |
| Traffic | 2 | 5 | 7 | 5 | 7 | 3 | 1 | 14 | 33 | 4 | 33 | 24 |
| Pesticides | 79 | 0 | 63 | 0 | 91 | 88 | 0 | 0 | 43 | 86 | 80 | 82 |
| Drinking Water | 75 | 68 | 62 | 62 | 97 | 93 | 62 | 62 | 68 | 99 | 73 | 73 |
| Lead from Housing | 41 | 81 | 72 | 93 | 65 | 57 | 76 | 77 | 82 | 57 | 77 | 65 |
| <i>Environmental Effects</i> | | | | | | | | | | | | |
| Cleanup Sites | 38 | 38 | 43 | 17 | 43 | 86 | 62 | 97 | 93 | 69 | 0 | 0 |
| Groundwater Threats | 41 | 14 | 27 | 7 | 66 | 95 | 97 | 31 | 69 | 96 | 32 | 32 |
| Hazardous Waste | 17 | 67 | 71 | 22 | 94 | 97 | 83 | 36 | 66 | 62 | 17 | 17 |
| Impaired Waters | 33 | 0 | 0 | 0 | 44 | 0 | 0 | 0 | 0 | 44 | 0 | 0 |
| Solid Waste | 97 | 53 | 85 | 55 | 85 | 99 | 81 | 0 | 80 | 96 | 55 | 53 |
| <i>Sensitive Populations</i> | | | | | | | | | | | | |
| Asthma | 91 | 97 | 39 | 39 | 49 | 18 | 33 | 55 | 55 | 24 | 69 | 69 |
| Low birth weight | 97 | 96 | 68 | 92 | 73 | 62 | 76 | 81 | 56 | 54 | 34 | 32 |
| Cardiovascular Disease | 89 | 81 | 95 | 95 | 78 | 58 | 76 | 95 | 95 | 66 | 99 | 99 |

Source: California Office of Environmental Health Hazard Assessment, CalEnviroScreen 4.0

Table 2.5 Kern County Census Tracts in Top 25% for CalEnviroScreen Indicators (Continued)

| <i>Indicators</i> | <u>Shafter</u> | <u>Shafter</u> | <u>Wasco</u> | <u>Arvin</u> | <u>Lamont</u> | <u>Greenfield</u> | <u>Fuller Acres</u> | <u>Edmundson</u> | <u>Oildale</u> | <u>Oildale</u> | <u>Oildale</u> |
|------------------------------|----------------|----------------|---------------|--------------|---------------|-------------------|---------------------|------------------|----------------|------------------|----------------|
| | <u>(North)</u> | <u>(South)</u> | <u>(West)</u> | | | | | <u>Acres</u> | <u>(North)</u> | <u>(Central)</u> | <u>(South)</u> |
| <i>Exposures</i> | | | | | | | | | | | |
| Ozone | 82 | 82 | 82 | 94 | 97 | 95 | 95 | 95 | 94 | 94 | 94 |
| Particulate Matter 2.5 | 98 | 98 | 98 | 63 | 98 | 99 | 97 | 72 | 99 | 99 | 99 |
| Diesel Particulate Matter | 52 | 53 | 65 | 45 | 29 | 51 | 15 | 26 | 57 | 20 | 86 |
| Toxic Releases | 42 | 43 | 36 | 10 | 33 | 18 | 28 | 12 | 16 | 15 | 19 |
| Traffic | 7 | 9 | 7 | 4 | 6 | 25 | 2 | 3 | 40 | 28 | 63 |
| Pesticides | 93 | 82 | 77 | 78 | 82 | 90 | 96 | 99 | 0 | 0 | 0 |
| Drinking Water | 79 | 79 | 85 | 85 | 99 | 99 | 100 | 95 | 77 | 77 | 75 |
| Lead from Housing | 71 | 79 | 73 | 94 | 87 | 46 | 84 | 65 | 87 | 86 | 85 |
| <i>Environmental Effects</i> | | | | | | | | | | | |
| Cleanup Sites | 81 | 81 | 38 | 69 | 72 | 2 | 27 | 19 | 81 | 73 | 62 |
| Groundwater Threats | 60 | 60 | 11 | 60 | 0 | 38 | 94 | 11 | 75 | 44 | 31 |
| Hazardous Waste | 17 | 17 | 31 | 81 | 36 | 60 | 62 | 54 | 74 | 54 | 85 |
| Impaired Waters | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Solid Waste | 0 | 0 | 22 | 0 | 0 | 70 | 87 | 0 | 0 | 0 | 0 |
| <i>Sensitive Populations</i> | | | | | | | | | | | |
| Asthma | 49 | 49 | 46 | 44 | 52 | 88 | 84 | 44 | 82 | 82 | 82 |
| Low birth weight | 60 | 53 | 50 | 51 | 62 | 47 | 95 | 55 | 91 | 68 | 86 |
| Cardiovascular Disease | 77 | 77 | 92 | 82 | 80 | 96 | 93 | 82 | 89 | 89 | 86 |

Source: California Office of Environmental Health Hazard Assessment, CalEnviroScreen 4.0

Table 2.5 Kern County Census Tracts in Top 25% for CalEnviroScreen Indicators (Continued)

| | <u>Bakersfield (93380)</u> | <u>Bakersfield (93383)</u> | <u>Bakersfield (93384)</u> | <u>Bakersfield (93385)</u> | <u>Bakersfield (93387)</u> | <u>Bakersfield (93388)</u> |
|------------------------|----------------------------|----------------------------|----------------------------|----------------------------|----------------------------|----------------------------|
| <i>Indicators</i> | | | | | | |
| Exposures | 91 | 94 | 94 | 94 | 95 | 94 |
| Ozone | 99 | 100 | 100 | 100 | 100 | 99 |
| Particulate Matter 2.5 | 38 | 91 | 54 | 84 | 26 | 57 |
| Diesel Particulate | | | | | | |
| Matter | 19 | 16 | 16 | 12 | 12 | 16 |
| Toxic Releases | 38 | 51 | 66 | 11 | 42 | 40 |
| Traffic | 75 | 0 | 0 | 0 | 0 | 0 |
| Pesticides | 96 | 70 | 70 | 70 | 70 | 77 |
| Drinking Water | 34 | 84 | 77 | 91 | 86 | 87 |
| Lead from Housing | | | | | | |
| Environmental Effects | 89 | 77 | 0 | 17 | 74 | 81 |
| Cleanup Sites | 83 | 47 | 7 | 47 | 17 | 75 |
| Groundwater Threats | 95 | 63 | 76 | 62 | 98 | 74 |
| Hazardous Waste | 0 | 0 | 0 | 0 | 0 | 0 |
| Impaired Waters | 59 | 64 | 0 | 0 | 26 | 0 |
| Solid Waste | | | | | | |
| Sensitive Populations | 82 | 95 | 97 | 97 | 88 | 82 |
| Asthma | 48 | 88 | 89 | 90 | 31 | 91 |
| Low birth weight | 89 | 93 | 97 | 93 | 96 | 89 |
| Cardiovascular Disease | | | | | | |

Source: California Office of Environmental Health Hazard Assessment, CalEnviroScreen 4.0

Table 2.5 Kern County Census Tracts in Top 25% for CalEnviroScreen Indicators (Continued)

| | <u>Bakersfield (93301, 93302, 93303)</u> | <u>Bakersfield (93304)</u> | <u>Bakersfield (93305)</u> | <u>Bakersfield (93306)</u> | <u>Bakersfield (93307)</u> | <u>Bakersfield (93309)</u> |
|------------------------|--|----------------------------|----------------------------|----------------------------|----------------------------|----------------------------|
| <i>Indicators</i> | | | | | | |
| Exposures | | | | | | |
| Ozone | 94 | 94 | 94 | 95 | 94 | 94 |
| Particulate Matter 2.5 | 100 | 100 | 100 | 99 | 100 | 100 |
| Diesel Particulate | | | | | | |
| Matter | 97 | 91 | 89 | 42 | 98 | 79 |
| Toxic Releases | 18 | 16 | 13 | 9 | 14 | 16 |
| Traffic | 30 | 51 | 21 | 14 | 52 | 67 |
| Pesticides | 0 | 0 | 0 | 0 | 0 | 0 |
| Drinking Water | 70 | 70 | 70 | 87 | 70 | 70 |
| Lead from Housing | 58 | 84 | 98 | 95 | 93 | 93 |
| Environmental Effects | | | | | | |
| Cleanup Sites | 38 | 77 | 12 | 0 | 61 | 75 |
| Groundwater Threats | 62 | 47 | 47 | 0 | 53 | 0 |
| Hazardous Waste | 96 | 63 | 78 | 38 | 69 | 71 |
| Impaired Waters | 0 | 0 | 0 | 0 | 0 | 0 |
| Solid Waste | 53 | 64 | 0 | 0 | 42 | 0 |
| Sensitive Populations | | | | | | |
| Asthma | 99 | 95 | 94 | 78 | 86 | 97 |
| Low birth weight | 89 | 88 | 90 | 87 | 72 | 32 |
| Cardiovascular Disease | 87 | 93 | 82 | 73 | 94 | 97 |

Source: California Office of Environmental Health Hazard Assessment, CalEnviroScreen 4.0

industrial release, agricultural runoff and certain water disinfection methods. In agricultural areas such as Kern County, nitrate from fertilizer application or animal waste can leach into groundwater and cause contamination of drinking water wells. Elevated levels of nitrate in drinking water are associated with methemoglobinemia (blue baby syndrome) and may be associated with birth defects and miscarriages. Arsenic, a known human carcinogen, is a naturally occurring contaminant often found in groundwater in arid and semiarid regions such as the San Joaquin Valley. Exposure to arsenic through drinking water is associated with elevated lung and bladder cancer rates, especially with early-life exposures. Most Central Valley and mountain census tracts other than Bakersfield, Delano, McFarland and Tehachapi score high for this indicator.

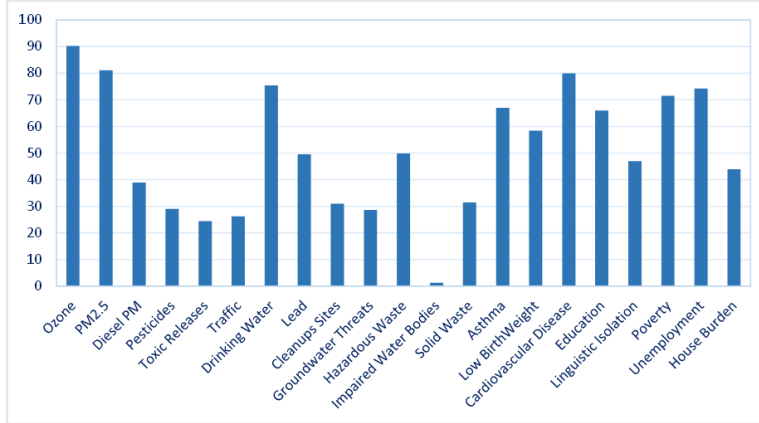
- *Lead from Housing.* Forty-eight (48) census tracts score among the top 25 percent of census tracts most impacted by lead from housing. Exposure to lead through paint is the most significant source of lead exposure for children. Historically, lead was used as a primary ingredient in house paint. Lead persists in older buildings containing lead paint, as well as old plumbing and contaminated soil. This indicator measures two known risk factors: age of housing and children living in low-income households. Census tracts in Delano, McFarland, Wasco, Shafter, Ford City, Maricopa, Arvin, Lamont, Bakersfield, Mojave, China Lake, and Boron score high for this indicator.
- *Pesticides.* Thirty-eight census tracts in Kern score among the top 25 percent of census tracts most impacted by pesticide use. Communities near agricultural fields, primarily farm worker communities, may be at risk for exposure to pesticides. Drift or volatilization of pesticides from agricultural fields can be a significant source of pesticide exposure. Pesticide use, especially use of volatile chemicals that can easily become airborne, can serve as an indicator of potential exposure. High use of pesticides has been correlated with both exposure and acute pesticide-related illness, and there is evidence for an association with chronic disease outcomes. Most Central Valley census tracts other than the urban cores of Bakersfield and Delano score high for this indicator.
- *Diesel Particulate Matter.* Twenty-three (23) census tracts in Kern score in the top 25 percent of census tracts most impacted by diesel particulate matter. Diesel particulate matter (diesel PM) occurs throughout the environment from both on road and off-road mobile sources and some stationary sources. Major sources of diesel PM include trucks, buses, cars and locomotive engines. Diesel PM is concentrated near ports, rail yards and freeways where many such sources exist. Exposure to diesel PM has been shown to have numerous adverse health effects including irritation to the eyes, throat and nose, cardiovascular and pulmonary disease, and lung cancer. Children and those with existing respiratory disease, particularly asthma, appear to be especially susceptible to the harmful effects of exposure to airborne PM from diesel exhaust, resulting in increased asthma symptoms and attacks along with decreases in lung function. Bakersfield, Delano, and Wasco score high for this indicator.
- *Traffic.* Two (2) census tracts in Kern score in the top 25 percent of census tracts most impacted by traffic. Traffic is a significant source of air pollution. Exhaust from vehicles contains many toxic chemicals, including nitrogen oxides, carbon monoxide, and benzene. Traffic exhaust also plays a role in the formation of photochemical smog. Health effects of concern from these pollutants include heart and lung disease, cancer, and increased mortality. The two high scoring census tracks are in the northern Bakersfield near Alon Refinery where HWY 99 intersects with HWY 58/178.
- *Toxic Releases from Facilities.* One census tract in Kern scores in the top 25 percent of census tracts most impacted by toxic releases. Air monitoring data at hundreds of locations across the United States have identified over a dozen hazardous air pollutants at concentrations that exceed California cancer or non-cancer benchmarks. Many of the locations found to have elevated levels are near major industrial sources, and many of the chemicals monitored are emitted from these facilities. The high scoring census track for toxic releases is the one containing the Clean Harbors Hazardous Waste Landfill between Buttonwillow and McKittrick.

Environmental Effects

Environmental effects include environmental degradation, ecological effects and threats to the environment and communities. Effects can be immediate or delayed. Living in an environmentally degraded community can lead to stress, which may affect human health. In addition, the mere presence of a contaminated site or high-profile facility can have tangible impacts on a community, even if actual environmental degradation cannot be documented. Such sites or facilities can contribute to perceptions of a community being undesirable or even unsafe. CalEnviroScreen scores environmental effects at half the weight of environmental exposures to account for the lack of established exposure pathways. CalEnviroScreen measures five environmental effects, only four of which are relevant to Kern County (there are no census tracts that score high for impaired surface water bodies in Kern County). They are:

- *Hazardous Waste Generators and Facilities.* Thirty-six (36) census tracts in Kern score in the top 25 percent of census tracts most impacted by hazardous waste generators and facilities. Hazardous waste is by definition potentially dangerous or harmful to human health or the environment. Hazardous waste facilities may negatively affect perceptions of surrounding areas in ways that have economic, social and health impacts. Studies have also found health effects, including diabetes and cardiovascular disease, associated with living in proximity to hazardous waste sites. Unincorporated East Kern, Tehachapi, Arvin, Bakersfield, and unincorporated North and West Kern census tracts score high in this indicator.
- *Solid Waste.* Thirty-one (31) census tracts in Kern score in the top 25 percent of census tracts most impacted by solid waste sites and facilities. Solid waste sites include landfills, transfer stations, material recovery facilities, composting sites, transformation facilities, waste tire sites, and closed disposal sites. Solid waste sites can have multiple impacts on a community. Waste gases like methane and carbon dioxide can be released into the air from disposal sites for decades, even after site closure. Composting, treatment, and recycling facilities may raise concerns about odors, vermin, and increased truck traffic. Odors and the known presence of solid waste may impair a community's perceived desirability and affect the health and quality of life of nearby residents. Unincorporated areas across the county score high for this indicator.
- *Clean Up Sites.* Twenty-one (21) census tracts in Kern score in the top 25 percent of census tracts most impacted by brownfields or clean-up sites. Sites undergoing cleanup actions by governmental authorities or by property owners have suffered environmental degradation due to the presence of hazardous substances. These sites pose a risk to people who may come into contact with these substances. Some of these sites are underutilized due to cleanup costs or concerns about liability. The impacted census tracts are in Eastern and Western Kern, along with Delano, Wasco, Shafter and Bakersfield.
- *Groundwater Threats.* Twenty-one (21) census tracts in Kern score in the top 25 percent of census tracts most impacted by groundwater threats. Many activities can pose threats to groundwater quality. These include the storage and disposal of hazardous materials on land and in underground storage tanks at various types of commercial, industrial, and military sites. Thousands of storage tanks in California have leaked petroleum or other hazardous substances, degrading soil and groundwater. Storage tanks are of particular concern when they can affect drinking water supplies. Dairy farms and concentrated animal-feeding operations, which produce large quantities of animal manure, pose a threat to groundwater. Other activities that pose threats to groundwater quality include produced water ponds, which are generated as a result of oil and gas development. Impacted census tracts are distributed throughout the county.

Figure 2.4 Average Indicator Percentile Values in Kern County



Source: CalEnviroScreen Indicator Chart

Sensitive Populations

Sensitive populations are populations with physiological conditions that result in increased vulnerability to pollutants. Sensitive individuals may include those with impaired physiological conditions, such as people with heart disease or asthma. Other sensitive individuals include those with lower protective biological mechanisms due to genetic factors. CalEnviroScreen uses three indicators to measure sensitive populations. They are:

- Cardiovascular Disease.** Most census tracts in Kern County score in the highest 25 percentile for incidence of cardiovascular disease (113). Cardiovascular disease refers to conditions that involve blocked or narrowed blood vessels that can lead to a heart attack or other heart problems. Cardiovascular disease is the leading cause of death both in California and the United States. Evidence demonstrates that air pollution contributes to cardiovascular morbidity and mortality. Short term exposure to air pollution, and specifically particulate matter, has been shown to increase the risk of cardiovascular mortality shortly following a heart attack. There is also growing evidence that long term exposure to air pollution may result in premature death for people that have had a heart attack. The effects of pollution on cardiovascular disease may be more pronounced in the elderly and people with other preexisting health conditions.
- Asthma.** Eighty-one (81) census tracts in Kern score in the top 25 percent of census tracts for incidence of asthma. Asthma is a chronic lung disease characterized by episodic breathlessness, wheezing, coughing, and chest tightness. It is well established that exposure to traffic and outdoor air pollutants, including particulate matter, ozone, and diesel exhaust, can trigger asthma attacks. Children, the elderly and low-income Californians suffer disproportionately from asthma. Asthma can be a life-threatening condition, and emergency department (ED) visits for asthma are a very serious outcome, both for patients and for the medical system. The most impacted census tracts are clustered around Bakersfield and East Kern.
- Low Birth Weight.** Fifty (50) census tracts in Kern score in the top 25 percent of census tracts for incidence of low birth weight. Infants born weighing less about 5.5 pounds are classified as low birth weight (LBW), a condition associated with increased risk of health problems later in life as well as infant mortality. Studies suggest that environmental exposures to lead, air pollution, toxic air contaminants, traffic pollution, pesticides, and polychlorinated biphenyls (PCBs) are all linked to low birth weight. These children are at higher risk of chronic health conditions that may make them more sensitive to environmental exposures after birth. Census tracts in or near East Kern, Bodfish, Lake Isabella, Wasco, Bakersfield, Taft and Delano have the highest levels of low birth weights.

Section 2.2C Sources of GHG Emissions and their Impacts on Communities

Though naturally occurring processes produce greenhouse gases (GHGs), human activities generate a bulk of the gases that have accumulated over time and trap significant amounts of heat in the atmosphere thereby causing temperatures to rise (SJVAPCD 2012). The COVID 19 period can attest to the role of human activities in GHG emissions. For instance, the California Air Resource Board (2023) reported that GHG emissions dropped in the state of California between 2019 and 2020, when human activity decreased due to COVID 19 restrictions; conversely, emissions increased from 2021 when COVID 19 restrictions lifted and human activities resumed.

Greenhouse gases refer to gases with the potential to warm up the planet and cause significant shifts in global temperatures. The state of California is the world's twelfth- and the United States of America's second- greatest emitter of GHG emissions (Eastern Kern Air Pollution District, 2017). The rising temperatures (due to human activities) result in anthropogenic extremes characterized by intensive and extensive droughts, shrinking glacier and ice, rising sea levels and flooding. According to the United States Environmental Protection Agency (EPA), and as seen in 2021, the nation generates about 6,340 million metric tons of greenhouses gases per year. The sectors responsible for the nation's significant GHG emissions include the industry sector (generating about 30% of total emissions), transportation (28%), electricity production (25%), the commercial and residential sector (producing 13% of emissions), land and forestry use (12%), and the agricultural sector (10%) (US Environmental Protection Agency 2022).

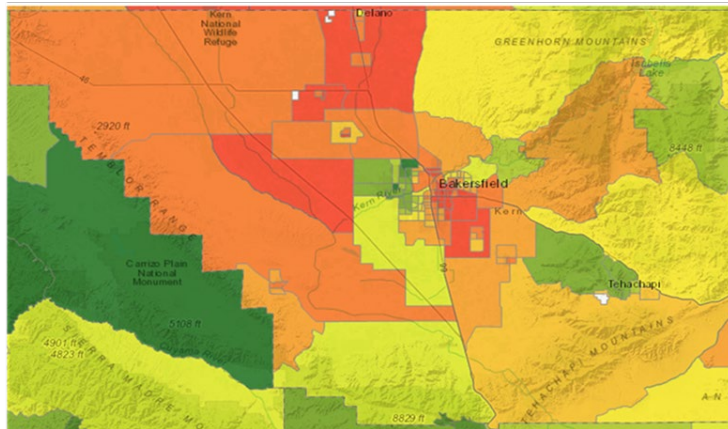
In the state of California, the Air Board has identified carbon dioxide (CO₂), methane (CH₄), nitrous oxide (N₂O), sulfur hexafluoride (SF₆), hydrofluorocarbons (HFCs), perfluorocarbons (PFCs), and nitrogen trifluoride (NF₃) as some of the main sources of GHG emission in the state (California Air Resource Board 2023). In contrast to the EPA's nation-wide report stating that the industry sector is leading in GHG emission, the California Air Resource Board finds the transportation sector as the highest emitter in California. In California, transportation generates 39% of the state's total emissions, followed by industry (22%), state electricity (11%), agriculture and forestry (8%), residential emission (8%), commercial activities (6%), and electricity import (5%) (California Air Resource Board 2023b).

In terms of transportation, emissions from car tail pipes, intrastate aviation and other sources of transportation are responsible for the amount of GHG emissions in this sector in California. At the level of industry, oil extraction, petroleum refining, oil pipelines and cement plants include some of the key sources of GHG emission in this category. For electricity-based GHG emissions, in-state generation (including industrial and commercial co-generation activities such as fossil powered electricity generation) and imported electricity are key emitters in the sector. Residential and commercial GHG emissions involves emissions resulting principally from fossil gas combustion and other gases used for cooking, water heating, steam generation, residential fertilizer application, meter gas leaks, refrigeration and air conditioning. Commercial waste recycling or waste management processes and landfills produce gases that also accumulate to increase GHG emissions. In the agriculture sector, GHG emissions come from enteric fermentation processes, livestock (particularly dairy) manure management, soil preparation, crop fertilization, crop residue burning and fuel combustion in water pumping, building heating, commodity processing and tractor use.

Kern County and Significant Sources of Greenhouse Gas Emissions

In Kern County, a San Joaquin Valley Air Pollution Control District (SJVAPCD) (2012) report revealed that the county generated about 27 million metric tons of GHG emissions, and more yearly since 2005. The institute also forecasted that GHG emissions from the electricity sector will, in the future, top the chart with 31% of total emissions, while fossil fuels will drop to 26%; transportation will decrease to 9%; agriculture, forestry and land use will increase from 8% to 10%; industrial processes from 7% to 10% and

Figure 2.5 Greenhouse Gas Emission in Kern County



Source: CalEnviroScreen 4.0

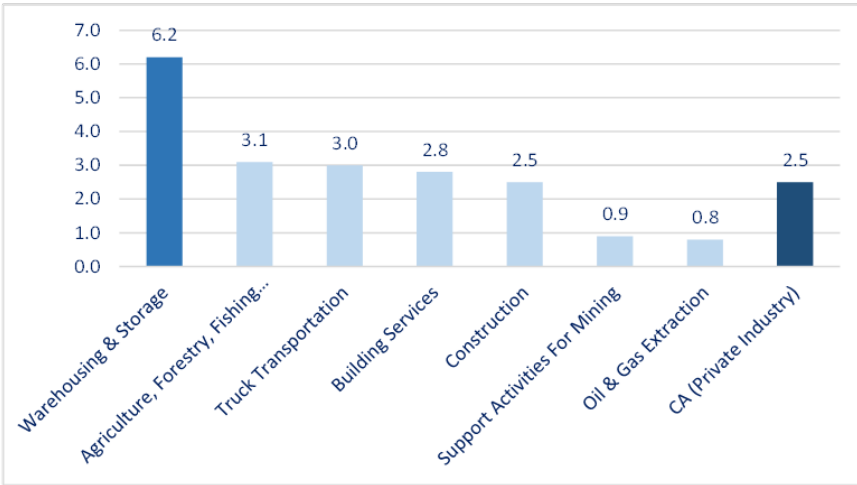
waste management and other sources 2%. According to the report, the main sources of GHG emissions include the following:

- *Fossil Fuel Industry Emissions.* The fossil fuel industry in Kern County is responsible for 40% of the 27 million metric tons of GHG generated in Kern County. The industry’s GHG emission rate is particularly influenced by the oil and gas sector and involves natural and waste gas, residual oil, LPG, fugitive oil and gas refining, petroleum production, fugitive natural gas transmission and distribution and all other refining processes.
- *Electricity Production and Consumption Emissions.* The fossil fuel industry is closely followed by electricity production and consumption generating 22% of gas emissions in Kern County. Electricity generated GHG emissions include the production of electricity in Kern County that is consumed within and outside the county and actual county consumption. This sector has subsectors involved in electricity production such as natural gas, petroleum, waste and biogas and renewable energy systems.
- *Transportation Sector Emissions.* The transportation sector comes after the electricity sector and produces 17% of GHG in the county. The county’s transport emissions are generated from on-road gasoline and diesel emissions from cars, off-road gasoline and diesel, on-road CNG and LPG, marine vessel and water shaft, and rail and aviation/airport activities. In terms of land transportation alone, Kern County is surrounded by mountains with a major transportation corridor running through it to other parts of the state. Emissions from transportation in the county may experience exponential increase, as in recent years the county has become home to over fifty mega warehousing and distribution facilities involving heavy duty truck around-the-clock (twenty-four hours a day, and seven days a week) movement of goods to and from Kern to other parts of California and the nation (Kern Economic Development Corporation 2022).
- *Emissions from Agriculture, Forestry and Land Use.* Agricultural practices, forestry and land use constitute another category of human activities that greatly shape GHG emissions in Kern County. This sector generates 8% of the total greenhouse gas emissions in the county. In agriculture, fuel combustion, enteric fermentation, manure management, Ag burning, Ag soils-livestock, Ag soils-

liming, Ag soils-fertilizers, Ag soils-crops and carbon flux common in agricultural processes generate GHG. Forested landscape, non-farm fertilizer (settlement soils), wildfires and range improvements, and prescribed burns and hazards reduction burns are the key sources of emissions in forestry and land use.

- *Industrial Emissions.* Industrial processes are also key sources of GHG emissions in Kern County, producing 7% of all emissions in the county. Industrial production, particularly those involving cement production, lime, and semiconductor manufacturing, substitutes for ozone depletion, electrical distribution and transmission, carbon-dioxide, limestone and dolomite and soda ash consumptions, hydrogen production, and coal mining operations are noted for producing many gases that rise into the atmosphere and contribute to global warming.
- *Residential and Commercial Activity Emissions.* Residential and commercial activities constitute another key sector generating a significant amount of GHG emissions in Kern County, as seen in its 5% GHG emission production rate. The main sources of emission in this sector include coal/coke, natural gas, oil, wood burning, and liquified petroleum gas (LPG) with Kerosine adding to the list for residential emissions.
- *Waste Management and Other Sources.* Albeit contributing a less significant amount to GHG emissions, the sector cannot be left out due to its rapid expansion in recent years and its impacts on Kern County air quality and the environment. The waste management sector and other sources are responsible for 2% of GHG emissions in Kern County. Landfills and wastewater management generate a bulk of the GHG emissions in the waste management sector while other sources of GHG emissions like composting, resource recovery, military bases, aircraft and nitrogen disposition also increase emissions.

Figure 2.6 Occupational injury and illness rates, by select California Industries, 2022



Source: U.S. Bureau of Labor Statistics, U.S. Department of Labor 2021

Section 2.3 Public Health Analysis

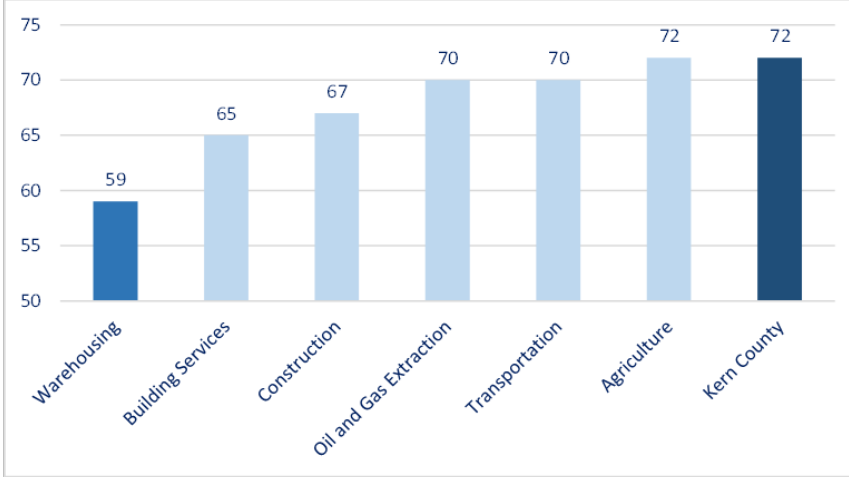
Section 2.3A Snapshot of the Impacts of Economic and Climate Effects on Public Health

Agricultural work and domestic work have the lowest standards of any jobs in the US labor market. As a result, agricultural work presents greater health risks than any other occupation. Agricultural workers experience extreme heat, lack of rest breaks, lack of sanitation, wage theft, and pesticide exposure. The UC Merced Farmworker Health study was the largest ever study on the health and well-being of farmworkers and found that California farmworkers experienced high rates of non-compliance at work.

The California Division of Occupational Health and Safety (Cal/OSHA) has established a Heat Standard and Wildfire Standard to protect workers from heat and wildfire smoke. However, the study found that fifteen percent of farmworkers did not receive any heat illness training and over two in five (43%) reported that their employer “never” provided a heat illness prevention plan as mandated under law (UC Merced Community and Labor Center 2022b). When asked on a scale of 1-5 how often a respirator was “lacking but needed,” nearly one in three (32%) farmworkers reported that respirators were lacking but “always” needed. Farmworkers also reported non-compliance with labor laws including wage and hour violations. The survey asked farmworkers how often employers refused to pay complete wages, on a scale of 1-never to 5-very often. Nearly one in five (19%) farmworkers experienced, at one point or another, not being paid wages they earned by an employer. Additionally, nearly one in six (15%) farmworkers did not receive the minimum number of 10-minute rest breaks as mandated under state law.

In terms of workplace health and safety, Kern’s three industries noted earlier (warehousing, agriculture, and energy) ranked among the least safe for workers. According to the US Bureau of Labor Statistics (2024), in 2022, warehousing and storage had one of California’s highest rates of non-fatal occupational injury and illness US Bureau of Labor Statistics (2024). In 2022, over 6 (6.2) in 100 California warehousing workers experienced injury and illness causing them to be unable to perform regular work. This rate was even higher than in animal slaughtering and processing (“meatpacking”) (5.3), for example US Bureau of Labor Statistics (2024). Two industries related to warehousing and storage also had injury and illness rates higher than the California rate (2.5); these were truck transportation (3.0) and building services (2.8) US Bureau of Labor Statistics (2024). Agriculture (3.1) also had a rate higher than the state rate, while oil and gas extraction (0.8) and support activities for mining (0.9) were lower than the state rate (2.5) US Bureau of Labor Statistics (2024).

Figure 2.7 Median Age at Death, by selected Kern industry, 2019



Source: UC Merced Community and Labor Center analysis of California Department of Public Health, California Comprehensive Death File, 2019

Table 2.6 Annual Mortality Rate of Workers Aged 56-65, by selected California industry, 2019

| | Annual Rate | Industry Rank (of 33) |
|---|-------------|-----------------------|
| Construction | 2.60% | 31 |
| Building Services | 1.87% | 29 |
| Agriculture | 1.63% | 26 |
| Warehousing | 1.54% | 25 |
| Transportation | 1.47% | 24 |
| Oil and Gas Extraction (and support activities) | 1.45% | 23 |
| California | 1.23% | -- |

Source: UC Merced Community and Labor Center analysis of California Department of Public Health, California Comprehensive Death File 2019; and IPUMS-American Community Survey 2019 data

UC Merced Community and Labor Center analysis of California Department of Public Health 2019 death data found that, before the pandemic, the median age of death for San Joaquin Valley residents was 74. This was much earlier than the California median of 77, and the earliest among the state’s ten regions. In particular, Kern County’s median age of death was 72—the county with the fifth earliest age of death in the state. The following analysis examines the relationship between age of death, and the industry that the worker had worked in for most of their life (as reported on the death certificate) (see Appendix B for methodology).

Persons who had worked in several of Kern County’s notable three industries mentioned earlier (agriculture, warehousing, and oil and gas) had even earlier median ages of death than Kern County. Warehousing had the earliest median age of death (59) among the county’s thirty industries (only those with >10 cases were tabulated) (see Figure 2.7). Industries related to warehousing also had early median ages of death, including building services (65), construction (67), and transportation (70) (see Figure 2.7). Oil and gas extraction (70) workers had an earlier median age of death than the county, as well (see Figure

2.7). Of the county’s notable three industries, only agriculture workers had a median age of death that was not worse than the county median (see Figure 2.7)—though this figure may not be accurate; the majority of agricultural workers are Latino immigrants and researchers have long suspected a salmon-bias effect within this population.

The annual mortality rate for California workers aged 56-65 was highest in Kern’s three notable industries. Workers aged 56-65, whose main industry of work had been in warehousing or related industries, all died at an annual rate above the state average. Death rates, by primary industry of work for those aged 56-65, were higher than the state average (1.23%) for warehousing (1.54%), transportation (1.47%), and building services (1.87%) (see Figure 2.6). Those who had worked in construction died at a rate of 2.60% annually—far higher than the state’s rate of 1.23% for all workers aged 56-65, and third worst among the state’s 33 industries (see Figure 2.6). Those who were 56-65 and had worked in agriculture (1.63%) also died at rates higher than the state average, as did oil and gas extraction workers (1.45%) (see Figure 2.6).

Agricultural workers are particularly vulnerable to a warming climate. Farmworkers experience heat-related illness and sudden death on the job at higher rates than other industries. Farmworkers work outside where they are exposed to direct sunlight and are impacted by heat illness thirty-five times more than other workers (Gubernot et al. 2015). From 1992-2006, US agricultural workers were twenty times more likely to die from heat stroke compared to workers in other industries (Centers for Disease Control and Prevention 2008). In 2019, agricultural workers experienced an estimated 19.4 deaths per 100,000 workers due to work-related injuries in 2019 (Centers for Disease Control and Prevention 2021). And in 2019, farmworkers accounted for 48 of 451 of officially recorded worker deaths in California, despite only comprising about 1 percent of the state’s workforce (US Bureau of Labor Statistics 2020b). Yet even such statistics undercount the prevalence of heat-related deaths. In California, from 2018-2022, 83 agricultural workers died suddenly on the job, mostly from causes linked with heat-related illnesses, such as heart attacks, strokes, cardiovascular diseases, or other “natural” causes, on days in which the temperature exceeded 80 degrees (Gross and Aldous 2023).

Section 2.3B/C Chronic Illnesses, Diseases, Mental Health and Causes/ Analysis by Race, Gender and Demographics

Overall Health Disparities. Out of all 58 California counties, Kern County ranks 56th for Health Factors and 53rd for Health Outcomes (Kern County Health Rankings 2021). Twenty-seven percent % of Kern County residents have poor or fair health, compared to 18% of Californians overall. They have a lower life expectancy and face higher rates of infant mortality. In addition, several issues related to mental health impact that county at relatively higher levels compared to the state average. These health conditions occur in the context of high environmental pollution outlined above with nearly half of the census tracts in the county registering as highly polluted by state measures and over half by the US EPA measures. The environmental hazards, especially air and water contamination, exacerbate risks to well-being, chronic diseases, and life expectancy. In addition, access to treatment faces challenges with a less extensive health care and medical infrastructure in the region. These challenges also include relatively lower rates of access to mental health care and child protected services.

Medical Health Disparities. There are 2,040 primary care physicians for every resident in Kern County, compared to 1,250 primary care physicians per Californian resident on average (County Health Rankings & Roadmaps 2024). One consequence of Kern County residents lacking access to primary care physicians is an increased rate of preventable hospitalizations (County Health Rankings & Roadmaps 2024). Preventable hospitalizations represent hospitalizations for conditions that are typically treatable in

Table 2.7 Infant Mortality (Deaths per 1000 Live Births) - Statewide and County Data (2021)

| | <u>Kern County</u> | <u>California</u> |
|------------------|--------------------|-------------------|
| Total Population | 5.3 | 3.9 |
| African American | 7.7 | 7.8 |
| Hispanic/Latino | 5.2 | 4.1 |
| White | 4.9 | 3.0 |

Source: County Health Rankings & Road Maps, 2021.

Table 2.8 Life Expectancy

| | <u>Kern County</u> | <u>California</u> |
|-------------------------|--------------------|-------------------|
| Overall Life Expectancy | 77.5 | 81.7 |
| Black | 72.3 | - |
| Hispanic | 81.1 | - |
| White | 75.6 | - |

Source: County Health Rankings & Road Maps, 2021.

Table 2.9 Leading Cause of Death of People Under the Age of 75

| | <u>Age-adjusted Rate per 100,000</u> |
|------------------------------------|--|
| Malignant neoplasms | 85.3 |
| Diseases of heart | 77.4 |
| Accidents | 54.5 |
| Chronic lower respiratory diseases | 19.5 |
| Diabetes mellitus | 18.6 |

Source: County Health Rankings & Road Maps, 2021.

outpatient settings and may also represent a tendency to overuse the emergency room as a primary source of care. The number of preventable hospitalizations per 100,000 Medicare enrollees in California was 3,598, compared to Kern County’s overall rate of 4,914 (County Health Rankings & Roadmaps 2024).

As Table 2.7 indicates Infant Mortality is relatively higher in the region. Kern County ranks 35th out of 58 California counties for infant mortality and access to Adequate Prenatal Care. Life expectancy is also nearly four years lower than the state average (Table 2.8). Hence, Kern residents face disproportionate health inequities throughout the life cycle. Table 2.9 enumerates the leading causes of death in the county. A greater medical infrastructure with affordable access as found in more affluent counties in the state would improve these key health indicators, as well employment opportunities with extensive health care coverage.

Table 2.1.1 Death by Suicide per 100,000 Population (age-adjusted)

| | <u>Kern County</u> | <u>California</u> |
|------------------|--------------------|-------------------|
| Total Population | 14 | 11 |
| African American | 9 | - |
| Hispanic/Latino | 8 | - |
| White | 21 | - |

Source: County Health Rankings & Road Maps, 2021.

Mental and Behavioral Health. There is one mental health provider for every 490 residents in Kern County, compared to one mental health provider per 270 Californian residents on average. Kern County residents report having 4.7 poor mental health days per year, compared to 3.7 poor mental health days for Californian residents on average. These are self-reported mental health accounts and likely underestimate undiagnosed and non-perceived mental problems as well. Table 2.1.1 demonstrates one measure of mental health with the relatively higher suicide rates in the county.

Drug-Induced Deaths. Another indicator related to mental health is Drug-Induced Deaths. Kern County ranks 53rd out of 58 California counties for drug-induced deaths. Per 100,000 residents, Kern County experienced 28.6 drug-induced deaths. This is twice the state rate of 14.3 per 100,000. Such high rates of drug-based mortality would give priority to programs addressing abuse and assisting prevention. These data do not include other problems associated with drug misuse and mental health outcomes, including homelessness.

Homelessness has multiple causes, including housing costs, mental health, and drug addiction. According to the Housing and Urban Development’s 2020 Annual Homelessness Assessment Report (AHAR 2020), among all 59 “Largely Urban CoCs” in the country, Kern County has the fourth-highest percentage of unsheltered people experiencing homelessness; the fifth-largest number of people experiencing homelessness; and the fourth-largest number of veterans experiencing homelessness.

Current population trends are alarming. The 2021 Point In Time (PIT) annual count of homeless individuals estimated at least 1,581 unsheltered individuals in Kern County (Table 2.1.2), including 343 children, in January 2021. Between 2018-2021, the total number of people experiencing homelessness grew by 143%. The vast majority of this growth was driven by increases in children (327%) and families (221%), which highlights the economic dimension to the problem and the increased mental and physical health risks facing the newer populations of homeless.

Additionally, the share of unsheltered individuals grew by 32%, suggesting a need for increased housing. However, the growth rate of housing has not kept up. Kern County owns only one 24-hour shelter, M Street Navigation Center, which opened in May 2020 and has only 150 beds. To put this in perspective, from 2020 to 2021, the number of unsheltered individuals increased by 577 people – nearly four times the number of beds in M Street Navigation Center (Table 2.1.3).

Table 2.1.2 Point in Time (PIT) Annual Count of Homeless Individuals

| | <u>2018</u> | <u>2019</u> | <u>2020</u> | <u>2021</u> |
|--------------------|-------------|-------------|-------------|-------------|
| Adults | 715 | 1,115 | 1,359 | 1633 |
| Adults w/ Children | 63 | 74 | 79 | 174 |
| Children | 107 | 141 | 142 | 343 |
| Unsheltered | 370 | 805 | 1004 | 1581 |
| Total | 885 | 1330 | 1580 | 2,150 |

Source: Grand Jury White Paper on Homelessness.

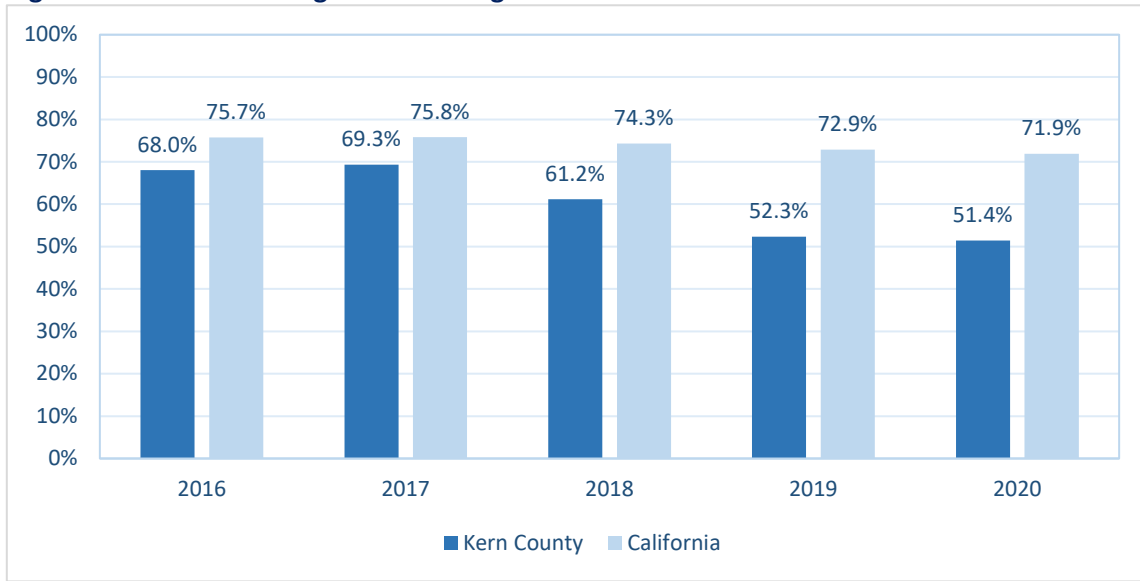
Table 2.1.3 Available Housing Counts

| | <u>2018</u> | <u>2019</u> | <u>2020</u> |
|---|-------------|-------------|-------------|
| Total Beds for Households without Children (ES, TH, SH) | 363 | 384 | 405 |
| Total Units for Households with Children (ES, TH, SH) | 57 | 66 | 74 |
| Total Beds for Households with Children (ES, TH, SH) | 224 | 266 | 292 |
| Dedicated Veteran Beds (ES, TH, SH) | 56 | 59 | 59 |
| Total Year-Round Beds (ES, TH, SH) | 587 | 650 | 697 |

Source: Grand Jury White Paper on Homelessness.

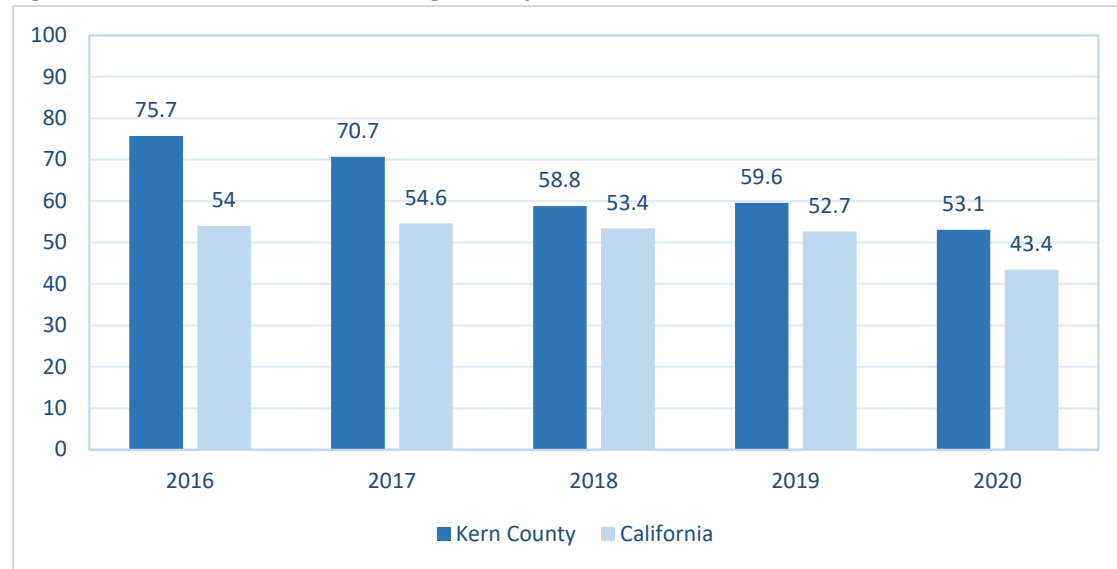
Child Welfare and Youth. There are more child maltreatment allegations per 1,000 children in Kern County than for the state (Figure 2.8). Additionally, of the investigated cases, there are more substantiated reports of child maltreatment per 1,000 children in Kern County than the state rate, but less are actually investigated (Figure 2.9). These rates result in greater mental and physical health issues for youth. Kern County ranks 54th out of 58 California counties for adolescent births. The county had 25.9 births per 1,000 Females, 15-19 Years old, compared with the state rate of 17.0 (County Health Rankings & Roadmaps 2024). More infrastructure for youth health care and child protective services would help to alleviate these high rates.

Figure 2.9 Percent of Allegations Investigated



Source: California Child Welfare Indicators Project.

Figure 2.8 Child Maltreatment Allegations per 1,000 Children



Source: Kern County Health Rankings & Road Maps, 2021.

AREA 3. LABOR MARKET ANALYSIS

Kern County’s modern labor market has been profoundly shaped by a legacy of colonization, plantation agriculture, massive demographic change, and citizenship inequalities. At the same time, throughout the twentieth century, workers have organized and federal and state policies have raised labor standards. Advancing the High Road framework—the legislative intent of CERF (SB 162)—requires public investment in employer/labor/community collaboratives that raise industry and environmental standards. This section examines the state’s High Road framework and how it may raise labor standards in relevant Kern County industries, barriers to high quality jobs, and training programs that may advance high road economic development in Kern County.

Section 3.1 Industry-Specific Labor Standards that Meet High-Road Priorities

Kern County was originally inhabited by tens of thousands of Indigenous persons and its colonial history profoundly shapes labor relations today. Kern County’s economy, like that of the broader San Joaquin Valley, is rooted in the plantation model (Arax and Wartzman 2005). The region’s economy has long been tied to large-scale agricultural production, as well as deeply paternalistic employment relations. Under Spanish rule, colonizers were rewarded with the labor of enslaved native people. Under Mexican rule, large landowners kept largely Indigenous peasants in debt peonage. And while most Mexicans were small ranchers following the Mexican-American war, industrialization (and industrial agriculture) pushed westward and Mexican small farmers could not compete. By 1900, most Mexicans had been forced off their land and into the industrial economy—mostly industrial agriculture.

Modern-Day Labor Standards

Modern day worker standards started effectively with US President Franklin Delano Roosevelt’s passage of the New Deal. In 1935, following waves of strikes and violent confrontations between workers struggling to form unions and protect their rights on the one hand and anti-union employers on the other hand, US Congress passed the National Labor Relations Act (NLRA) of 1935 (National Archives). The NLRA guaranteed the rights of workers to freely organize and engage in collective bargaining and other activities promoting the interests of workers without repression or fear of retaliation. The National Labor Relations Board (NLRB) was created to manage labor disputes and enforce fair labor practices based on NLRA stipulations (National Labor Relations Board). Also, as part of the New Deal, the Social Security Act of 1935 created a national unemployment benefit system and social security for workers. Three years later, in 1938, further government commitments to regulate relations between employers and employees led to the passing of the Fair Labor Standard Act (FLSA), setting minimum wage, overtime pay, child labor guidelines, employment record keeping, nursing mothers’ rights, and protection from any form of discrimination and other workers’ rights laws at the federal, state and local government levels (US Department of Labor).

Agricultural workers and domestic workers were excluded from modern-day US worker protections, however. In the 1930s, racist southern legislators sought to maintain a caste system; since Black workers concentrated in agricultural and domestic work, those industries were excluded from the NLRA, FLSA and Social Security Act (National Employment Law Project 2021, Quadagno 1996). The absence of these protections excluded agricultural and domestic workers from the rights to freedoms of association, collective bargaining and overall protection of their interests. In Kern County, however, Cesar Chavez and Dolores Huerta innovated broad-based labor organizing, applying community organizing to the issue of farmwork, and led the 1960s and 1970s farmworker movement to major victories. In 1966, the farmworker movement won the first-ever labor union contract for US farmworkers on the mainland (Ganz 2009). In 1970, the farmworker movement won over one hundred union contracts and had over

50,000 dues-paying members (Ganz 2009). In 1977, the United Farm Workers of America successfully advocated for the passage of the California Agricultural Labor Relations Act, establishing the state's Agricultural Labor Relations Board and farmworker organizing rights (Zerger 1977).

This legacy of exclusion still persists in the agricultural industry, however, as federal minimum wage provisions and overtime pay do not cover agricultural or domestic workers (United State Department of Labor, Wage and Hour Division 2020, National Employment Law Project (NELP) 2021, National Farm Workers Ministry). Yet unions representing farmworkers have successfully advocated for state-level, agricultural labor reforms in California, New York, Washington and other states. Following the deaths of three farmworkers in Kern County, and one farmworker in Fresno County, the United Farm Workers of America successfully lobbied for the passage of the California Heat Illness Prevention Standard (§3395, 2005), the first state-level protection of its kind in the nation. The California Heat Standard benefits workers in various outdoor occupations, such as Kern's oil and gas industry, and mining. Other state-level standards that organized labor has successfully advocated for, to protect California workers in agriculture and other industries—beyond federal standards—now include the state minimum wage law (SB 3, 2016), paid sick leave days (SB 616, 2014), field sanitation (§ 3457, 1991), Cal/OSHA Wildfire Smoke Emergency Standard (§ 5141.1, 2019).

Organized labor's contributions to labor policy development and the passage of state bills have been essential for raising labor standards in agriculture and other industries in Kern County. In recent years, some California municipalities have passed local ordinances raising minimum wages, expanding paid sick days, or enhancing workplace safety. Yet there are no such examples of Kern County or its cities passing local laws to raise labor standards. Historically, widespread improvements in working conditions in Kern County industries have only emerged as a result of federal and state policy changes, or union-represented collective bargaining agreements in the workplace.

In the following, we review California's High Road framework, and relevant labor policy provisions, to present examples of how the public sector can foster high road collaborations advancing C/JF/SB 162.

California's High Road Approach

In 2019, the California Workforce Development Board published a 600-page report ("Putting California on the High Road") articulating the high road framework as the state's blueprint for advancing its ambitious climate goals, to reduce greenhouse gas emissions by 2035 and to become carbon-neutral by 2045. The report was path-breaking in going beyond traditional approaches that plan "green" workforce training (for the economic and climate resilient jobs of tomorrow) by also asserting that the state's public procurement power could be leveraged to shape the demand for those jobs.

The report conceptualized how climate and public policies shape labor demand and the number of jobs, job quality and job access that may either be high road or low road, as outlined below (Zabin et al. 2019, 10):

- *Climate policies.* Examples include "renewables portfolio standard, IOU EE incentive programs, EV infrastructure and rebates, the CAP-and-Trade program."
- *Policy mechanisms that affect labor demand.* Examples include "public investment, mandates, public enterprises, incentives, pricing policies and procurement."
- *Impact of policies on number of jobs, job quality and job access.* Examples include "construction, manufacturing, transportation and utility jobs."

The report's conceptual framework articulates that the "high road approach" consists of several distinct processes, such as demand-side levers for climate agencies, supply-side strategies for education and training institutions, and just transition planning (Zabin et al. 2019).

- *Demand-side levers for climate agencies.* These consist of “skilled workforce standards, wage standards, community workforce agreements, procurement for the public good, [and] targeted/local hire mechanisms.”
- *Supply-side strategies for education and training institutions.* These consist of “pre-apprenticeship and pipeline training, industry training partnerships, and curricula upgrades in post-secondary institutions.”
- *Just transitions.* These consist of “planned industrial phase-out, displaced worker supports, community economic development, and displaced worker assistance.”

When the high road approach is followed, report authors argue that it leads to outcomes such as economic diversification, fulfilment of skills needs, quality workmanship, improved working standards, and displaced workers keep their livelihoods. However, when the high road approach is not followed, a “low road” approach ensues. The low road is characterized by a lack of labor standards, lack of training, and lack of advanced planning for displaced workers. Low road outcomes include lack of market adoption, poor quality workmanship, low wages, and displaced workers losing jobs and income.

Kern High Road Labor Standards Provisions

California Jobs First, as it is intended to advance the state’s definition of a high road economic development framework, should incorporate such provisions for higher labor standards into its planning and implementation. However, as mentioned in previous sections, most Kern industries and occupations have median wages below a living wage; only seven occupations in Kern pay workers a median wage above a living wage. As a result, improving access to specific career pathways in certain industries will likely not yield widespread change advancing economic and climate resilience in Kern. A more promising approach to advancing Kern’s economic and climate resilience would be to tie labor standards to state-funded public subsidies in entire industries critical for advancing climate and economic resilience, such as agriculture, warehousing, oil and gas, and healthcare.

In the following, we list labor provisions commonly drawn upon in collective bargaining agreements or public policy-making to improve working conditions. These labor standards include living wages, social dialogue and grievance procedures, workplace management, compensations, leaves, worker agency and respects, healthy work environments and freedom of assembly and of expression.

Sustainable Living Wages

Living wage considerations require that wages are predictable, stable, and able to support workers and their dependents. Living wages should also be able to meet basic needs like food, childcare, housing, transportation and other family necessities. The California Workforce Development Board stresses the payment of family supporting wages that include healthcare, pensions, and paid sick leave and holidays, and the guarantee of workers ability to afford basic necessities for themselves and their families in any location. Living wages are calculated depending on a number of factors such as number of family members within a household. For example, in 2023, families with two adults and two kids in Kern County, a sole breadwinner would have to earn an hourly wage of \$38.14 to avoid chronic and severe housing and food insecurity; in similar families with two working adults, each would have to earn \$25.02 per hour (MIT Living Wage Calculator 2023). Some counties have established minimum wages higher than the state or federal minimum wage rates to help workers cope with rising costs of living; such measures have included public sector workers, workers in certain industries (e.g. fast food), or hazard pay for essential workers during major public emergencies. Kern County has never established higher local wages, or higher wages for workers in emergent climate-related industries. Kern officials may advance climate and economic resilience by tying provisions for living wages to development projects in healthcare, agricultural technology, warehousing expansion, or energy development.

Benefits

Similar to the need for higher wages, more comprehensive benefits are an important component of job quality. These may include paid leave protections (sick, family, medical and vacation), meaningful pension/retirement savings, or meaningful health benefits. As a condition for public funding for economic and climate resilience, employers in relevant industries might demonstrate evidence of improvements in any or all of the aforementioned benefits.

The United States Department of Agriculture (USDA) Farm Labor Stabilization and Protection (FLSP) Pilot Program is modeled on the high road framework. It will soon provide \$65 million in public subsidies are being allocated to farm employers—with the greatest amounts to those demonstrating the most improved working conditions, including increased benefits. While California is facing a budget crisis, state leaders still have the opportunity to align existing subsidies—such as those from state agencies like the California Department of Food and Agriculture—with CJF and high road employers.

Stable and Predictable Work Schedules

In Kern industries vital to advancing economic and climate resilience, worker schedules or working hours should be reliable, stable and predictable with assurance that workers would not lose their jobs and incomes unexpectedly. As a condition for public funding, employers in such industries might provide workers with access to information regarding their schedules. For example, shifts might be clearly defined, with consistent hours of work well in advance, such as with a 28-day standard advance notice of changes in scheduling. Also, work schedules should include hours that take into consideration the need for families to earn sustainable incomes.

Workers' Right to Mutual Aid and Protection

Workers' rights and ability to join unions and or engage in concerted effort for mutual support and protection is a mandatory and a common fair labor standard across industries. According to International Labor Organization (ILO) convention Co87, freedoms of association and of expression constitute indispensable labor standards important in improving labor conditions and establishing workplace peace (ILO, convention C087). Such rights might include an employer being a signatory to a union contract; in cases where a union contract is not in place, "labor peace" agreements (i.e. "card check" for voting for unions, and employer neutrality towards union organizing activity). In 2022, the State of California passed the Agricultural Labor Relations Voting Choice Act (AB 2183), allowing agricultural workers the right to vote by use of cards. Workplaces might also implement worker-management committees to improve working conditions. State subsidies for Kern employers in industries critical for economic and climate resilience might advance the high road by providing higher funding amounts for those employers implementing policies that protect and expand workers' rights to mutual aid and protection.

Grievance Management Systems and Industry-Led Problem-Solving Mechanisms

Workplace grievances resolution systems are important features of labor standards. Workers should be granted opportunities to file complaints or work-related grievances, and to have those issues resolved either at the level of the employer, local government, or state or and federal agencies. The California Department of Industrial Relations manages labor grievances, such as wage theft, through the Labor Commissioner's Office, where workers have the right to file grievances against their employers online, by mail, email or in person, regardless of immigration status and other factors (California Workforce Development Board Labor and Workforce Development Agency). In cases where worker grievances are not resolved at the level of the employer, workers have the legal right to access channels for state and federal agencies without fear of retaliation. Public funding for economic and climate resilience initiatives might incentivize those employers who are already signatories to a union contract; or have an active

independent worker-management committee that convenes around work-related issues; or have a publicly-posted grievance procedure that goes beyond federal and state regulations, and no record of major state or federal violations.

Skill Attainment

Workers should have the ability to access the opportunities to develop themselves professionally through promotions, new skill learning or retraining. The California Workforce Development Board High Road Training Partnership subsidizes collaboratives of labor unions, employers, and community organizations for engaging of workers in projects that support skill building to meet industry needs and competition in climate resilience. State subsidies should be aligned to reward employers already investing in worker training and advancement towards the state's climate goals. Such training and advancement might include meeting apprenticeship standards; in non-apprenticeship occupations, developing industry-recognized portable skills; or being a member of a High Road Training Partnership.

Workplace Health and Safety

Working conditions are captured in international, federal and state labor standards in varying dimensions, but they all identify the necessity of worker safety, and freedom from any form of discrimination and harassment. The state's high road framework claims that a healthy work environment involves adequate training and provision of workplace safety equipment to reduce on-the-job injuries, prevent fatalities, and lessen the impacts of long-term health conditions. Socially conscious trainings should be designed to incorporate racial equity practices in community contexts to support employers to make pro-environmental and public health decisions for sustainability. State subsidies for climate and economic resilience initiatives should prioritize employers who are signatories to a union contract; or have an active independent worker-led safety committee; or have a publicly-posted workplace health and safety plan that exceeds state and federal health and safety regulations, and no record of major state or federal violations.

In sum, various government and employer policies already provide worker protections and improve upon existing labor standards. For CERF/SB 162 to advance a high road approach towards climate and economic resilience, and for the state to advance towards its ambitious climate goals, existing public subsidies should incentivize Kern employers in climate-relevant industries—such as agriculture, warehousing, energy, and healthcare—that are aligned with the high road framework. In the above, we have outlined various ways that high road employment might be defined and incentivized. In the implementation phase, however, it will be critical for Kern CERF stakeholders to clarify the industries deemed as vital to advancing local economic and climate resilience plans; and to work to create a defined rubric for funding high road employment in those relevant industries. Critically, state and local government authorities will have to ensure that public funds reward Kern employers establishing and implementing improved labor standards in industries vital to economic and climate resilience—or such public subsidies will instead advance a low road economic development approach in direct conflict with the aims of CJF/SB 162.

AREA 4. INDUSTRY CLUSTER ANALYSIS

Introduction

In this report, earlier analyses of Kern’s industries, labor markets, environmental concerns and public health found that four industries were critical for efforts to advance the State’s high road approach for economic and climate resilience: agriculture, warehousing, oil and gas extraction, and healthcare.

Area 4 examines the *occupations* within these industries that are vital to Kern’s economy and critical to advancing climate resilience efforts. It finds that in all but three cases (physicians, registered nurses, and supervisors/managers in each industry) the largest occupations in Kern’s climate-relevant industries pay median wages below a living wage.

The implications of these findings are dire. If climate-relevant industries depend upon low-paying occupations to support a small number of well-paying jobs, then investing in and creating pathways to good jobs will not lift the county’s residents out of working poverty—or advance economic and climate resilience. Instead, these findings underscore the need for the state to align existing investments and subsidies with the high road; to incentivize employers willing to work in broad-based collaboration with community and labor stakeholders; and to advance public interest in raising industry and environmental standards.

Luckily, an overwhelming majority of Kern residents support initiatives aligned with the State’s high road approach. We examine the issues in which Kern residents’ express the greatest amount of environmental concern, and where they express the greatest support for public investment in good-paying jobs aligned with sustainable development. These findings have implications for how the State may decide to align existing public investments with the high road approach for economic and climate resilience.

Section 4.1 Regional Workforce and Potential Growth Clusters

Four industries are critical for efforts to advance the State’s high road approach for economic and climate resilience in Kern County: agriculture, warehousing, energy (e.g. oil and gas extraction, renewable energy, and carbon capture), and healthcare. In this section we revisit the relevance for agriculture, warehousing, and health for climate resilience; and examine the most common *occupations* within these industries and their pay. We also examine the renewable energy and carbon capture as industries receiving large amounts of federal and state investment, but without the necessary environmental and working standards necessary under the high road framework. Lastly, in Section 4.4, we will examine the volatility of oil and gas work, and the need for policy to support displaced workers to advance economic and climate resilience. The findings suggest that a high road approach to climate resilience should focus on raising industry-wide standards for all workers, rather than pathways to the very few good-paying jobs.

Agriculture

Agriculture is the second-largest industry of employment in Kern. Yet it has the highest rate of workers living below a living wage (of any Kern industry), industrial practices that contribute to GHGs and industrial pollution, ongoing and escalating occupational health and safety risks (particularly heat-related illnesses and deaths), and the risk of high excess mortality during a major public disaster.

Table 4.1 Kern Agricultural Employment, by Occupation, Workers and Annual Earnings, 2017-2021

| <i>Occupation</i> | % of | | Median \$ |
|--|---------|----------|-----------|
| | Workers | industry | |
| Other agricultural workers | 21,811 | 70% | \$20,447 |
| Graders and sorters, agricultural products | 1,927 | 6% | \$23,002 |
| Farmers, ranchers, and other agricultural managers | 832 | 3% | \$69,007 |
| Packers and packagers, hand | 724 | 2% | \$27,602 |
| First-line supervisors of farming, fishing, and forestry workers | 607 | 2% | \$46,837 |
| Industrial truck and tractor operators | 433 | 1% | \$35,985 |
| Other grounds maintenance workers | 301 | 1% | \$30,670 |
| Driver/sales workers and truck drivers | 268 | 1% | \$35,128 |
| 66 other occupations | 4,089 | 13% | --- |
| | 30,992 | 100% | |

Source: UC Merced Community and Labor Center analysis of IPUMS- American Community Survey 2017-2021 Public Use Microdata Series (PUMS) data

In 2017-2021, Kern County had 30,992 agricultural industry workers in seventy-four different occupations. Eight occupations employed 26,903 workers, a large majority (87%) of Kern’s agricultural workforce (see table 4.1). Overall, more than two-thirds (70%) of Kern agricultural workers are “other agricultural workers,” who have a profile of being largely immigrant, noncitizen (many undocumented), non-English speakers, with low levels of education. Median wages for Kern’s “other agricultural workers,” in 2022 dollars, were \$20,447.

Within the leading occupations in Kern agricultural work, small percentages of agricultural workers worked in occupations that were not classified as “other agricultural workers.” These included graders and sorters for agricultural products (1,927 or 6%); farmers, ranchers, and other agricultural managers (832, or 3%); packers and packagers (724, 2%); first-line supervisors of farming, fishing, and forestry workers (607, 2%); industrial truck and tractor operators (433, 1%); other grounds maintenance workers (301, 1%); and driver/sales workers and truck drivers (268, 1%). Median annual earnings for each of these occupations were between \$23,002 and \$46,837—far below the 2022 Kern living wage threshold (\$25.07 per hour/ \$52,146 per year) for a worker in a two-adult-worker household with two children—with the exception of one occupation: farmers, ranchers, and other agricultural managers (\$69,007).

Another seventy-four occupations employed 4,089 workers, a small minority (13%) of Kern’s agricultural workforce.

Warehousing

Warehousing employment has increased more than any other Kern industry. Yet is associated with elevated and concentrated production of GHGs, the steepest wage decline of any Kern industry, ongoing occupational health and safety risks, and the risk of high excess mortality during a major public health disaster.

In 2017-2021, Kern County had 4,733 warehousing industry workers in thirty-four different occupations. Ten occupations employed 3,878 workers, a large majority (82%) of Kern’s warehousing workforce (see table 4.2). More than one in four (28%) of Kern warehousing workers are “laborers” (according to the Census occupational classification scheme, “laborers and freight, stock, and material movers, hand”). Median wages for laborers in Kern’s warehousing industry, in 2022 dollars, were \$27,602.

Table 4.2 Kern Warehouse Employment, by Occupation, Workers and Annual Earnings, 2017-2021

| <i>Occupation</i> | % of | | Median \$ |
|---|---------|----------|-----------|
| | Workers | industry | |
| Laborers and freight, stock, and material movers, hand | 1,308 | 28% | \$27,602 |
| Industrial truck and tractor operators | 616 | 13% | \$23,002 |
| Packers and packagers, hand | 503 | 11% | \$19,535 |
| Shipping, receiving, and inventory clerks | 305 | 6% | \$31,053 |
| Stockers and order fillers | 300 | 6% | \$27,602 |
| Supervisors of transportation and material moving workers | 258 | 5% | \$75,968 |
| Inspectors, testers, sorters, samplers, and weighers | 207 | 4% | \$26,453 |
| Transportation, storage, and distribution managers | 148 | 3% | \$40,983 |
| Other material moving workers | 126 | 3% | \$21,852 |
| Janitors and building cleaners | 107 | 2% | \$40,254 |
| 24 other occupations | 855 | 18% | --- |
| | 4,733 | 100% | |

Source: UC Merced Community and Labor Center analysis of IPUMS- American Community Survey 2017-2021 Public Use Microdata Series (PUMS) data

Table 4.3 Kern Health Employment, by Occupation, Workers and Annual Earnings, 2017-2021

| <i>Occupation</i> | % of | | Median \$ |
|---|---------|----------|-----------|
| | Workers | industry | |
| Medical assistants | 1,443 | 9% | \$27,602 |
| Personal care aides | 1,417 | 9% | \$26,126 |
| Dental assistants | 1,088 | 7% | \$29,274 |
| Registered nurses | 1,010 | 6% | \$80,507 |
| Receptionists and information clerks | 966 | 6% | \$25,303 |
| First-line supervisors of office and administrative support workers | 911 | 6% | \$49,981 |
| Nursing assistants | 652 | 4% | \$34,078 |
| Licensed practical and licensed vocational nurses | 619 | 4% | \$40,254 |
| Physicians | 595 | 4% | \$217,050 |
| Office clerks, general | 422 | 3% | \$32,435 |
| Medical and health services managers | 322 | 2% | \$82,764 |
| Billing and posting clerks | 319 | 2% | \$44,496 |
| Emergency medical technicians | 290 | 2% | \$42,554 |
| Other office and administrative support workers | 276 | 2% | \$41,982 |
| 85 other occupations | 5,333 | 34% | --- |
| | 15,663 | 100% | |

Source: UC Merced Community and Labor Center analysis of IPUMS- American Community Survey 2017-2021 Public Use Microdata Series (PUMS) data

Within the leading occupations in Kern warehouse work, smaller percentages of warehousing workers worked in occupations apart from “laborers.” These included industrial truck and tractor operators (e.g. forklift drivers) (616 or 13%); packers and packagers, hand (503, 11%); shipping, receiving, and inventory clerks (305, 6%); stockers and order fillers (300, 6%); supervisors of transportation and material moving workers (258, 5%); inspectors, testers, sorters, samplers, and weighers (207, 4%); transportation, storage, and distribution managers (148, 3%); other material moving workers (126, 3%); and janitors and building cleaners (107, 2%). Median annual earnings for each of these occupations were between \$19,535 and \$40,983--far below the Kern living wage threshold for a worker in a two-adult-

worker household with two children--with the exception of one occupation: supervisors of transportation and material moving workers (\$75,968).

Another twenty-four occupations employed 855 workers, a small minority (18%) of Kern's warehousing workforce.

Healthcare

Healthcare is the third-largest industry of employment in Kern. It provides a valuable public good for maintaining the health and wellbeing of Kern residents as the climate crisis presents residents and workers with record heat, catastrophic wildfires and smoke, droughts, floods, and outbreaks of contagious disease (such as COVID-19). As will be discussed in Area 4, more Kern residents see Healthcare as providing good jobs, and are interested in jobs in healthcare, than any other industry; and workers see health benefits as the most important benefits in a job. Yet 34% of Kern healthcare industry workers live below a living wage.

In 2017-2021, Kern had 15,663 healthcare industry workers in ninety-nine different occupations. Fourteen occupations employed 10,330 workers, a majority (66%) of Kern's healthcare workforce (see table 4.3). No occupation in Kern healthcare employed more than nine percent of the local industry's workforce.

The leading occupations in Kern's healthcare industry were: medical assistants (1,443 or 9%); personal care aides (1,417, 9%); dental assistants (1,088, 7%); registered nurses (1,010, 6%); receptionists and information clerks (966, 6%); first-line supervisors of office and administrative support workers (911, 6%); nursing assistants 652, 4%); licensed practical and licensed vocational nurses (619, 4%); physicians (595, 4%); office clerks, general (422, 3%); medical and health services managers (322, 2%); billing and posting clerks (319, 2%); emergency medical technicians (290, 2%); and other office and administrative support workers (276, 2%). Median annual earnings for each of these occupations were between \$25,303 and \$49,981--far below the Kern living wage threshold for a worker in a two-adult-worker household with two children--with the exception of three occupations: physicians (\$217,050), medical and health services managers (\$82,764), and registered nurses (\$80,507).

Another eighty-five occupations employed 5,333 workers, a minority (34%) of Kern's healthcare workforce.

Renewable Energy and Carbon Management

Kern is by far the largest producer of renewable energy in California. Kern County now hosts the largest wind farm in the US and the third largest solar farm. Economic output from electricity generation has grown steadily, more than doubling its share of Kern's GDP from 4% in 2001 to 10% in 2021. By 2021, over 50% of the electricity generated in Kern County was from renewable sources (O'Rourke 2023). Kern's landscape has slowly transformed to include thousands of acres of wind turbines and solar panels. However, California's solar tax exemption — which incentivizes solar development by exempting solar farms from property taxes — has cost Kern nearly \$20 million annually in lost taxes (O'Rourke 2023). Wind, on the other hand, has no such exemption and has become the number one source of county taxes, recently surpassing oil.

Kern's natural resources provide numerous opportunities for energy production and storage. The plethora of wind and solar energy in the region creates opportunities for energy storage systems that can save energy for use at a later point in time. Solar and wind energy can also be used to produce hydrogen, which is another type of energy storage that can be used to fuel sectors that are hard to electrify such as aviation and shipping. The abundant agricultural waste in Kern can be converted to generate biogas. Methane produced at the region's dairies can be captured and turned into fuel as well. Proponents argue that these projects will generate jobs and revenue for the county, that they can help displaced fossil fuel workers find new employment, that they capture carbon emissions that would otherwise escape into the atmosphere, and that these energy sources displace the need for fossil fuel. They also point to

opportunities to use Kern County's unique natural resources and features to bring federal and state investment dollars into the county.

However, many renewable energy projects in Kern are facing significant opposition from local residents and environmental justice organizations, particularly around the use of public subsidies and local impacts associated with the facilities or processes used to generate the energy. Critics argue that by providing subsidies for energy produced by polluting facilities, the government is, in essence, paying companies to pollute, and may be inadvertently creating perverse incentives to increase pollution. They point to an increase in herd sizes at dairies after installing dairy digesters and allege that dairy farmers are getting paid almost as much to generate methane as they are for milk (Smith, 2021). They also argue that subsidies for energy sources that use solar and wind in their production, such as hydrogen, increase energy inefficiencies by using clean energy that could otherwise generate electricity directly. They point to local risks to air, water and land associated with energy production facilities. The San Joaquin Valley Air Pollution Control District explained that despite reducing GHG emissions, pollution created by power plants burning ag waste is comparable to that of coal-fired plants (Cox, 2023).

The carbon capture sector is facing similar tensions. Carbon capture and sequestration involves capturing carbon from a point source – commonly power plants, cement plants or other industrial facilities – then storing it deep underground. Direct air capture involves capturing carbon from the atmosphere and storing it deep underground. Specific types of CCS include CCS attached to a bioenergy facility (BECCS) or other type of renewable energy plant. Kern County's unique geography make it an attractive location for carbon capture projects due to its deep geologic formations formed by depleted oil and gas fields.

CCS costs range from \$15 to \$120 per metric ton of captured carbon depending on the emissions source, and DAC projects are even more expensive, costing between \$600 and \$1,000 per metric ton because of the immense amount of energy needed to capture carbon from the atmosphere (Douglas 2023). It is only through public subsidies or other commodification of carbon that most CCS or DAC projects become financially feasible. Without subsidies the only carbon capture projects that are financially feasible must use the carbon to increase revenue in a different way, such as using carbon for enhanced oil recovery. The Inflation Reduction Act, passed in 2022, offers a \$85 tax credit per metric ton of carbon captured for CCS and \$180 per metric ton captured through DAC. Both types of carbon capture require a significant increase in energy to operate the necessary equipment. The US Department of Energy is currently providing billions of dollars in investment funding to support the development of carbon capture projects throughout the US, including \$20 million invested in Kern County projects.

There are currently multiple carbon capture projects proposed in Kern County, including: Carbon TerraVault I (Elk Hills), the Carbon Management Business Park (West Kern), Covanta (Delano), San Joaquin Renewables (McFarland), Kern River Eastridge Co-Generation Plant (Bakersfield), Carbon Frontier/Aera Energy LLC (North and South Belridge Oil Fields), and Sentinel Peak (McKittrick), among others. While it is unclear which, if any, of these will move forward, Kern County stakeholders should weigh the sector's costs, benefits and any necessary mitigation well before any project is approved.

Proponents of this technology, and its development in Kern County, argue that carbon storage can reduce greenhouse gas emissions and mitigate climate change, and is ultimately necessary to meet state and national carbon reduction goals. They point to increased job opportunities and property taxes for an area facing significant job and tax revenue losses in the fossil fuel sector. And it would provide a new source of revenue for beleaguered fossil fuel companies as well as federal investment dollars in the disinvested region.

Opponents of this technology and its development in Kern County argue that subsidies tied to carbon storage incentivizes increasing carbon emissions and co-pollutants that will worsen the already degraded air quality. They point to the high cost and energy usage associated with CCS that could be better used on more effective and efficient ways to reduce carbon emissions. They are concerned about environmental risks associated with long term storage of carbon, including leaks or seepage at the

sequestration site or along the transit route. And they are concerned about the experimental nature of carbon capture at scale since few projects have been successful to date.

Despite their overall opposition to CCS projects, environmental justice organizations in the Central Valley provided a set of proposed requirements to guard against the most significant risks associated with carbon capture (Central Valley Air Quality Coalition et al 2023). Some of these requirements include:

- CCUS projects must not be approved if they threaten groundwater and drinking water supplies or threaten to increase water pollution, soil pollution, truck or barge traffic, light pollution, noise pollution, or other nuisances to the community;
- CCUS infrastructure (e.g., capture infrastructure, pipelines, storage) must not be sited within a minimum of 10 miles of an overburdened EJ community;
- CCUS projects must be powered by excess clean, renewable energy;
- Projects must meet certain requirements for robust public notification and engagement;
- CCUS must be confined to hard-to-decarbonize sectors. This does not include refineries, natural gas power plants, bioenergy with carbon capture and storage (BECCS), waste incinerators and chemical recycling facilities, and ethanol production facilities;
- CCUS financing must not result in increased rates for utility customers;
- Offsets must not be generated by planning, constructing, or operating CCUS projects;
- Storage project operators must assess and prove stable geology where projects are to be sited and ensure no risk of leakage, and they must prove that projects will not increase geological risks;
- For transportation pipelines, there must be a defined safe distance or plume dispersion model for developing a potential impact area;
- An odorant must be added to CO₂ for effective leak detection;
- Pipeline operators must assess and prove stable geology where projects are to be sited and ensure no risk of rupture due to seismicity;
- Other modes of transportation such as trucks, trains, and barges are not safe or cost effective and should not be utilized to transport CO₂;

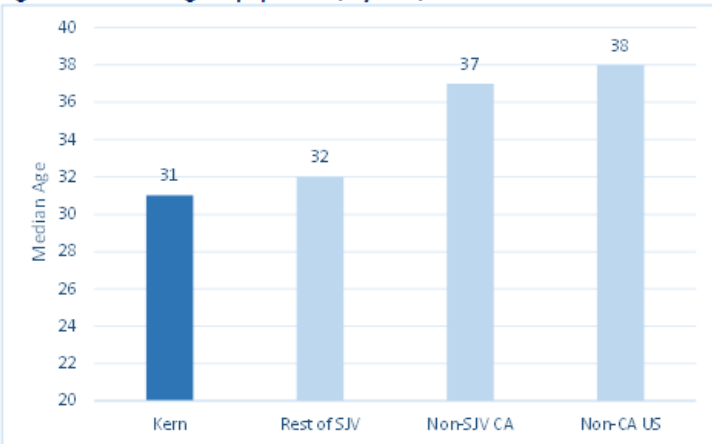
If CCS projects are approved in Kern, stakeholders should also consider labor standards, project labor agreements, and community benefit agreements. Any project receiving public subsidies should be required to adopt labor standards and project labor agreements to ensure high quality jobs and shared prosperity for the region.

A Young and Growing Population

Kern County and the broader San Joaquin Valley region have been experiencing tremendous demographic growth and change in recent decades. This contrasts with California, which has long been associated with demographic growth and change but has had a declining population in recent years. Kern's population growth and change has had profound economic and climate resilience implications, as a growing population provides workers for the local economy. This section examines how demographic shifts from aging immigrant to young native-born workers pose risks to industries that heavily rely on immigrant labor, such as agriculture.

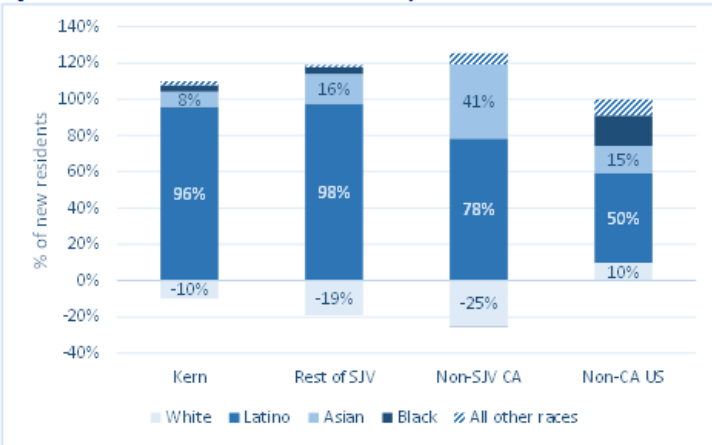
Kern's youthfulness and population growth stand out among California counties. In 2019, Kern County residents had a median age of 31 years (see Figure 4.1), the third-youngest among California counties. The county also had a high rate of children; one in thirteen (7.8%) Kern residents were under the age of five, fourth-highest in the state—only behind its neighboring counties of Kings (8.6%) and Tulare (8.0%), and Imperial (8.6%). In addition, nearly three in ten (29.6%) Kern residents were under the age of 18. This was fifth-highest in the state, only behind other rural counties (Tulare 30.8%; Imperial 30.2%; Kings 29.8%; and Merced 29.7%).

Figure 4.1 Median age of population, by area, 2019



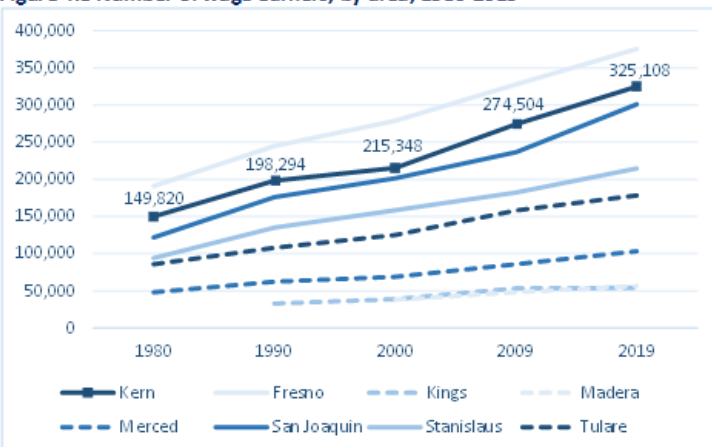
Source: UC Merced Community and Labor Center analysis of IPUMS-USA American Community Survey, 2019, 1-year Public Use Microdata Series

Figure 4.2 Race as share of new residents, by area, 2009-2019



Source: UC Merced Community and Labor Center analysis of IPUMS-USA American Community Survey, 2009 and 2019, 1-year Public Use Microdata Series

Figure 4.3 Number of wage earners, by area, 1980-2019



Source: UC Merced Community and Labor Center analysis of IPUMS-USA US Census Decennial 1980-2000 5% files; IPUMS-USA American Community Survey, 2009 and 2019, 1-year Public Use Microdata Series

Kern County's diversity was unique among California counties. Latino residents numbered 477,787, more than half (55%) of the county's residents and the fifth-highest percentage in the state (see Figure 4.2). One in three residents (33%) were non-Hispanic white, while a much smaller minority of residents were Asian (5%), Black (5%) or persons who self-identified as another race (3%). These figures were similar to the rest of the San Joaquin Valley, though outside of the San Joaquin Valley, California had a lower percentage of residents who were Latino (38%) and a higher percentage of residents who were Asian (15%). For every 100 residents that the county had increased in population, 96 were new Latino residents, 8 were Asian, 6 were of other races, and 10 white residents had moved out (see Figure 4.2).

Kern County's population grew by 41% between 2000 and 2019, the third-highest rate in the state, and such dramatic population growth fueled tremendous economic and labor market growth (analysis not shown). Between 2000 and 2019, Kern County workers grew 51%, from 149,820 to 325,108 (see Figure 4.3); this growth was also third-highest in the state.

Kern's population growth and demographic changes will soon substantially reshape the labor market, with declining numbers of white and immigrant workers and increasing numbers of native-born Latino workers. In 2019, while a minority (40%) of workers aged 55-64 were Latino, a majority (65%) of those between the ages of 5-24 were Latino. Yet among those nearing retirement (aged 55-64), *thirty-one* percent of workers were immigrants; but among those entering the workforce (aged 15-24), only *eight* percent of workers were immigrants (analysis not shown).

Section 4.4 Workers and Sectors at Risk of Displacement Due to Identified Trends and Analyses

Among the trends identified in this report, workers in two key Kern industries mentioned previously are at risk of displacement: agriculture, and oil and gas. Agricultural workers are at risk of displacement due to changing climate conditions and demographic factors. Oil and gas workers are at risk of displacement due to industry volatility and reforms needed to achieve the state's climate goals.

Agriculture

Farmworkers risk displacement due to a variety of climate-related reasons. High road approaches will have to align public investments to incentivize agricultural practices advancing economic and climate resilience.

First, climate change is leading to increasing episodes of extreme heat in California, particularly in the inland regions of the state where agricultural activity concentrates. Recent examination of Cal/OSHA-recorded, worker-related deaths indicate that among over 168 California farmworkers died between 2018 and 2022, nearly half (83) occurred within one day of the temperature being over 80 degrees (Gross and Aldous 2023). As temperatures continue to increase, fewer farmworkers will be able to withstand working in such conditions and will leave the industry.

Second, climate change is leading to increasing severity of droughts (Fernandez-Bou et al. 2021). As a result, during recent droughts, California farmers have relied excessively on pumping groundwater to feed thirsty crops. Yet scientists have found that pumping groundwater is lowering the water table and ground, ruining public water infrastructure, and escalating climate-related risks like floods. The State of California has recently taken action against local water districts that have not sufficiently regulated groundwater pumping. As droughts become more common, and as the State increasingly enforces groundwater pumping restrictions, water will become scarcer for industrial farming and fewer farmworkers will be needed to harvest crops.

Third, as climate change worsens, atmospheric rains and epic floods will become more common. In 2023, floods in Pajaro and Planada displaced entire rural, unincorporated communities in which farmwork was the leading industry of employment. In the absence of large-scale infrastructure investments to protect vulnerable communities from floods, more people living in farmworker communities will risk becoming displaced. Such displacements may become permanent; while legal

Table 4.4 Kern Oil and Gas Industry Employment and Wages, 2017-2021

| | Occupation | Median Earnings | | Number of Workers | |
|---------------------------------|--|-----------------|-----------|-------------------|--------|
| | | Oil & Gas | Non-OG | Oil & Gas | Non-OG |
| <i>Oil and Gas Concentrated</i> | Environmental scientists and specialists, including health | \$207,019 | \$77,967 | 24 | 13 |
| | Chemical engineers | \$170,389 | \$138,012 | 71 | 38 |
| | Petroleum, mining and geological engineers, including mining safety engineers | \$87,821 | \$128,804 | 345 | 31 |
| | Environmental science and geoscience technicians, and nuclear technicians | \$84,058 | \$57,505 | 93 | 7 |
| | Underground mining machine operators | \$80,507 | \$48,304 | 493 | 102 |
| | Crane and tower operators | \$71,306 | \$80,507 | 253 | 165 |
| | Other extraction workers | \$70,541 | \$69,007 | 1,254 | 72 |
| | Surface mining machine operators and earth drillers | \$69,007 | --- | 139 | --- |
| | Derrick, rotary drill, and service unit operators, and roustabouts, oil, gas, and mining | \$54,263 | --- | 689 | --- |
| | Riggers | \$47,980 | --- | 273 | --- |
| | Conveyor, dredge, and hoist and winch operators | \$34,078 | --- | 195 | --- |
| <i>Top-3 Non-Concentrated</i> | First-line supervisors of construction trades and extraction workers | \$92,009 | \$70,541 | 848 | 1,468 |
| | Driver/sales workers and truck drivers | \$53,656 | \$45,437 | 670 | 9,343 |
| | Cashiers | \$18,353 | \$13,801 | 1,660 | 8,130 |

Source: UC Merced Community and Labor Center analysis of American Community Survey (ACS) Public Use Microdata Series (PUMS) 5-year data, 2017-2021

residents have access to Unemployment Insurance, undocumented immigrants (who comprise a large portion of farmworkers) have no access to unemployment benefits and may be more likely to move following a major public disaster and/or immediately seek employment in a new industry.

Fourth, as climate change makes the above-mentioned conditions more common (extreme heat, drought, and floods), aging farmworkers may be displaced. An analysis by the UC Merced Community and Labor Center (2022c) found that immigrant farmworkers are aging in numbers historically unprecedented. An estimated nearly 55,000 California noncitizen farmworkers are 55 years of age or older; yet such undocumented immigrants do not have access to Social Security Income and may have no choice but to continue working in new industries. Challenges for properly transitioning younger and older undocumented farmworkers in climate-resilient occupations include low levels of education, and not being eligible for/ having access to WIOA-funded workforce development training. While large amounts of public funds are being invested in economic development for agriculture technology (ag-tech), such development initiatives have thus far focused on automation with no clear path for farmworkers to transition into new jobs.

Oil and Gas

Kern’s oil and gas industry is in need of worker-centered initiatives, in order to advance economic and climate resilience. The oil and gas industry produced the greatest annual GDP of any Kern industry, and one of the highest average wages for Kern workers. Yet it is also the most volatile industry for employment in Kern, risking downturn during economic shocks, such as major public disasters (see Area 2) or oil price changes. Furthermore, the State of California has ambitious climate goals to reduce greenhouse gas emission by 2035 and to become carbon neutral by 2045; and it is expected that oil and gas extraction employment—already the most volatile sector of employment in Kern—will be affected by state efforts to advance on climate goals. Advancing on the state’s goals will require a shift towards more renewable forms of energy development and this will have dire implications for one of Kern’s highest-paying industries; unless reforms center workers, workers may lose their livelihoods and resist such reforms—in which case the state, Kern residents and workers lose.

Kern oil and gas workers are among the county’s highest earners. In 2017-2021, Kern oil and gas workers earned a median of \$69,007 (see Table 2.2), double the median (\$34,503) of all other workers in

Kern County (analysis not shown). While only 13,427 (4.3%) of Kern’s 323,237 workers worked in the oil and gas industry (see table 2.1), to guarantee the livelihoods of these workers it is imperative to have a better understanding of the industry’s most common occupations, their demographics, and possible pathways to well-paying jobs outside of the oil and gas industry.

An analysis of US Census Bureau American Community Survey, Public Use Microdata Series (PUMS) data for the 2017-2021 period finds that Kern oil and gas workers are concentrated in two types of occupations; one type in which the majority of workers in the occupation are concentrated in oil and gas industry jobs (“oil and gas concentrated occupations”), and a second type in which the majority of workers in the occupation are not concentrated in oil and gas industry jobs (“oil and gas *non*-concentrated occupations). In the following, we share analysis of ACS data on all oil and gas concentrated occupations, as well as the three most common oil and gas *non*-concentrated occupations (see Table 4.4).

- *Oil and gas-concentrated occupations.* Kern’s oil and gas industry employed the majority of workers in eleven different occupations. These occupations included (in parentheses with the estimated percentage and the number employed in the oil and gas industry):
 - Derrick, rotary drill & service unit operators; roustabouts, oil, gas & mining (100%, 689)
 - Surface mining machine operators and earth drillers (100%, 139)
 - Riggers (100%, 273)
 - Conveyor, dredge, and hoist and winch operators (100%, 195)
 - Other extraction workers (95%, 1,254)
 - Environmental science and geoscience technicians, and nuclear technicians (93%, 93)
 - Petroleum, mining and geological engineers, incl. mining safety engineers (92%, 345)
 - Underground mining machine operators (83%, 493)
 - Chemical engineers (65%, 71)
 - Environmental scientists and specialists, incl. health (65%, 24)
 - Crane and tower operators (61%, 253)

- *Top-3 oil and gas non-concentrated occupations.* Kern’s oil and gas industry also employed over 500 workers in three other occupations in which the majority of workers (in each of those occupations) worked outside of oil and gas. These occupations included:
 - Cashiers (17%, 1,660)
 - First-line supervisors of construction trades and extraction workers 37%, 848)
 - Driver/sales workers and truck drivers (7%, 670)

The 7,007 oil and gas workers employed in the fourteen occupations listed above comprise the majority (52%) of Kern’s oil and gas industry workforce (see Table 4.4). Another 6,420 (48%) of Kern’s oil and gas industry workforce were employed in 93 different occupations, in which the majority of those occupations’ workers were employed in non-oil and gas industries. Seventeen different occupations accounted for the majority (3,285) of those jobs, from fields such as welding to administrative assistants and other managers.

The median annual salary/wages for oil and gas-concentrated occupations, inside Kern’s oil and gas industry, was \$69,007 (analysis not shown). For those working in the same occupations outside of the industry, median salary/wages were higher at \$74,756 (analysis not shown). Top-3 oil and gas *non*-concentrated occupations earned median salary/wages of \$29,903 (analysis not shown) in Kern’s oil and gas industry; while their counterparts working in the same three occupations, but outside of the oil and gas industry, earned similar median salary/wages of \$29,988 (analysis not shown).

A comparison of the median earnings in the paragraph above seems to suggest that, among Kern workers in oil and gas-concentrated occupations, those working *inside* Kern’s oil and gas industry earn median wages lower than those of their counterparts working *outside* of the industry.

Table 4.5 Kern Oil and Gas Industry-Concentrated Employment by Age, 2017-2021

| Type of Occupation | Age | | | | | | Total |
|-------------------------------------|-------|-------|-------|-------|-------|-----|--------|
| | 16-25 | 26-35 | 36-45 | 46-55 | 56-65 | 66+ | |
| Oil and gas concentrated occupation | 61 | 1,394 | 963 | 879 | 382 | 150 | 3,829 |
| Non-concentrated occupation | 820 | 2,490 | 2,333 | 1,983 | 1,644 | 328 | 9,598 |
| Total | 881 | 3,884 | 3,296 | 2,862 | 2,026 | 478 | 13,427 |

Source: American Community Survey (ACS) Public Use Microdata Series (PUMS) 5-year data, 2017-2021

Yet this masks the true disparities within the oil and gas sector. The data suggests that the median wages of oil and gas concentrated occupations, as well as the top-3 non-concentrated occupations, are higher for those in the oil and gas industry in all but two cases (petroleum engineers, and crane and tower operators).

The major difference in the earnings of occupations in the oil and gas industry, versus all others, is that occupations *unique* to the oil and gas industry are often *entry-level* and pay *lower* wages than all other oil and gas concentrated jobs. Surface mining machine operators and earth drillers (\$69,007); derrick, rotary drill, and service unit operators, and roustabouts, oil, gas, and mining (\$54,263); riggers (\$47,980); and conveyor, dredge, and hoist and winch operators (\$34,078) all have median wages less than the other seven oil and gas-concentrated occupations (see Table 4.4).

For economic planning creating pathways out of the oil and gas industry to be equitable, such planning will have to provide solutions to workers in different occupations and with varying levels of experience. Examples might include:

- For workers in non-concentrated oil and gas occupations: subsidies for employers to accept workers in matched or non-matched positions outside the oil and gas industry. Estimate: 7,626 workers (see Table 4.5).
- For less experienced workers in oil and gas concentrated occupations: publicly-funded job training, wage replacement, and any necessary social support for young workers to enter new careers. Also, funding for labor unions to build capacity and train workers for well-paying union jobs. Estimate: 1,455 workers (see Table 4.5).
- For workers with more experience in oil and gas concentrated occupations: subsidies for employers to accept workers in matched jobs outside of the oil and gas industry; and/or the development of clear career pathways from oil and gas concentrated occupations to similar jobs outside the industry. Also, funding for labor unions to build capacity and train workers for well-paying union jobs. Estimate: 1,842 workers (see Table 4.5).
- For workers near or at retirement age: early retirement packages. Estimate: 2,504 workers (see Table 4.5).

AREA 5. SWOT ANALYSIS

This analysis of Kern County's regional strengths, weaknesses, opportunities, and threats (SWOT) related to equitable economic resilience and growing sustainable industry clusters is based upon data and components drawn for the above analyses, from stakeholder convenings in the subregions, and from discussions with the Kern Coalition.

STRENGTHS

Population, the Environment & Civil Society

- The region's young population (nearly 30% under age 18) provides opportunities to train and prepare young people entering the workforce for a high-road economy.
- A diverse and longstanding network of community-based organizations in the Central Valley region of Kern County can reach vulnerable and hard to reach populations. The Kern Coalition is activating this existing community base and increasing engagement in rural communities.
- Growing partnerships between local governments and community-based organizations are providing pathways to better collaboration.
- There is widespread public support for sustainable/climate initiatives and high road initiatives.
- There is language diversity in the region and a large percentage of the workforce in the region is bilingual.
- A large network of community-based organizations serve the area.
- Kern County contains or is in close proximity to several state and national parks such as Red Rock Canyon State Park and Sequoia National Park.
- Kern County covers a large geographic area.

Public Sector

- Local public universities and colleges (Kern Community College District and California State University, Bakersfield) are increasing partnerships and collaboration to prepare local residents for the workforce.
- There has been an increase in funding for nursing programs in the region.
- There are opportunities for young people to participate in college and high school dual enrollment programs.
- The Kern Regional K-16 Education Collaborative is working to improve student progress from high schools to postsecondary education and ultimately the workforce.

Industry/Economy

- Kern is a leading producer of renewable energy in the state and nation, especially for commercial solar and wind.
- Military installations in East Kern, such as the Naval Air Weapons Station, China Lake and Edwards Air Force Base, are economic drivers of the desert region.
- There is a diversity of economic sectors in Kern.

WEAKNESSES

Population, the Environment & Civil Society

- The low educational attainment levels in Kern present barriers to credentialed and skilled employment.
- There are insufficient professionals and academics to provide high level education training to the local population. The region faces a considerable “brain drain” where young people who leave the region for educational opportunities often do not return to Kern County due to a lack of suitable employment or local amenities.
- Young people in Kern have not shown a considerable interest in entering skilled trades careers.
- The isolation of some small, incorporated communities in the region presents barriers to accessing services, training, and job opportunities.
- There are few community-based organizations in East Kern to advocate for and provide support to local residents.
- The immigrant population in Kern is marginalized due to language barriers, discrimination, and uncertain work status. This marginalization is even more pronounced for indigenous populations who do not speak English or Spanish.
- Kern County has a history of racism and discrimination, including discrimination against the LGBTIQ population.
- There are geographic barriers separating communities and subregions.
- The region has very poor air and water quality.
- The isolation of small rural communities in Kern has led to food deserts, where communities are not served by an accessible grocery store.

Public Sector

- The region lacks sufficient education infrastructure.
- The region’s public transportation system is woefully inadequate to serve public need, including coverage, schedules and accessibility.
- Some schools are difficult to get due to lack of walkability (no sidewalks, crosswalks, traffic signals) and public transit doesn’t provide coverage.
- Parts of the county lack basic internet access, high speed internet, or general connectivity.
- The region lacks research capacity and research centers.
- Federal and state funding is misaligned with local needs and priorities.
- There is insufficient information about and recruitment for traded sectors and vocational training programs.
- Physical infrastructure is lacking or in disrepair, including streets, streetlights, sidewalks, sewer systems, water systems, and drainage systems.
- There are not enough public institutions in some communities, such as libraries, senior centers, community and cultural centers.
- Many residents still lack access to health care, both because of a lack of coverage and a lack of health care facilities and medical practitioners.
- The county hospital needs additional investment.
- There is insufficient access to childcare because of the high cost, the limited availability of services and childcare providers, and the lack of childcare options that provide flexible scheduling.
- The lack of immigration reform and pathways to citizenship leave many Kern residents vulnerable to immigration enforcement, limited access to employment, and family separation.

- The region needs more transportation options to the local colleges and universities and their satellite campuses.
- There are insufficient resources for individuals with disabilities.
- There are insufficient resources for the formerly incarcerated and their families.
- Many residents do not have access to clean drinking water.
- Here are college course shortages that make it difficult to meet degree requirements.
- The many service providers in Kern County lack connectivity to help coordinate multiple service needs.
- There is a funding mismatch for nursing programs in the region.
- The exclusion of undocumented workers from public safety net programs creates economic hardship for many Kern County workers.

Industry/Economy

- Significant economic disparities in the region damage the local economy as well as the well-being of Kern residents.
- Regulatory barriers can slow or impede pathways for growing industry sectors.
- There are few jobs available or accessible for older workers returning to the workforce.
- Affordable housing is becoming increasingly hard to find as rents are rising quickly and some communities are facing housing shortages.
- Low union density in Kern means lower wages, fewer benefits, and poorer workplace conditions for workers.
- Many small communities lack access to grocery stores.

OPPORTUNITIES

Population, the Environment & Civil Society

- The demographic shift to more second and third generation immigrants provides pathways to opportunities and avoids significant barriers to success faced by undocumented residents.
- The younger population in Kern means a larger high school and college age population that can take advantage of college and training programs.
- There is an interest in growing arts and cultural resources in Kern County.
- The increasing number of collaborative spaces in Kern opens up opportunities for organizations in the nonprofit sector to share information and resources.

Public Sector

- There is an interest in conducting needs assessment surveys to obtain feedback and perspectives from Kern County's youth.
- There are opportunities to build and promote training programs for the renewable energy sector.
- There are opportunities to focus training programs on building a skilled workforce and reskilling the existing workforce to meet local industry needs.
- There is an opportunity to design nontraditional education pathways to reach additional populations.

- State and federal investments can help develop necessary infrastructure in the region and provide jobs.
- There is a big interest and need in growing the health care sector in Kern.
- There is an opportunity to develop a bachelor's degree nursing program at Bakersfield College.
- The Transformative Climate Communities funding can provide benefits and opportunities for Southeast Bakersfield.
- The High-Speed Rail project and station has the opportunity to provide jobs and community benefits in Bakersfield and beyond. If the project is completed, it will increase access to the region and the ability of local residents to commute/travel to other areas.
- Funding for climate change and sustainability is creating more alignment between stakeholders.
- There are opportunities to attract educators to community.
- Communities have requested college satellite campuses, especially in small rural communities.
- Kern can use the Head Start model to provide school readiness programming to pre-K children at a low cost.
- The Kern Coalition can provide technical assistance grants to support small rural organizations and communities.

Industry/Economy

- There is increasing alignment between training programs, workforce development, and industry needs.
- There are untapped or underutilized tourism opportunities in Kern.
- Kern hosts the state wrestling championship. This and other events bringing in people from other parts of the state or county provide economic opportunities for Kern.
- Childcare centers are a potential area of growth. This would address a significant employment barrier for Kern parents.
- Diversifying the economy will lead to economic stabilization by reducing reliance on volatile industries.

THREATS

Population, the Environment & Civil Society

- Many residents and local organizations distrust the local government and would be wary to work or collaborate with their representatives.
- Natural and climate disasters such as excessive heat, wildfires, flooding, and droughts impact the health and well-being of local residents, especially disadvantaged populations, as well as the local economy.
- Groundwater shortages impact communities, the agriculture industry, and other economic sectors.

Public Sector

- High speed rail can also be viewed as a threat by diverting investment from other priorities and if it is not completed.
- Low educational attainment levels for BIPOC and undocumented populations will perpetuate local economic inequities.

- The lack of health care access for BIPOC and undocumented population will perpetuate local health inequities.
- The lack of economic safety net for the undocumented population will perpetuate local economic inequities.
- The high cost of higher education will prevent many residents from obtaining college degrees and credentials necessary for some higher paying economic sectors in Kern.
- Some representatives and officials in local government do not acknowledge climate change, its magnitude or the steps necessary to address its devastating impacts.

Industry/Economy

- Inflation and an economic downturn will hamper economic progress, stymie job growth, and negatively impact local income levels.
- Competition from nearby regions with similar economies may lure business opportunities or investment away from Kern County. Regional competition may also lead to a race to the bottom where companies locate where wages and regulations are lowest, putting downward pressure on worker benefits and environmental protections.
- Wages in Kern County, especially for BIPOC populations, are not sufficient to meet basic household needs. Without significant wage increases in Kern County, poverty and income inequities will continue and magnify.
- Corporate and industry interests wield significant power and influence over public policy in Kern County. Prioritizing corporate interests will increase the wealth divide, suppress wages, and weaken environmental and community protections.

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APPENDIX A. STAKEHOLDER LIST¹

Direct Aid and Service Providers

| Direct Aid and Service Providers | Types of Service Provided | Location or Area Served | Demographic Served |
|--|---|---|--|
| Agricultural Family Fund | <ul style="list-style-type: none"> ● Health Screenings | Arvin, Bakersfield, Delano, Lamont, McFarland, Shafter, Wasco | Farmworkers |
| Arvin Family Resource Center | <ul style="list-style-type: none"> ● Support Services ● Referrals | Arvin | Individuals in need, benefit recipients, low-income individuals, individuals in crisis |
| Bakersfield AIDS Project | <ul style="list-style-type: none"> ● Bus Passes ● Hygiene Supplies ● Drop-in Clinic | Kern County | Persons living with HIV and AIDS |
| Bakersfield American Indian Health Project | <ul style="list-style-type: none"> ● Transportation ● Case Management ● Youth Prevention ● Nutrition ● Health | Kern County | American Indians and Alaska Natives residing in Kern County |
| Bakersfield Burrito Project | <ul style="list-style-type: none"> ● Food Distribution | Bakersfield | Unhoused and hungry |
| Boys and Girls Clubs of Kern County | <ul style="list-style-type: none"> ● Youth Services and Programs | Locations throughout Kern County | At-risk youth |
| Buttonwillow Community Resource Center | <ul style="list-style-type: none"> ● Emergency Food/Clothing ● School Supplies ● School Readiness ● Health Care Services ● Local Resources Referrals | Buttonwillow | |
| California Rural Legal Assistance | <ul style="list-style-type: none"> ● Legal Services ● Covid-19 ● Housing ● Employment ● Public Benefits | Delano and Lamont | Residents in rural California |
| California Veterans Assistance Foundation | <ul style="list-style-type: none"> ● Health and Wellness ● Benefits Counseling ● Vocational Training ● Job Referral and Placement | Kern County | Homeless, at risk, or low-income veterans |

¹ Stakeholders that are currently engaged in the Kern Coalition California Jobs First process are indicated in *italics*.

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| | <ul style="list-style-type: none"> ● Housing Assistance | | |
| Catholic Charities of Bakersfield | <ul style="list-style-type: none"> ● Food and Nutrition ● Basic Needs ● Immigrant and Refugee Services ● Disaster Preparedness and Response ● Housing ● Seniors | Bakersfield | Residents in the San Joaquin Valley |
| Center for Sexual and Gender Diversity | <ul style="list-style-type: none"> ● Community Building Activities ● Support Groups ● Counseling, Advocacy and Referrals ● Transgender Services | Kern County | LGBTQIA2S+ residents |
| Central California Legal Services | <ul style="list-style-type: none"> ● Housing ● Health ● Covid-19 ● Family Violence ● Utilities ● Employment ● Seniors ● Guardianship ● Immigration ● Benefits | Central California with offices in Merced, Fresno and Visalia | Low-income residents and seniors |
| CityServe Bakersfield | <ul style="list-style-type: none"> ● Workforce Development ● Transitional Housing ● Dry Goods ● Emergency Response ● Life Skills and Personal Development ● Re-entry programs | Kern County | Low-income and other disadvantaged residents, working through a network of dozens of churches reaching all of Kern County |
| Charmed & Chosen | <ul style="list-style-type: none"> ● General Life Skills ● Mental Wellness Resources ● Mentoring ● Job Preparation | Kern County | Youth and young adults |
| <i>Community Action Partnership of Kern</i> | <ul style="list-style-type: none"> ● Head Start/Child Development | Kern County, Mojave, Southeast Bakersfield, Ridgecrest, Shafter | |

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| | <ul style="list-style-type: none"> ● Health and Nutrition Services ● Youth and Family Services ● East Kern Resource Center ● Oasis Family Resource Center | | |
| Community Support Options | <ul style="list-style-type: none"> ● Day Programs ● Transportation ● Pathways to Work ● Social Skills ● Residential ● In-house Support | Wasco, Tehachapi, Shafter, Bakersfield | Adults with Developmental Disabilities |
| Covenant Community Services | <ul style="list-style-type: none"> ● Life Development and Coaching ● Employment and Training ● Mentoring | Kern County | Former Foster Youth |
| Delano Community Connection Center | <ul style="list-style-type: none"> ● Parenting classes ● Food Distribution ● HEAP Assistance Referrals ● Car Seat Distribution ● School Readiness | Delano | |
| East Kern Family Resource Center | <ul style="list-style-type: none"> ● Case Management ● Differential Response Program ● Summer Bridge Program ● Food Pantry ● Utility Assistance ● Clothing Closet | Mojave | |
| Education and Leadership Foundation | <ul style="list-style-type: none"> ● Immigration Services ● Education Services ● Rent and Utilities Assistance ● Economic Justice | Offices in Fresno | Underrepresented communities |
| Garden Pathways | <ul style="list-style-type: none"> ● Mentoring ● Violence Intervention ● Tattoo Removal ● Training Opportunities | Kern County | At-risk residents |

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| | <ul style="list-style-type: none"> ● Transformative Education | | |
| Got Ur 6 | <ul style="list-style-type: none"> ● Commodities Distribution | Boron and surrounding areas | Indigent, homeless and veterans |
| Greater Bakersfield Legal Assistance | <ul style="list-style-type: none"> ● Children and Families ● Civil Rights ● Health and Public Benefits ● Housing and Homelessness Prevention ● Older Adults | Kern County | Low-income residents and Seniors |
| Greenfield Family Resource Center | <ul style="list-style-type: none"> ● Resource Referrals ● Family Services ● Nutrition and Physical Health ● School Preparation ● Tobacco Use Prevention | Greenfield | |
| Habitat for Humanity Golden Empire | <ul style="list-style-type: none"> ● Housing Construction | Kern County | |
| Housing and Opportunity Foundation of Kern | <ul style="list-style-type: none"> ● Assistance program ● Senior Food Pantry ● Academic Development ● Microlending ● Financial Empowerment ● Teen Club | Kern County | Residents in low-income public housing |
| In the Field 661 | <ul style="list-style-type: none"> ● Food Distribution | Bakersfield | Unhoused |
| Kern River Valley Family Resource Center | <ul style="list-style-type: none"> ● Early Child Home Visits ● Nutrition Programs ● Parenting Classes | Lake Isabella | |
| Lamont Weedpatch Family Resource Center | <ul style="list-style-type: none"> ● Parenting Classes ● Resources and Referrals | Lamont and Weedpatch | |
| Lost Hills Family Resource Center | <ul style="list-style-type: none"> ● School Readiness ● Parenting Classes ● Car Seat Safety ● Kits for New Parents ● Nutrition and Wellness Information | Lost Hills | |

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| | <ul style="list-style-type: none"> ● Local Resources Referrals | | |
| McFarland Family Resources Center | <ul style="list-style-type: none"> ● Case Management ● Parent Education Classes ● Center-based Activities ● Utility Assistance ● Emergency Food Baskets | McFarland | |
| <i>Mexican American Opportunity Foundation</i> | <ul style="list-style-type: none"> ● Early Education ● Community Development ● Senior Services ● Community Partnerships | Locations in Arvin, Bakersfield and Delano | Latino community |
| Mountain Communities Family Resources Center | <ul style="list-style-type: none"> ● Family Services ● Senior and Adult Services ● Health and Nutrition Services ● Employment Assistance ● Utility Assistance ● Referrals | Frazier Mountain Communities | |
| Oasis Family Resources Center | <ul style="list-style-type: none"> ● Emergency Food and Hygienic Necessities ● School Readiness ● Case Management Services ● Local Resource Referrals | Ridgecrest | |
| Ocho Semillas | <ul style="list-style-type: none"> ● Kern County Community Resilience Fund ● Kern Youth Abolitionist/ Emergency Mesa Verde Commissary Fund ● Emergency Response Food Distribution | Central Valley | Displaced Black, brown, indigenous, disables, migrant and LGBTQ+ and unincorporated communities |
| O.L.A. Raza, Inc. | <ul style="list-style-type: none"> ● Immigration Legal Services | Offices in Bakersfield and Delano | Immigrants, disadvantaged students and poor communities |

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| <i>Open Door Network</i> | <ul style="list-style-type: none"> ● Homelessness ● Housing ● Domestic Violence and Sexual Assault ● Child Abuse ● Anti-Trafficking ● Employment | Bakersfield | |
| Pathpoint | <ul style="list-style-type: none"> ● Employment Services ● Community Integration Services ● Transition Services | Offices in Bakersfield and Ridgecrest | Individuals with intellectual and developmental disabilities |
| Rapid Response Network of Kern | <ul style="list-style-type: none"> ● Know Your Rights ● Legal Services ● Defense Referrals ● Immigration Services | Kern County | Immigrants targeted by immigration enforcement |
| Shafter Healthy Start Family Resource Center | <ul style="list-style-type: none"> ● Food Distribution ● School Readiness ● Medi-Cal Representative ● Unemployment Representative | Shafter | |
| Shamrock Community Foundation | <ul style="list-style-type: none"> ● Education Access ● Career and College Planning | Office in Delano | First generation students |
| Shar-On | <ul style="list-style-type: none"> ● Food Distribution ● Court Cab ● Support Groups ● Classes/Education ● Showers and Shaves | Taft | |
| ShePower Leadership Academy | <ul style="list-style-type: none"> ● Leadership Training ● Mentorship | Kern | Young women ages 10-18 |
| South East Neighborhood Partnership Family Resource Center | <ul style="list-style-type: none"> ● Case Management for Family ● Car Seat Education and Installation ● Parenting Classes ● Local Resource Referrals | Southeast Bakersfield | |
| Stewards Inc | <ul style="list-style-type: none"> ● Representative Payee Service ● Direct Deposit and Debit Card Services ● Food Pantry ● Financial Classes | | Vulnerable individuals |

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| | <ul style="list-style-type: none"> ● Resource Referrals | | |
| Westside Outreach and Learning Center | <ul style="list-style-type: none"> ● Family Success Coaching ● Preschool Program ● Parent Education Classes ● Local Resources Referrals ● Case Management for Family | Taft | |
| Youth 2 Leaders Education Foundation | <ul style="list-style-type: none"> ● Scholarships ● Pre-College Camps ● Cash for College ● College Preparation Academy | Southern Central Valley | Low-income and underrepresented students |

Base-Building Organizations

| Base-Building Organization | Issue Area | Area Served | Demographic of Base |
|--|---|---|---|
| 99 Rootz | <ul style="list-style-type: none"> ● Social Justice ● Youth Organizing | Small towns along Hwy 99 | Young people of color |
| <i>All of Us or None</i> | <ul style="list-style-type: none"> ● Civil Rights ● Criminal Justice | Nationwide with Bakersfield chapter | Formerly Incarcerated and their families |
| Center on Race, Poverty & the Environment | <ul style="list-style-type: none"> ● Environmental Justice ● Just Transition ● Climate Justice ● Toxics ● Community Investment | Delano, Lamont, Shafter, Arvin; Kern Communities | Low-income communities of color |
| Central California Environmental Justice Network | <ul style="list-style-type: none"> ● Environmental Justice ● Economic Justice ● Health Equity | Central Valley, with offices in Bakersfield, Fresno and Coalinga. | Low-income communities of color |
| <i>Comunidades Aliadas Tomando Acción</i> | <ul style="list-style-type: none"> ● Social Justice ● Environmental Justice | Kern County | Vulnerable, minorities and farm-working communities |
| <i>Dolores Huerta Foundation</i> | <ul style="list-style-type: none"> ● Social Justice ● Community Organizing | Kern, Tulare, Fresno and Antelope Valley | Marginalized individuals and families |
| <i>Faith in the Valley Kern</i> | <ul style="list-style-type: none"> ● Equity ● Community Organizing ● School to Prison Pipeline | Fresno, Kern, Merced, Stanislaus and San Joaquin Counties | |

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| | <ul style="list-style-type: none"> ● Restorative justice | | |
| Greenaction for Health and Environmental Justice | <ul style="list-style-type: none"> ● Environmental Justice | Buttonwillow | |
| <i>Jakara Movement</i> | <ul style="list-style-type: none"> ● Community-building ● Health ● Education ● Economic, Social, and Political Power | Local Central Valley chapters in Bakersfield and Fresno | Punjabi Sikhs and other marginalized communities |
| Leadership Counsel | <ul style="list-style-type: none"> ● Healthy Sustainable Communities | Offices in Bakersfield, Fresno, Merced | Disinvested communities |
| Lideres Campesinas | <ul style="list-style-type: none"> ● Economic Justice ● Social and Political Change ● Human Rights | Chapters in North and South Kern | Farmworker women |
| Loud for Tomorrow | <ul style="list-style-type: none"> ● Building youth power | Delano and wider-Kern | Youth |

Local Community Groups or Neighborhood Associations

| Organization or Entity | Priority Issues | Community or Neighborhood Served |
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| Comite Progreso de Lamont | <ul style="list-style-type: none"> ● Environmental Justice ● Green Space ● Community Infrastructure ● Air and Water Quality | Lamont |
| Committee for a Better Arvin | <ul style="list-style-type: none"> ● Environmental Justice ● Air and Water Quality ● Toxics ● Community Infrastructure | Arvin |
| Committee for a Better Shafter | <ul style="list-style-type: none"> ● Environmental Justice ● Community Infrastructure ● Air and Water Quality ● Toxics | Shafter |
| Committee to Preserve La Colonia | <ul style="list-style-type: none"> ● Community Infrastructure | Shafter Colonias |
| Delano Guardians | <ul style="list-style-type: none"> ● Environmental Justice ● Toxics ● Air and Water Quality ● Utility Affordability ● Community Infrastructure | Delano |
| <i>Greenfield Walking Group</i> | <ul style="list-style-type: none"> ● Community Health and Safety ● Green Space ● Community Infrastructure | Greenfield |

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| KRV Bridge Connection | <ul style="list-style-type: none"> ● Community Development ● Social Service ● Economic Empowerment | Kern River Valley |
| Listen to Shafter | <ul style="list-style-type: none"> ● Literacy ● Public Participation ● Community Transformation | Shafter |
| Lost Hills En Accion | <ul style="list-style-type: none"> ● Environmental Justice ● Public Health and Wellbeing | Lost Hills |
| MLK CommUNITY Initiative/Circle of Life Foundation | <ul style="list-style-type: none"> ● Food Insecurity Mentorship ● Small Business Growth ● Community Engagement | Southeast Bakersfield |
| The Mojave Foundation | <ul style="list-style-type: none"> ● Community Development ● Security ● Housing ● Amenities ● Beautification | Mojave |
| Oildale Community Action Team | <ul style="list-style-type: none"> ● Community Clean-ups ● Events ● Community Input | Oildale |
| Orange Heart Foundation | <ul style="list-style-type: none"> ● Community Building | Wasco |
| South Valley Neighborhood Partnership | <ul style="list-style-type: none"> ● Effective and Efficient Community Services | Arvin, Lamont, Weedpatch |

Advocacy and Philanthropic Organizations

| Organization or Entity | Issue Area | Location or Area Served | Demographic Served |
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| ACLU Southern California | <ul style="list-style-type: none"> ● Criminal Justice ● Economic Justice ● Education Equity ● Freedom of Speech ● Gender Equity ● Reproductive Justice ● Immigrants' Rights | Bakersfield office | |
| <i>African American Network of Kern County</i> | <ul style="list-style-type: none"> ● Education ● Economic Parity ● Job Opportunities | Kern County | African American residents |
| Blue Zones Project Bakersfield | <ul style="list-style-type: none"> ● Health and Wellness | Bakersfield | |
| <i>Building Healthy Communities Kern</i> | <ul style="list-style-type: none"> ● Health Equity ● Schools ● Climate Justice ● Health Access | Kern County | |

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| California Farmworker Foundation | <ul style="list-style-type: none"> ● Education ● Workforce Development ● Health and Wellness ● Immigration Services ● Community engagement | Kern, Madera, Fresno, Tulare, Riverside Counties | Farmworkers |
| Californians for Pesticide Reform | <ul style="list-style-type: none"> ● Pesticides ● Health ● Air Quality | California | |
| <i>California Rural Legal Assistance Foundation</i> | <ul style="list-style-type: none"> ● Social Justice ● Equity | Rural communities | Farmworkers, low-wage workers and mixed-status families |
| Central California Asthma Collaborative | <ul style="list-style-type: none"> ● Air Quality ● Health | Central California | |
| Central Valley Air Quality Coalition | <ul style="list-style-type: none"> ● Air quality | Central Valley | |
| Central Valley Immigrant Integration Collaborative (CVIIC) | <ul style="list-style-type: none"> ● Immigration | Central Valley | Immigrants |
| Central Valley Movement Building | <ul style="list-style-type: none"> ● School to Prison Pipeline | Central Valley | Students and parents |
| Central Valley Pacific Islander Alliance | <ul style="list-style-type: none"> ● Leadership ● Visibility ● Community Building | Central Valley | Pacific Islanders |
| Central Valley Partnership | <ul style="list-style-type: none"> ● Social, Racial, Environmental and Economic Justice | Central Valley | |
| Cherokee Community of Central California | <ul style="list-style-type: none"> ● Cherokee Culture ● Heritage and Traditions ● Fellowship | | Cherokee community |
| Clean Water Action | <ul style="list-style-type: none"> ● Water Quality ● Environment ● Public Health | National/state organization with Kern County-based staff | |
| The Climate Center | <ul style="list-style-type: none"> ● Climate | California with Kern-based staff | |
| Coalition for Humane Immigrant Rights (CHIRLA) | <ul style="list-style-type: none"> ● Legal Assistance ● Immigration | Central Valley Office in Porterville | Immigrants |
| Community Interventions | <ul style="list-style-type: none"> ● Health Equity ● Education Equity ● Law Enforcement Accountability | Central Valley with office in Bakersfield | Marginalized and vulnerable people |

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| | <ul style="list-style-type: none"> ● Juvenile Justice ● Youth Leadership Development | | |
| Community Water Center | <ul style="list-style-type: none"> ● Water Quality and Access | Central Valley, Central Coast | |
| Comunidades Aliadas Tomando Acción | | | |
| Council on American-Islamic Relations California (CAIR) | <ul style="list-style-type: none"> ● Legal Services ● Civic Engagement ● Outreach and Education ● Youth Empowerment | Central Valley/Sacramento Branch | Muslim Americans |
| Cultiva La Salud | <ul style="list-style-type: none"> ● Health | Central Valley | Disadvantaged residents |
| Grid Alternatives | <ul style="list-style-type: none"> ● Renewable Energy, ● Environmental Justice, ● Community Building | Central Valley office in Fresno | Underserved communities |
| Grimm Family Education Foundation | <ul style="list-style-type: none"> ● Education ● Health and Wellness | Arvin, Shafter and Greater Bakersfield | |
| The Hub of Bakersfield | <ul style="list-style-type: none"> ● Community Revitalization | Downtown Bakersfield | |
| <i>Kern Community Foundation</i> | <ul style="list-style-type: none"> ● Philanthropy | Kern County | |
| Kern County Network for Children | <ul style="list-style-type: none"> ● Protection of Children | Kern County | Children |
| Kern Dance Alliance | <ul style="list-style-type: none"> ● Creative Economy ● Arts and culture ● Education ● Recipient of \$4.2 million California Creative Corps grant from California Arts Council | Kern County, Central Valley and Eastern Sierra Region | Artists and cultural workers, Latinas, students, people with physical disabilities, people with Alzheimer's disease and dementia |
| Kern Welcoming and Extending Solidarity to Immigrants (KWESI) | <ul style="list-style-type: none"> ● Immigrant Rights ● Criminal Justice | Bakersfield and McFarland | Immigrants in ICE detention |
| Latina Leaders of Kern County | <ul style="list-style-type: none"> ● Leadership Development | Kern County | Latinas |
| Livermore Lab Foundation | <ul style="list-style-type: none"> ● Community Education ● Science and Technology | Kern County | |

| | | | |
|---|---|---|---|
| Mariposa Con Propósito | <ul style="list-style-type: none"> ● Unity ● Prosperity ● Quality of Life | Kern County | Spanish-speaking community |
| NAACP Bakersfield Branch | <ul style="list-style-type: none"> ● Civil Rights ● Economic ● Education ● Social and Racial Justice | Kern County | African American community |
| People's Budget Bakersfield | <ul style="list-style-type: none"> ● Community Investment ● Police Divestment | Bakersfield | Black and brown vulnerable populations |
| Seedcore Foundation | <ul style="list-style-type: none"> ● Education ● Entrepreneurship ● Philanthropy | Kern County | |
| Self-Help Enterprises | <ul style="list-style-type: none"> ● Healthy Homes and Communities | Central Valley | Low-income families |
| Services & Immigrant Rights & Education Network | <ul style="list-style-type: none"> ● Immigration | Central Valley Office | Immigrants |
| Sierra Club - Kern Kaweah Chapter | <ul style="list-style-type: none"> ● Green Space ● Clean Air ● Climate Change | Bakersfield, Ridgecrest, Frazier Park and Kings/ Tulare County local groups | |
| <i>Unidad Popular Benito Juárez</i> | <ul style="list-style-type: none"> ● Health ● Housing ● Human rights | Central Valley with Office in Lamont | Indigenous immigrants |
| United Farmworker Foundation | <ul style="list-style-type: none"> ● Immigration Reform ● Worker Protection ● Hazard Pay ● Pesticide Protection | | |
| <i>United Way of Kern County</i> | <ul style="list-style-type: none"> ● Childhood Literacy, ● Health ● Economic Resilience | Kern, Inyo, Mono and northern San Bernardino Counties | |
| <i>Vision y Compromiso</i> | <ul style="list-style-type: none"> ● Equity ● Health | Kern and Kings Counties | Promotores and community health workers |

Labor Organizations and Unions

| Labor Organizations and Unions | Sector |
|--|-------------------|
| Carpenters Local 743 | Construction |
| Communications Workers of America Local 9416 | Telecommunication |
| <i>IBEW Local 428</i> | Electrical |

| | |
|---|-----------------------|
| International Longshore & Warehouse Union Local 30 | Mining |
| <i>International Union Operating Engineers Local No. 12</i> | Construction |
| Iron Workers Local 155 | Construction |
| <i>Kern, Inyo and Mono Counties Central Labor Council</i> | Labor Council |
| LiUNA Local 220 | Construction |
| Painters District Council 36 | Construction |
| Plumbers and Pipefitters Local 460 | Piping Industry |
| <i>SEIU 521</i> | Public Sector |
| SEIU 1000 | State Workers |
| SMART Sheet Metal Workers Int'l local 105 | Construction |
| Teamsters 87 | Freight and Warehouse |
| Teamsters 2010 | UC and CSU Workers |
| UDWA | Home and Family Care |
| UFCW 8-Golden State | Food and Retail |
| UFW | Agriculture |
| United Steelworkers 219 | Oil and Gas |

Education and Training Providers and Programs

| Training and Education Providers | Training Programs, Degrees, or Certifications Offered | Area or Demographic Served | |
|---|---|---|--|
| America's Job Center of Kern | <ul style="list-style-type: none"> ● No-Cost Training ● Job Placement Services ● Job-Hunting Resources | Kern County | |
| Bakersfield Adult School | <ul style="list-style-type: none"> ● High School Diploma ● ESL ● GED ● Health Careers ● CTE & Job Training ● Jail Education ● Independent Study ● Business and Computer Education ● Recycling ● Culinary Arts | | |
| Bakersfield ARC | <ul style="list-style-type: none"> ● Community Integration ● Tailored Day Services ● Paid Internship Program | Kern County Adults with intellectual or | |

| | | | |
|--|---|--|--|
| | <ul style="list-style-type: none"> ● Supported Employment | developmental disabilities | |
| <i>Bakersfield College</i> | <ul style="list-style-type: none"> ● Agriculture, Nutrition, and Culinary Arts ● Arts, Communication, and Humanities ● Business ● Education ● Health Sciences ● Industrial Technology & Transportation ● Public Safety Training ● Social & Behavioral Sciences ● Science, Technology, Engineering, & Math ● Personal & Career Exploration | | |
| Bakersfield Sheet Metal Workers Apprenticeship & Training Center | <ul style="list-style-type: none"> ● Air Conditioning Service ● Industrial Welding ● CAD (Computer-Aided Design) ● Stainless Steel Kitchen Equipment Installation ● Sheet Metal Roof Installation ● HVAC Fire/Life-Safety | | |
| California Renewable Energy Lab | <ul style="list-style-type: none"> ● CRC Carbon Management Institute ● Clean Energy & Grid Resilience ● Clean Transportation | | |
| <i>California State University Bakersfield</i> | <ul style="list-style-type: none"> ● Arts and Humanities ● Business and Public Administration ● Natural Sciences, Mathematics and Engineering ● Social Sciences and Education | | |
| CSUB Center For Entrepreneurship & Innovation | <ul style="list-style-type: none"> ● Petroleum and Renewable Energy ● Aerospace ● Remote Business Services | CSUB students and all residents of Kern County | |

| | | | |
|--|---|--|--|
| | <ul style="list-style-type: none"> ● Advanced Manufacturing ● Agricultural Technology | | |
| Career Technical Education Center | <ul style="list-style-type: none"> ● Agriculture & Natural History ● Arts, Media and Entertainment ● Building and Construction Trades ● Business & Finance ● Education, Child Development & Family Services ● Energy, Environment & Utilities ● Engineering & Architecture ● Fashion & Interior Design ● Health Science & Medical Technology ● Hospitality, Tourism & Recreation ● Information & Communication Technologies ● Manufacturing & Product Design ● Marketing, Sales and Service ● Public Services ● Transportation | | |
| The Central California Emerging Technology Accelerator (CCETA) | <ul style="list-style-type: none"> ● Petroleum and Renewable Energy ● Aerospace ● Remote Business Services ● Advanced Manufacturing ● Agricultural Technology | | |
| Cerro Coso Community College | <ul style="list-style-type: none"> ● Allied Health ● Business and Paralegal Studies ● Child Development ● English and Foreign Languages ● Industrial Arts | | |

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| | <ul style="list-style-type: none"> ● Information Technology ● Kinesiology and Health Science ● Mathematics ● Public Services ● Science and Engineering ● Social Sciences ● Visual and Performing Arts | | |
| Delano Adult School | <ul style="list-style-type: none"> ● Academic Transition ● Business Education ● EI Civics ● ESL ● High School Diploma ● Nursing Assistant Program ● Medical Assistant | | |
| <i>Employer's Training Resource</i> | <ul style="list-style-type: none"> ● Job Squad Meetings ● Resume Workshops ● Farmworker Training and Employment Programs ● Medical Billing/Coding ● Licensed Vocational Nursing ● Truck Driving ● Emergency Medical Technician ● Auto Mechanics ● Youth Programs | | |
| Farmworker Institute of Education and Leadership Development (FIELD) | <ul style="list-style-type: none"> ● High School Diploma ● ESL ● Literacy ● Solar ● Early Childhood Education ● Fire ● Business Management ● Recycling ● Natural Resources ● Agriculture ● Cesar Chavez Conservation Corp | <p>Learning Centers in Shafter, Lamont, McFarland, and Bakersfield</p> <p>Underserved populations in poor minority communities</p> | |
| Fresno Pacific University Bakersfield Campus | <ul style="list-style-type: none"> ● Liberal Arts ● Education | | |

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|---|--|---|--|
| International Brotherhood of Electrical Workers- IBEW 428 | <ul style="list-style-type: none"> ● Inside Wiremen ● Outside Wiremen ● Resident Wiremen ● Telecommunications Installer Technicians | | |
| Ironworkers, local 155 | <ul style="list-style-type: none"> ● Structural Steel ● Architectural Steel ● Rigging ● Welding ● Reinforcing Steel | | |
| <i>Kern Community College District</i> | <ul style="list-style-type: none"> ● 21st Century Energy Center ● California Compliance School ● Customized and Corporate Training | | |
| <i>Kern County Rop-Vocational Training</i> | <ul style="list-style-type: none"> ● Office Administration ● Automotive and Mechanics ● Culinary Arts ● Bookkeeping and Accounting ● Business ● Education ● Construction Trades ● Cosmetology ● Health ● Fire and Law Enforcement ● Livestock Management ● Logistics ● Metal Fabrication ● Robotics Engineering ● Veterinary Technology ● Video Game Design ● Welding | | |
| Kern Electrical JATC | <ul style="list-style-type: none"> ● Electrician Apprenticeship | | |
| Kern Initiative for Talent and Entrepreneurship | <ul style="list-style-type: none"> ● Entrepreneurship Classes | Kern County | CoStarters has launched cohorts in rural communities |
| Kern Literacy Council | <ul style="list-style-type: none"> ● Adult and child basic education ● English as a Second Language | Active at all Kern County library locations | |

| | | | |
|---|--|---|--|
| | <ul style="list-style-type: none"> ● Citizenship Test preparation ● GED preparation ● Free community tutoring ● Dolly Parton Imagination Library | | |
| Kern Women’s Business Center/Mission Community Services Corporation | <ul style="list-style-type: none"> ● Helping Business Owners Start and Run Successful Businesses | Kern, San Luis Obispo and Monterey Counties | Women, low-income, minority and non-profit business owners |
| Laborers’ International Union of North America-LIUNA, local 220 | <ul style="list-style-type: none"> ● Environmental remediation ● Building Construction ● Heavy/Highway Construction | | |
| McFarland Learning Center | <ul style="list-style-type: none"> ● Conversational Classes for English Learners ● Office Automations ● Logistics Class ● Certified Nursing Assistant (CNA) | | |
| North West College | <ul style="list-style-type: none"> ● Medical Assistant ● Dental Assistant ● Pharmacy Technician ● Nursing ● Surgical Technology ● Medical Billing and Coding | | |
| Operating Engineers Local 12 | <ul style="list-style-type: none"> ● Apprenticeship | | |
| Painters District Council 36 | <ul style="list-style-type: none"> ● Paint and Drywall | | |
| Plumbers and Steam Fitters JATC | <ul style="list-style-type: none"> ● Plumber ● Pipefitter ● Refrigeration ● Air Conditioning Fitter | | |
| Proteus Inc. | <ul style="list-style-type: none"> ● General Office Occupations ● Truck Driving ● Energy Careers ● Forklift Certification ● ESL ● Citizenship ● High School Equivalency | | |

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|---|---|--|--|
| | <ul style="list-style-type: none"> ● Adult Basic Education | | |
| Recycling Lives | <ul style="list-style-type: none"> ● Basic safety and equipment operation ● Soft skills ● Basic work readiness ● Basic accounting ● Warehousing ● Sales and marketing | | |
| San Joaquin Valley College | <ul style="list-style-type: none"> ● Medical and Dental Programs ● Business Programs ● Electrical Technology ● HVAC ● Maintenance Technician | | |
| Teamsters 87 | <ul style="list-style-type: none"> ● Construction | | |
| Taft College | <ul style="list-style-type: none"> ● Adult Education ● Business, Arts, and Humanities ● Career Technical Education ● Dental Hygiene ● Engineering ● English and Language Arts ● Liberal Arts ● Math and Science ● Social and Behavioral Science ● Transition to Independent Living ● Welding and Fabrication | | |
| UEI College Bakersfield | <ul style="list-style-type: none"> ● Automotive Technician ● Business Office Administration ● Criminal Justice ● Dental Assistant ● Electrician Technician ● HVAC ● Medical Assistant ● Medical Billing and Insurance Coding ● Pharmacy Technician | | |
| University of La Verne Bakersfield Campus | <ul style="list-style-type: none"> ● Accounting ● Childhood Development ● Education | | |

| | | | |
|---|--|---------|--|
| | <ul style="list-style-type: none"> ● Psychology ● Business Administration ● Criminal Justice ● Organizational Management ● Teaching | | |
| Valley Build | <ul style="list-style-type: none"> ● Careers in Construction | | |
| Wasco Adult Education Program | <ul style="list-style-type: none"> ● High School Diploma ● ESL ● Citizenship Classes ● Computer Classes | Wasco | |
| West Kern Adult Education Network | <ul style="list-style-type: none"> ● Welders Helper ● Industrial Safety ● Forklift ● Paraprofessional ● Construction ● Security Guard ● Home Care Aid ● Career Connection ● ESL ● GED | | |
| Westside Energy Services and Education Center | <ul style="list-style-type: none"> ● Law Enforcement, ● Court Reporting ● Safety | Shafter | |
| West Side Regional Occupational Program | <ul style="list-style-type: none"> ● Applied Office Skills ● Automotive Technology ● Careers In Education ● Commercial Photography ● Commercial Printing ● Construction Trades ● Cosmetology ● Fashion Merchandising ● Food Preparation and Service ● Retail Merchandising ● Video Production ● Virtual Enterprise | | |

Business and Economic Development Organizations

| Economic Development and Business-Serving Organizations | Type of Economic Development or Business Service | Area Served | Demographic Served |
|--|---|--------------------|---------------------------|
|--|---|--------------------|---------------------------|

| | | | |
|---|--|--|--|
| 3C Capital Fund Inc | <ul style="list-style-type: none"> ● Capital ● Entrepreneurship | | Low to moderate income and underserved business |
| Arvin Chamber of Commerce | <ul style="list-style-type: none"> ● Local Development ● Supporting Local Business | Arvin | |
| <i>B3K Prosperity</i> | <ul style="list-style-type: none"> ● Economic Development ● Job growth | Kern County | |
| Bakersfield Black Dollar Initiative | <ul style="list-style-type: none"> ● Patronization ● Economic Growth | Bakersfield | Black small business owners |
| Bakersfield Economic and Community Development | <ul style="list-style-type: none"> ● Economic and Community Development | Bakersfield | |
| Boron Chamber of Commerce | <ul style="list-style-type: none"> ● Local Development ● Supporting Local Businesses | Boron | |
| California Central Valley Economic Development Corporation | <ul style="list-style-type: none"> ● Job Creation | Kern, Fresno, Kings, Madera, Merced, San Joaquin, Stanislaus and Tulare Counties | |
| <i>California City Chamber of Commerce</i> | <ul style="list-style-type: none"> ● Local Development ● Supporting Local Businesses | California City | |
| California State University Bakersfield Small Business Development Center | <ul style="list-style-type: none"> ● Supporting Small Businesses | Kern, Inyo and Mono Counties | Small businesses and aspiring entrepreneurs |
| China Lake Alliance | <ul style="list-style-type: none"> ● Economic Growth ● Expanded China Lake Defense Program ● Improved Business, Education, Health Care and Other Infrastructure | Indian Wells Valley, Eastern Sierra region | |
| Community Vision Capital and Consulting | <ul style="list-style-type: none"> ● Financing ● Investment and Community Building | Northern and Central California | Nonprofits, small businesses, and social enterprises in disinvested communities of color |
| <i>Delano Chamber of Commerce</i> | <ul style="list-style-type: none"> ● Creating Robust Local Economy | Delano | |

| | | | |
|--|---|-----------------------------|---------------------------|
| | <ul style="list-style-type: none"> ● Community Development | | |
| Downtown Bakersfield Development Corp | <ul style="list-style-type: none"> ● Community Development | Downtown Bakersfield | |
| <i>Greater Bakersfield Chamber of Commerce</i> | <ul style="list-style-type: none"> ● Resources and Support for Local Businesses | Bakersfield | |
| Greater Tehachapi Chamber of Commerce | <ul style="list-style-type: none"> ● Advance Local Prosperity | Tehachapi | |
| Greater Tehachapi Economic Development Council | <ul style="list-style-type: none"> ● Attracting, Retaining and Supporting Local Businesses | Tehachapi | |
| Indian Wells Valley Economic Development Corporation | <ul style="list-style-type: none"> ● Economic Development | Indian Wells Valley | |
| Kern County Black Chamber of Commerce | <ul style="list-style-type: none"> ● Advocate for African American Businesses | Kern County | Black-owned businesses |
| <i>Kern County Hispanic Chamber of Commerce</i> | <ul style="list-style-type: none"> ● Business Development | Kern County | Hispanic-owned businesses |
| Kern County Taxpayers Education Fund/KernTax | <ul style="list-style-type: none"> ● Public Education on Economic Growth and Development | Kern County | Taxpayers |
| Kern Economic Development Corporation | <ul style="list-style-type: none"> ● Promote Opportunities for Business | Kern County | |
| Kern Economic Development Foundation | <ul style="list-style-type: none"> ● Economic and Workforce Development | Kern County | |
| Kern, Inyo, Mono County Workforce Development Board | <ul style="list-style-type: none"> ● Workforce Development | Kern, Inyo, and Mono County | |
| Kern Venture Group | <ul style="list-style-type: none"> ● Venture capital firm, with a focus on supporting Kern-based or Kern-focused businesses | | |
| Kernville Chamber of Commerce | <ul style="list-style-type: none"> ● Promotion of Tourism and Events ● Business Retention and Attraction ● Cooperative Marketing | Kernville | |

| | | | |
|---|--|---|--|
| Kern Women's Business Center/Mission Community Services Corporation | <ul style="list-style-type: none"> ● Helping Business Owners Start and Run Successful Businesses | Kern, San Luis Obispo and Monterey Counties | Women, low-income, minority and non-profit business owners |
| Limitless Micro-Enterprise Development Inc. | <ul style="list-style-type: none"> ● Supporting Micro Enterprise Businesses | | Business owners with intellectual and developmental disabilities |
| <i>McFarland Chamber of Commerce</i> | <ul style="list-style-type: none"> ● Represent Business Interests ● Advocate for Policies that Promote Economy | McFarland | |
| <i>Mid State Development Corporation</i> | <ul style="list-style-type: none"> ● Small Business Financing | | |
| Monarch Economic Development Corp | <ul style="list-style-type: none"> ● Transportation Related Economic Development | Kern County | Underrepresented groups and communities |
| Mojave Air and Space Port | <ul style="list-style-type: none"> ● General and commercial aviation and space port | East Kern | |
| Mojave Chamber of Commerce | <ul style="list-style-type: none"> ● Promote and Develop Local Businesses ● Economic Prosperity | Mojave | |
| National Association of Women Business Owners Bakersfield Chapter | <ul style="list-style-type: none"> ● Strengthen Wealth-Creating Capacity ● Promote Economic Development | | Women business owners |
| North of the River Chamber of Commerce | <ul style="list-style-type: none"> ● Help Businesses Network and Prosper | Rosedale, Oildale | |
| <i>Ridgecrest Chamber of Commerce</i> | <ul style="list-style-type: none"> ● Building Community ● Strengthening the Economy | Ridgecrest | |
| Shafter Chamber of Commerce | <ul style="list-style-type: none"> ● Local development ● Supporting Local Businesses | Shafter | |
| Taft Chamber of Commerce | <ul style="list-style-type: none"> ● Local Development ● Supporting Local Businesses | Taft | |

Industry and Trade Associations

| Industry and Trade Associations | Type of Industry |
|--|--|
| Associated Builders and Contractors Central California | Construction |
| Bakersfield Association of Professional Landmen | Oil and Gas |
| Bakersfield Association of Realtors | Real Estate |
| California Farm Bureau | Agriculture |
| California Independent Petroleum Association | Oil and Gas |
| California Trucking Association Kern Unit | Trucking |
| Central California Business Federation(BizFed Central Valley) | Business |
| Executives' Association of Kern County | Business Owners and Executives |
| High Desert Chapter of the American Society of Military Comptrollers | Department of Defense Financial Management |
| Home Builders Association of Kern County | Construction |
| Kern Alliance of Business | Business |
| Kern Citizens for Energy | Oil and Gas/Energy |
| Kern County Builders Exchange | Construction |
| Kern Energy Foundation | Oil and Gas |
| National Association of Royalty Owners - California | Oil and Gas |
| Pacific Section of the American Association of Petroleum Geologists | Oil and Gas |
| San Joaquin Valley Electric Vehicle Partnership | Electric Vehicles |
| Water Association of Kern County | Agriculture |
| Western States Petroleum Association | Oil and Gas |

APPENDIX B. UCM CLC/DHF COMMUNITY NEEDS ASSESSMENT SURVEY DATA AND METHODS

Between August and December 2023, the UC Merced Community and Labor Center partnered with the Dolores Huerta Foundation (DHF) for a Community Needs Assessment Survey in disinvested regions in Kern County. The locations chosen for the study include Arvin, East Bakersfield, Wasco, and Lamont/Weedpatch. Canvassers were trained in person in survey interviewing and data entry in two separate orientation sessions on August 7 and August 16, respectively. The canvassers also completed an eight-hour online training in research ethics via UC Merced’s Institutional Review Board (IRB) and CITI Training, resulting in a certification. Both the survey trainings and the IRB certifications provided capacity building to the region with a dozen local residents prepared to undertake survey canvassing in an underserved county.

Two hundred or more surveys were completed in each of the four disinvested communities with adult respondents. The team employed a random and representative sampling design of residential addresses in each town with a margin of error of +/- 7 points. Canvassers conducted the survey interviews in-person going door-to-door. Each survey interview with a respondent lasted between 15 and 20 minutes. Surveys interviews were conducted in both English and Spanish formats and all canvassers were bilingual (over half of the surveys were carried out in Spanish). Response rates ranged from 38.5% to 60%.² Figure A.1 illustrates the sampling sites.

Figure A.1 Community Engagement Survey Sampling Sites

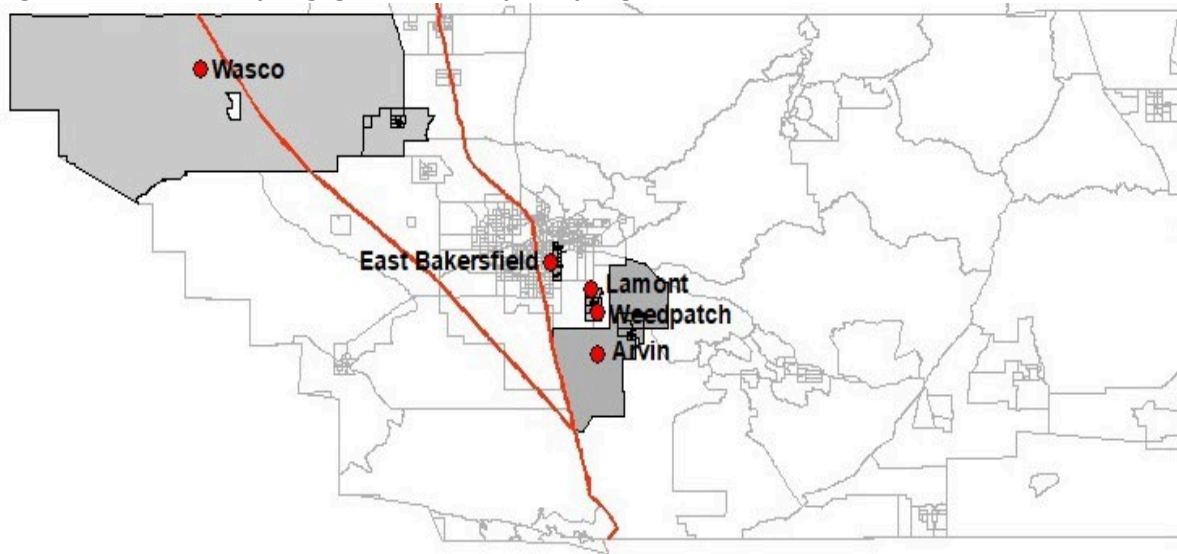


Table A.1 Median Household Income of Sampled Cities and Immigration Status of Respondents

| City | Census Median Household Income (ACS 2021) | Amount Below California Median Household Income | Immigration Status Based on DHF Survey |
|------|---|---|--|
|------|---|---|--|

² Response rate calculated by if an adult was home when approached by a canvasser. The individual city response rates were: 38.5% for Arvin, 41.5% for East Bakersfield, 46.7% for Wasco, and 60% for Lamont/Weedpatch

| | | \$84,097 (2021) | |
|------------------|----------|----------------------------|---|
| Arvin | 42,961 | \$41,136 | US Citizen: 60.9% Legal Resident:23.2% Work Permit: 1.5% Undocumented: 14.5% N=207 |
| East Bakersfield | 39,375 | \$44,722 | US Citizen: 59.1% Legal Resident: 18.1% Work Permit: 2.9% Undocumented: 20.0% N=210 |
| Wasco | \$40,532 | \$43,565 | US Citizen: 54.5% Legal Resident: 20.4% Work Permit: 1.4% Undocumented: 23.7% |
| Lamont/Weedpatch | \$40,341 | \$43,757 | US Citizen: 35.1% Legal Resident: 29.3% Work Permit: 2.9% Undocumented: 32.7% |

The low household incomes reported in Table A.1 demonstrate the urgent need to raise wages and living standards in disinvested communities. The respondents were queried with 113 questions about household demographics, community level issues and concerns, the local education system, the workplace and economic investments, the environment and climate change, and civic engagement. Hence, Kern residents in disinvested localities engaged extensively in person with our community needs study in a region where representative community perspectives are rarely collected and reported. By going door-to-door using random sampling techniques, we have a better representation of the inhabitants, including immigrant communities not captured with other sampling strategies that rely on phone numbers of registered voters (see Table A.1). The UCM Community and Labor Center/DHF survey better captures the views and preferences of the actual inhabitants of Kern County as well as hard to count populations. This fine-grained local level survey engagement with communities on the ground also complements the representative county level data in the H RTP survey.

APPENDIX C. METHODOLOGICAL APPENDIX

The figures and tables in this study are drawn from several public data sources, as well as some surveys conducted by the UC Merced Community and Labor Center. Federal public data sources include the US Department of Commerce, Bureau of Economic Analysis; the US Department of Labor, Bureau of Labor Statistics; the US Census Bureau, Decennial Census; and the US Census Bureau, American Community Survey. For analysis of Decennial Census and ACS data, we utilized Steven Ruggles et al. (2023) IPUMS-USA, which cleans PUMS data and provides it publicly. One state-level public data source was also drawn upon: the California Department of Public Health, California Comprehensive Death File. This report also utilized survey data from community engaged research led by the UC Merced Community and Labor Center.

Decennial Census data. This report utilizes US Census Bureau Public Use Microdata Sample (PUMS) data collected during the 1980, 1990 and 2000 Decennial Census, when a one in twenty American households were sent a longer questionnaire as part of the census. The major Decennial Census variables analyzed in this report include geography (county and state), employment status, and class of worker (employee or self-employed), to estimate the number of wage earners by California county across time. Data was weighted at the person level (PERWT) to provide estimates for the broader population (the universe from which the sample was chosen from, for example, Kern County).

American Community Survey data. This report also utilizes IPUMS USA for annually-released American Community Survey (ACS) PUMS data. This report utilized ACS PUMS data from single year data sets in 2009, 2019 and 2022; as well as five-year data sets from 2007-2011 and 2017-2021. In 2009, the Census Bureau contacted 2.9 million US addresses for participation in the ACS, and conducted interviews with 1.9 million households; by 2022, owing to population increases, the respective figures were 3.5 million and 2.0 million (US Census Bureau 2023). The ACS is the largest survey of its kind in the world, and affords a granular analysis of household-level and worker dynamics within the American population. The major ACS variables analyzed in this report include geography (county and state), employment status, class of worker (employee or self-employed), industry, occupation, earnings (annual wages/salary). Data was weighted at the person-level (PERWT) to provide estimates for the broader population (the universe from which the sample was chosen from, for example, Kern County). In some cases, the weighted estimates for Kern industry or occupation-level data on workers has small sample numbers (and thus wider margins of error); for this reason, we only selected the most common occupations in Kern's major industries for analysis.

Living wage analysis. In one of the more complex analyses utilized in this report, the Community and Labor Center used SPSS statistical software to apply specific living wage thresholds (MIT Living Wage Calculator 2023) to each Kern household in ACS 2022 PUMS data, based on the county of residence (e.g. Kern), number of working adults (1, or 2 or more), adults living in the household (1, or 2 or more), and children living in the household (0, 1, 2 or 3 or more). We termed this an "actual" living wage threshold (not to be confused with a "standard" living wage threshold that assumes a household of two working adults and two children in a given locality). Each household was then given a value based on whether they lived above a living wage or below a living wage. Frequencies were then computed for workers based on their industry. (A clustering effect may have been possible as some low-wage workers, such as farmworkers, may live together in large households. In this report, we deem the number of workers in an industry living below a living wage the relevant unit of analysis, not the percentage of households.)

US Bureau of Economic Analysis data. This report utilizes US Department of Commerce, Bureau of Economic Analysis data. County and industry-level GDP data for three years (2009, 2019 and 2020) were accessed from the bureau's website. The data was analyzed for and published in the Community and Labor Center's (2022) Kern High Road Training Partnership landscape analysis, "The Future of the State." This

report re-publishes findings from that analysis, as well as cites a recent report from the bureau's website estimating figures for 2022 GDP and 2021-2022 change in GDP.

Bureau of Labor Statistics data. The US Department of Labor, Bureau of Labor Statistics publishes, on an annual basis, data from the Survey of Occupational Injuries and Illnesses. This report utilizes data from the bureau's California data on Nonfatal occupational injuries and illnesses data by industry (SOII). The California SOII present industry-level data on "Highest rates for cases with days away from work, restricted work activity, or job transfer" (US Bureau of Labor Statistics 2023). We sorted the industry rates to examine those with the highest rates of non-fatal injuries that required someone to not do regularly performed work.

California Department of Public Health (CDPH), California Comprehensive Death File (CCDH). CDPH-CCDH data consist of all state-recorded deaths, from death certificates (which have data on primary industry and occupation of the decedent). The data are available by request from the public, and subject to Institutional Review Board approval from the state's IRB administrator (CPHS). In 2021, the UC Merced Community and Labor Center requested, received, and analyzed CDPH-CCDH data for years 2019 and 2020. The center tabulated county and industry-level rates of death before and after the pandemic, to examine pandemic-era increases in death, and published findings in fact sheets (in print and online). This report utilizes the pre-pandemic tabulations, together with ACS estimates of the number of workers in each California industry aged 56-65, to arrive at mortality estimates for California workers aged 56-65 by industry (in 2019).

Community-engaged research. Lastly, this report also draws from two major UC Merced Community and Labor Center surveys. One was conducted as part of the Kern High Road Training Partnership (H RTP) project in 2022, and another was conducted with the Dolores Huerta Foundation (DHF) in 2023 (described in Appendix B). The UC Merced Community and Labor Center, together with the Kern-Inyo-Mono Central Labor Council, designed and conducted the Kern Community Needs Assessment survey, asking about adult (age eighteen and over) Kern residents' views on jobs, the environment, and policymaking. The Community and Labor Center conducted an all-day survey method training to KIM-CLC staff. The survey then drew from a Political Data Intelligence (PDI) phone list of all Kern County residents, utilizing random digit dialing to collect a representative sample of 813 surveys. The survey was conducted in two languages, English (90%) and Spanish (10%), from July 12, 2022, through September 7, 2022.

Note: some of this data mentioned above was utilized in previous Community and Labor Center publications. In such cases, either the same data has been used (republished in this report), or it references existing publications.

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Mission Statement

The UC Merced Community and Labor Center conducts research and education on issues of community, labor and the environment, in the San Joaquin Valley and beyond.