SIERRA SAN JOAQUIN JOBS

A Summary of Residential Energy Burdens

IN THE S2J2 REGION

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INTRODUCTION

The Sierra San Joaquin Jobs region (Fresno, Kings, Madera, and Tulare Counties), representing just 15% of the state's land mass, is expected to host more than 25% of the state's clean energy generation by 2040.[i] Massive utility-scale solar and other clean energy projects are in development throughout the region, already beginning to alter its physical and economic landscape. Yet residents of this region – which includes many of the state's highest socioeconomically and environmentally burdened communities[ii] – experience disproportionately high energy-related burdens, including cost and energy reliability issues.

The S2J2 region, which represents 15% of California's land mass, is expected to host >25% of the state's clean energy generation by 2040.

A central goal of the S2J2 Regional Plan is to **ensure that local residents meaningfully benefit from clean energy generation projects in their region**. Currently, community conversations are taking place across the region to explore potential benefits from clean energy projects, including possible measures to reduce energy-related burdens, among many others.

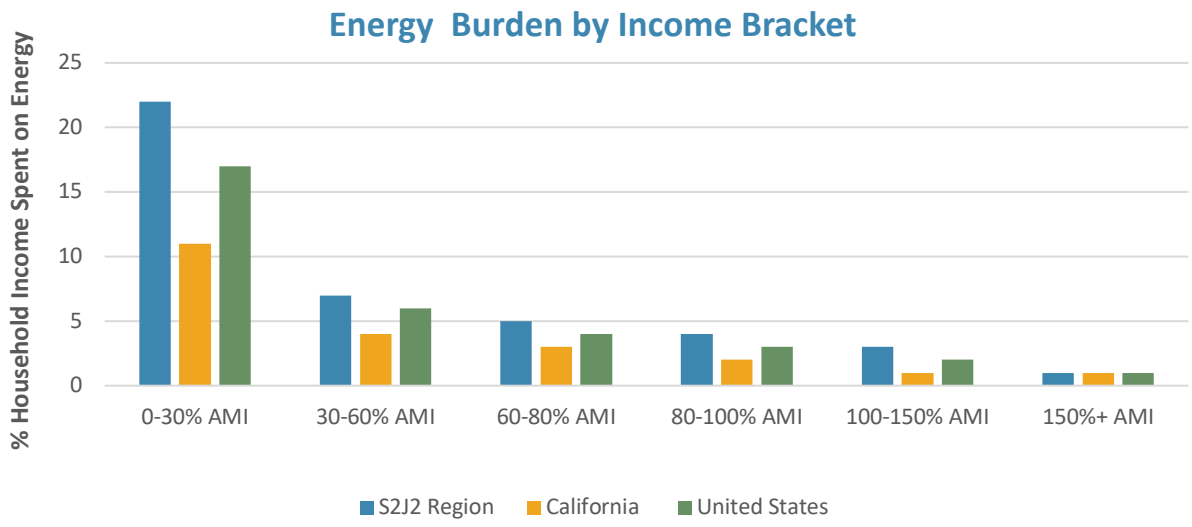
This brief summarizes some of the **existing knowledge about the region's residential energy burdens and needs and offers high-level solutions for further exploration**, drawing from a range of data sources, from the federal Census to "boots on the ground" records of local resident voices. While not comprehensive, the goal of this brief is to inform ongoing community conversations by spotlighting one area of need that could be addressed through community benefits from clean energy projects, recognizing that there are many diverse community priorities that have been and will continue to be expressed by residents.

HOUSEHOLD ENERGY BURDENS IN THE S2J2 REGION

Household Energy Costs

Household energy burden is defined as gross household income spent on energy costs. Nationally, a household at six percent or greater is considered highly-burdened. The national average energy burden for low-income households (0–80% AMI) is six percent – three times the roughly two percent for higher-income households. **In the S2J2 Region, residents in all but the highest income bracket have higher energy burdens than both California and the U.S. as a whole.**[iii]

The S2J2 region has higher average energy cost burden compared to the rest of the state and nation.

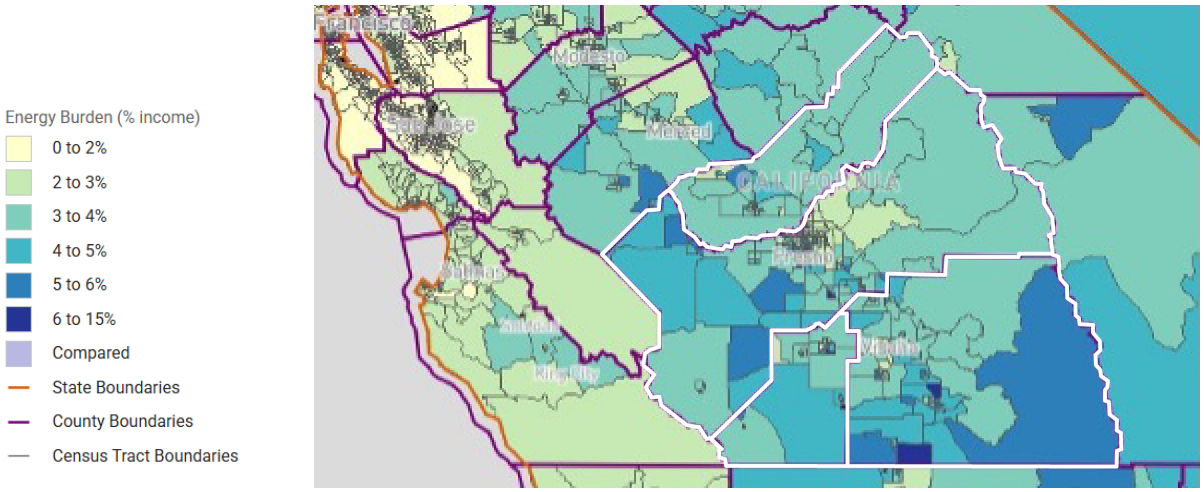


On average, the lowest income households in the S2J2 region have more than double the energy burden of similar households

Energy burden is highest for the most economically-vulnerable residents of the region. On average, **the lowest-income households in the S2J2 Region (0-30% AMI) pay between 21% (Fresno County) and 29% (Kings County) of total household income on home energy costs** – more than double the energy burden of similar households statewide. Of the 72,722 recorded households regionally within that lowest income bracket, the average household earns $10,518 and spends $2,339 on home energy costs annually.[iv]

Geographically, energy burdens in the S2J2 Region are concentrated primarily in Census tracts in the western and southern portions of the region, with the exception of a relatively high burden in the western mountainous area of Tulare County.

As these figures rely partly on voluntarily reported U.S. Census data, we must also consider that immigration status and other factors are likely to under-represent actual counts of very low income residents.



S2J2 Region: Energy Burdens by Census Tract

Ground-truthing the above Census-derived data, a door-to-door survey conducted by the UC Merced Community and Labor Center in collaboration with the Dolores Huerta Foundation in 2023-2024 encompassed much of the S2J2 region, including portions of Fresno, Kings, and Tulare counties – as well as portions of Kern County, which is not part of the designated S2J2 region. It found that of 1,673 participating renter households, average rent was $998 per month ($10,788 annually) and median utility cost was an additional $400 per month ($4,800 annually). Further, **62% of participating renter households were paying more than 30% of their total estimated household income on combined utilities and rent.** Eighty-nine percent of all survey respondents (nearly 4,000 in total) ranked "cost of utilities" as either "extremely important" or "very important" for government to address within the next two years.[v]

89% ranked "cost of utilities" as "extremely" or "very" important for government to address.

Energy utilities serving the S2J2 region have seen residential energy rates increase by 69-101% over the past decade.

Meanwhile, **household energy costs are rising faster than inflation.** A 2026 report from the California Public Utilities Commission's Public Advocates Office found that statewide, energy bills are generally increasing year over year; that "low-income households are most disproportionately impacted from higher rates;" and that nearly one in five households is behind on their energy bill. The report cites **two primary reasons for households' increasing energy costs: Rising energy rates and increasing household energy use.**[vi]

Rising Energy Rates

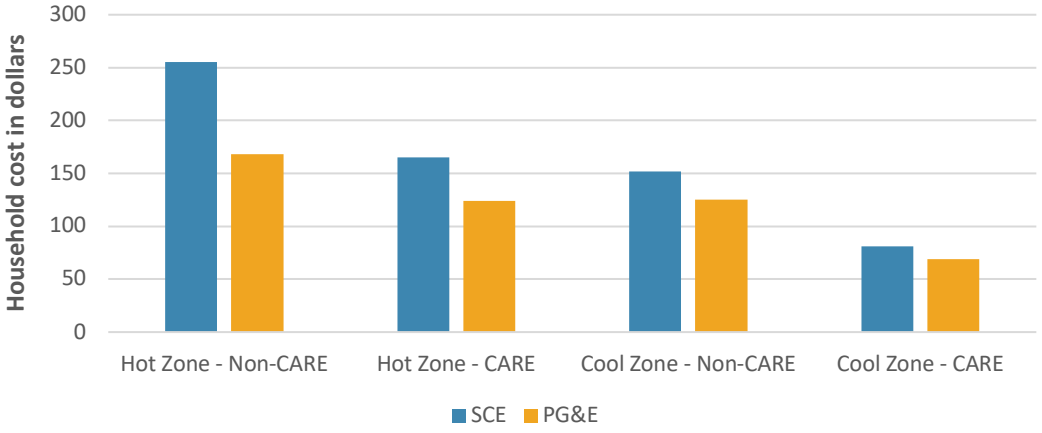
The S2J2 region's two primary electric utilities, PG&E and Southern California Edison, have both seen residential electricity rates increase in the past decade, by 69% and 101%, respectively, across their entire territories. These increases are driven primarily by wildfire mitigation costs, costs of needed infrastructure upgrades, and rooftop solar incentives.[vii]

Increasing Household Energy Use

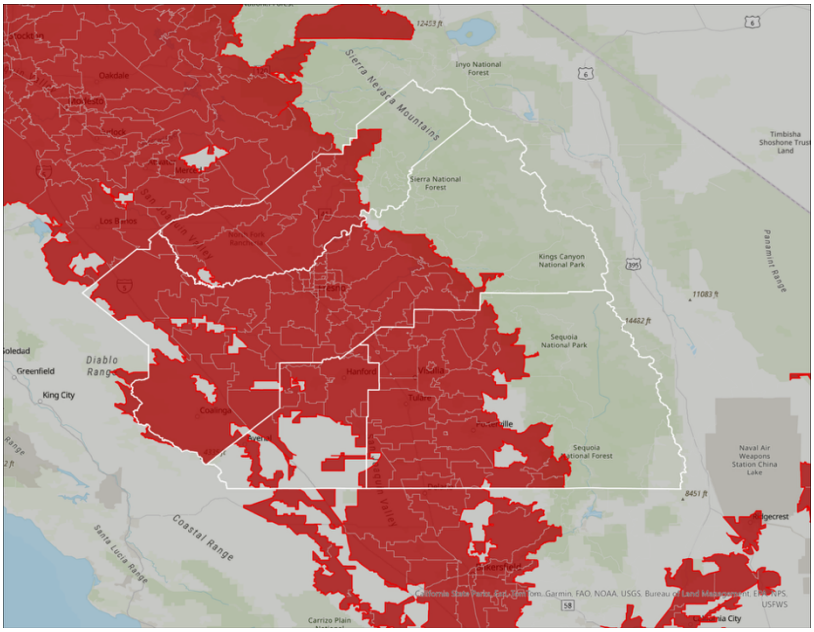
Additionally, a warming climate necessitates more cooling and air conditioning for an increasing number of days each year. Both S2J2 region-serving utilities report **significantly higher electricity bills for customers in "hot climate zones" – which encompass much of the western and southern portions of the S2J2 region that also suffer from the highest energy burdens** (see above). Extreme heat also has the effect of lost work hours for many hourly employees, which only increases the overall burden of increased energy costs. The UC Merced survey found that 24% of participating households with paid workers had experienced employment interruption in the past year due to extreme heat, including in industries requiring outdoor work such as agriculture and construction.

Areas of the S2J2 region that are most energy burdened are also utility "hot zones" where electricity bills run higher.

Hot Zone vs. Cool Zone Average Electricity Bills January, 2026



CARE customers are those households with incomes at or below 200% of the Federal Poverty Level and enrolled in the California Alternate Rates for Energy (CARE) program, which provides them a 30-35% discount on their energy bills. With exemptions from certain costs and implementation of the Base Services Charge, CARE customers will see total discounts of approximately 40%.



The majority of the four-county S2J2 region is considered a hot zone.

Outages are more common in rural areas where cooling centers and health care facilities may be farther away.

Extreme heat increases costs by requiring more energy use for cooling, while also causing income loss from heat-related work disruptions.

Energy Reliability

Another energy-related burden for S2J2 regional residents is energy reliability. The aforementioned U.C. Merced survey found that **67% of respondents experienced an outage or power disruption once or twice in the past year,** with four percent – about 160 households – reporting power outages monthly. A total of 19 respondents (<1%) reported daily or weekly outages over the past year. Rural residents reported more outages than residents of urban areas. While the issue of reliability appears to impact a proportionally small number of households on a monthly or greater basis, those impacts can be severe during hot months when electric-powered cooling is critical for vulnerable populations, especially in rural areas where cooling centers and health care facilities are farther away from homes.

CONCLUSION

The S2J2 Region is poised to become a clean energy generation hub that will power the future prosperity of California for decades to come while providing significant contributions to the State's clean energy and climate goals. At the same time, the region suffers from some of the highest concentrations of poverty, environmental burdens, and health impacts statewide.[viii] **The above findings across multiple data sources underscore the region's disproportionate energy-related burdens.**

The scale of investment in solar and other forms of clean energy being deployed in the S2J2 Region presents an opportunity for a proportionally meaningful scale of investment in local communities. One way that communities could benefit from the region's transition to a clean energy economy is through investments that reduce household energy burdens, particularly for residents in lower income brackets, while creating other benefits for the S2J2 region.

Solutions to address household energy burdens must be tailored according to each community's own stated priorities. Some potential actionable solutions include:

- **Provide deeper energy bill discounts to account for household energy burden**. The CPUC's California Alternate Rates for Energy (CARE) and Family Electric Rate Assistance (FERA) programs offer energy bill discounts for income-qualified households, but the discounts are provided through a percentage reduction in monthly bills. The programs could be reformed and/or augmented by other funding sources to provide additional discounts based on household energy burdens in order to address significantly higher energy bills to the most energy burdened parts of the state, including the S2J2 region.
- **Expand rooftop solar in disadvantaged communities**. Rooftop solar allows homes to generate some or all of the energy they use on-site, thus reducing the amount of energy they must purchase from other sources.[ix] Augmenting funding programs to support rooftop solar for low-income communities would allow more low-income and energy burdened households to financially benefit from solar installations. For instance, the CPUC's rooftop solar programs include the Disadvantaged Communities - Single-Family Solar Homes (DAC-SASH) program, which provides no-cost rooftop solar installations to income-qualified homeowners in disadvantaged communities.
- **Create community solar and storage programs that provide direct household energy bill reductions**. Community solar and storage can address household energy burden by allowing customers to subscribe to small-scale, locally-sited solar and battery projects and receive direct energy bill reductions without installing panels on their rooftops. Over 3,600 customers in the S2J2 region are already receiving savings from the Disadvantaged Communities – Community Solar Green Tariff (DAC-CSGT) pilot program that is at capacity. Under an expanded program, low-income households that subscribe could save an estimated $250 annually compared to their current electricity bills.[x] An expanded community solar program would also spur improvements to the state's electric infrastructure to reduce transmission and distribution costs and emissions, and improve battery storage, grid resiliency, and reliability.[xi]

- **Provide no-cost energy efficiency and weatherization to lower home heating and cooling costs for low-income households**. Energy efficiency and weatherization upgrades can be costly even with incentives. Expanding access to these services through no-cost opportunities for low-income households would help to address residential energy burdens. There are many such programs supported by a combination of public and private funding sources operating throughout California that could be expanded with additional resources targeting high energy burdened households.
- **Build microgrids to support community resilience**. Microgrids can help prevent outages and improve grid resilience to extreme heat events. State programs supporting resilience microgrids in disadvantaged communities could be expanded with additional State funding and/or augmented with other funding sources to broaden their reach. For instance, the California Public Utility Commission (CPUC)'s Microgrid Incentive Program (MIP) is a $200 million fund to build clean, community resilience microgrids in vulnerable, disadvantaged, and tribal areas that support electric reliability at critical infrastructure such as hospitals, nursing homes, and schools. Funding could be stacked with other grants, such as the California Strategic Growth Council's Community Resilience Centers grant, to reach more energy burdened households.

As the S2J2 Region becomes a beacon for clean energy development and innovation, targeted strategies to reduce home energy burdens – paired with other benefits that serve the needs of local communities – can also uplift the region as a model for meaningful benefits to communities.

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[i] Sierra San Joaquin Jobs Initiative Regional Investment Plan: https://drive.google.com/file/d/1cUHSi_aSJfqr1BBJotn8F95VV1G7gI2L/view. Retrieved July, 2026.

[ii] California Office of Environmental Health Hazard Assessment: CalEnviroScreen 5.0. https://oehha.ca.gov/calenviroscreen. Retrieved July, 2026.

[iii] US Dept. of Energy LEAD tool: https://www.energy.gov/cmei/scep/slsc/lead-tool

Ibid

[iv] Ibid

[v] UC Merced Community and Labor Center in collaboration with the Dolores Huerta Foundation: South Central Valley Community Needs Assessment: Labor, The Environment, and Civic Action: https://clc.ucmerced.edu/sites/g/files/ufvvjh626/f/page/documents/south_central_valley_cna.pdf. Retrieved July, 2026.

[vi] California Public Utilities Commission Public Advocates Office: Q1 2026 Electric Rates Report. https://www.publicadvocates.cpuc.ca.gov/-/media/cal-advocates-website/files/press-room/reports-and-analyses/260430-public-advocates-office-q1-2026-electric-rates-report.pdf. Retrieved July, 2026.

[vii] Ibid

[viii] California Office of Environmental Health Hazard Assessment: CalEnviroScreen 5.0. https://oehha.ca.gov/calenviroscreen. Retrieved July, 2026.

[ix] Berkeley Lab: New Berkeley Lab study quantifies rooftop solar's impact on energy burden across half a million households. https://emp.lbl.gov/news/new-berkeley-lab-study-quantifies-rooftop-solars-impact-energy-burden-across-half. Retrieved August, 2026.

[x] A study conducted by Aurora Energy Research for the Coalition for Community Solar Access found that a robust community solar and storage program would save California's electric system $6.5 billion over 20 years — savings shared by all ratepayers, not just subscribers. Aurora Energy Research: The value of Community Solar and Storage in CAISO. https://communitysolaraccess.org/wp-content/uploads/CCSA-Aurora-CCSA-final-report-v3.pdf. Retrieved August, 2026.

[xi] UCLA Institute of the Environment & Sustainability. "California Isn't Using Existing Tools to Make Community Solar Work, Study Finds." https://www.ioes.ucla.edu/article/california-isnt-using-existing-tools-to-make-community-solar-work-study-finds/. Retrieved August, 2026.