

State and Local Energy Policies to Combat Climate Change in the Inland Region: A Review

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Key Facts:

1. The State of California has developed various regulations and financial incentives to improve energy efficiency and promote the usage of renewable energy and alternative fuel vehicle solutions.
2. Some financial incentives are implemented by Investor-Owned Utilities (IOUs) serving the Inland Region - Southern California Edison (SCE) and Southern California Gas Company (SoCalGas).
3. Public-Owned Utilities (POUs), such as Riverside Public Utility, have developed clean energy incentives which cover a larger scope of support for customers compared to incentives provided by IOUs.

Takeaways for Practice:

1. Current policies pay attention to the energy needs and burdens on low-income individuals and families, but they cover limited program and/or incentive areas, such as solar heating.
2. The programs provided by POUs and IOUs are fragmented and focus on their own customers only.
3. Local governments need more coordination and collaboration to develop more energy policies specifically designed for the Inland Region.

Author

Shengxiao (Alex) Li

Postdoctoral Researcher,
Inland Center for Sustainable Development,
University of California Riverside
shengxil@ucr.edu

Editors

Rick Bishop

Co-Director, Inland Center for Sustainable Development,
University of California Riverside
rick.bishop@ucr.edu

Qingfang Wang

Professor in Public Policy and Co-director of Inland Center
for Sustainable Development,
University of California Riverside
Qingfang.Wang@ucr.edu



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I. Introduction

The last report published by ICSD, titled “Local Climate Change Actions in the Inland Empire Region,” indicates that transportation and energy are the two most significant components of greenhouse gas (GHG) emissions in the Inland Region. For example, according to the Climate Action Plan of the Western Riverside Council of Government (WRCOG), transportation GHG emissions contributed to 56% of GHG emissions in 2013, while residential and commercial energy contributed to another 42%.

Promoting and implementing programs that increase the use of clean energy in transportation and residential and commercial buildings can significantly reduce GHG emissions. The State of California and Investor- and Publicly-Owned Utilities (IOUs and POU) have initiated a number of policies, programs and regulations to improve energy efficiency, encourage the transition to renewable energy usage for commercial, residential, and governmental buildings and industries, and promote vehicle and transit electrification (shown in Table 1). These policies/programs include regulations and building codes, tax and rebate incentives, loans, and grants.

This policy brief reviews the current energy policies aiming to combat climate change administered at three different levels: state-level policies, policies of the Investor-Owned Utilities, such as the Southern California Gas Company (SoCal-Gas), and the local-level policies enacted by Public-Owned Utilities (POUs), such as Riverside Public Utility. It concludes with a summary of the energy policy offerings to address climate change in the Inland Region, and provides practice takeaways.

Table 1. Energy regulations and financial programs in the Inland Region

Categories	Program name	Program type	Administrator	Eligibility	Eligible areas	Function
Energy efficiency	Building Energy Code and Solar Requirement	Building code	The California Building Standards Commission	Building energy	California	Provides green building mandates statewide.
	California Appliance and Equipment Energy Efficiency Standards	Standard	State	N/A	California	Provides energy efficiency standards for 15 categories of appliances, such as DVD players and televisions

California Energy Design Assistance (CEDA)	Rebate program	State	Commercial, public, industrial, agriculture, and high-rise multifamily projects	Southern California Gas Company (SoCal-Gas®), San Diego Gas & Electric Company (SDG&E®), Pacific Gas and Electric Company (PG&E®), and Southern California Edison Company (SCE®) areas	Offers financial support to make building alterations, such as changes in space function and space occupancy to increase efficiency
Energy Efficiency Financing for Public Sector Projects	Loan program	California Energy Commission	Cities, counties, public care institutions, public hospitals, public schools and colleges, and special districts	California	Provides up to 3 million loans for energy efficiency programs for eligible organizations
Energy Efficiency Resource Standard	Standard	State	N/A	California	Requires the California Energy Commission (CEC), the California Public Utilities Commission (CPUC), and other interested parties to develop electricity demand estimations to meet the goal of going down by 10% within 10 years from 2006. The demand estimation should be updated every 3 years
Green Building Action Plan for State Facilities	Standard	State	Public buildings	California	Mandates that new government buildings should meet the "Silver" level of LEED certification. Energy purchases of governments should lower by 20% by 2018 compared to 2003.
Property-Assessed Clean Energy (PACE) financing	Loan program	State	Commercial, industrial, residential, agricultural, multifamily residential	California	The program allows property owners to borrow money to pay for energy improvements, such as streetlights, sewer systems, or underground utility lines.
Sales and Use Tax Exemption for Electric Power Generation and Storage Equipment	Tax incentives	State Treasurer's Office	Companies related to passenger electric vehicles or Level-2 electric vehicle service equipment	California	Provides sales and use tax exclusion (STE) for "qualified tangible personal property purchased for use by a qualified person to be used primarily in the generation or production, or storage and distribution, of electric power."
SCE - Multi-Family Residential Energy Efficiency Programs	Rebate program	Southern California Edison	Multifamily residential	Areas served by SCE	Provides prescriptive equipment replacements for multifamily residences at no cost
SCE - Non-Residential Energy Efficiency Programs	Rebate program	Southern California Edison	Commercial, Industrial, Federal Government, Agricultural	Areas served by SCE	Offers rebates for lighting, food service equipment, refrigeration, pumping, among other uses.

SCE - Non-Residential On-Bill Financing Program	Loan program	Southern California Edison	Government, institutional, business, and multifamily owners	Areas served by SCE	Provides 0% finance from \$5,000 to \$10,000 per service account (SA) for qualifying projects, such as Capital projects under the Strategic Energy
SCE - Residential Energy Efficiency Rebate Program	Rebate program	Southern California Edison	Single-family home owners	Palm Desert	Provides energy saving upgrading for detached single-family home owners, such as clothes washers, dishwashers, and water heaters.
SoCalGas - Custom Non-Residential Energy Efficiency Program	Rebate program	Southern California Gas Company	Commercial, Industrial, Federal Government, Agricultural	Fresno, Imperial, Kern, Kings, Los Angeles, Orange, Riverside, San Bernardino, San Luis Obispo, Santa Barbara, Tulare, Ventura	Provides non-resident users with rebates aiming to improve energy efficiency. Rebates are available for equipments like dishwasher, equipment insulation, water heaters, and boilers.
SoCalGas - Multi-Family Residential Rebate Program	Rebate program	Southern California Gas Company	Multifamily residential	Fresno, Imperial, Kern, Kings, Los Angeles, Orange, Riverside, San Bernardino, San Luis Obispo, Santa Barbara, Tulare, Ventura	Provides multifamily owners and managers with rebates for equipment such as water heaters, furnaces, and boilers, to improve energy efficiency.
SoCalGas - Residential Energy Efficiency Rebate Programs	Rebate program	Southern California Gas Company	residential units (single-family homes, multi-family apartments, or attached family units up to four)	Fresno, Imperial, Kern, Kings, Los Angeles, Orange, Riverside, San Bernardino, San Luis Obispo, Santa Barbara, Tulare, Ventura	It provides cash rebates for energy-efficiency upgrades.
Western Riverside Council of Governments PACE programs	Loan program	Western Riverside Council of Governments	Residential and commercial	Western Riverside County and statewide	PACE financing is allowed by state legislation and provides program and provides financing for specified home and commercial for energy improvements.
Riverside County - Sustainable Building Policy	Building code	Riverside County	Local government	Riverside county	All new local government buildings within the county since 2009 must meet the criteria for LEED Certification.
Riverside Public Utilities - Residential Energy Efficiency Rebate Program	Rebate program	Riverside Public Utilities	Residential	City of Riverside	Riverside Public Utilities offers incentives for residential customers to upgrade the efficiency of a variety of equipment within eligible homes.
Riverside Public Utilities - Commercial Energy Efficiency Rebate Program	Rebate program	Riverside Public Utilities	Commercial	City of Riverside	Riverside Public Utilities offers a wide variety of rebates to commercial customers who wish to increase the efficiency of eligible facilities, such as air conditioning, energy management system, and refrigerator.

Renewable energy policies	California Solar Initiative - Solar Thermal Program	Rebate program	Southern California Edison, Southern California Gas Company	Commercial, industrial, local government, nonprofit, residential, schools, state government, federal government, multi-family residential	Areas served by SCE and SoCalGas	Provides rebates for solar water heating systems, including \$25 million reserved for low-income incentives.
	California Solar Initiative - Low-Income Solar Water Heating Rebate Program	Rebate program	Southern California Edison, Southern California Gas Company	Single-family and multi-family properties	Areas served by SCE and SoCalGas	Provides rebates of solar heating systems for low-income single-family and multi-family owners who currently heat water by natural gas.
	California Solar Initiative - Single-Family Affordable Solar Housing (SASH) Program	Rebate program	Southern California Edison, Southern California Gas Company	Income-eligible customers with annual household income below 80% of Area Median Incomes	Areas served by SCE and SoCalGas	Provides financial incentives for installing solar technology for low-income families.
	California Solar Rights Act	Regulation	State	All public entities	California	Allows for restrictions on solar systems that do not increase the cost more than \$1,000 or decrease the efficiency by 10%.
	County Wind Ordinance Standards	Regulation	All counties	Installation of small wind systems	California	Imposes restrictions such as public notice, setback, and noise level on small wind systems installed in the jurisdictions of counties but outside urban areas.
	Enhanced Community Renewables Program	Regulation	State	Commercial, industrial, local government, nonprofit, residential, schools, federal government, agricultural, multifamily residential, low-income residential	California	Allows a customer to purchase a share of a community renewable energy project directly from a developer and receive a bill credit on their proportionate share of the system's production. There is 100 MW (1/6) carve-out for disadvantaged communities
	Net metering	Net Metering	Investor Owned Utilities	Commercial, industrial, local government, nonprofit, residential, schools, state government, federal government, agricultural, institutional	California	Provides meter credits or financial compensation for the usage of renewable energy.
	Partial Sales and Use Tax Exemption for Agricultural Solar Power Facilities	Tax incentives	California State Board of Equalization	Agricultural	California	Provides partial sales and use tax exemption levied by the state for the electricity produced by the solar system for agricultural production.

	Property Tax Exclusion for Solar Energy Systems and Solar Plus Storage System	Tax incentives	California State Board of Equalization	Commercial, industrial, residential	California	Allows for property tax exclusion for certain types of solar systems installed between 1999 and 2024.
	Self-Generation Incentive Program	Rebate program	California Public Utilities Commission	Commercial, industrial, local government, nonprofit, residential, schools, state government, federal government, institutional	Areas served by SCE and SoCalGas	Provides incentives for the customers of SCE and SoCalGas to generate electricity with self-generation sources, such as wind and fuel cells.
	Statewide Solar Permitting Standards	Regulation	State	Commercial, industrial, local government, residential	California	Limits the fees that a city, county, or a charter city can put on solar permits.
	Technology and Equipment for Clean Heating (TECH) Initiative	Rebate program	Energy Solutions	Residential, Multi-family residential	California	Provides matching funds to supplement clean heating incentives offered by California's natural gas utilities.
Electric vehicles	California Capital Access Program (CalCAP)	Loan program	State	Level-2 electric vehicle service equipment, Direct current fast charging equipment	California	Offers financing for designing, developing, purchasing, and installing electric vehicle charging stations at small business locations.
	California Electric Vehicle Infrastructure Project (CALeVIP)	Rebate program	State	Level-2 electric vehicle service equipment, Direct current fast charging equipment	California	Offers incentives for purchasing and installing electric vehicle charging infrastructure at sites throughout the state of California that are accessible to the public.
	Clean Transportation Program	Grant program	State	Medium-duty electric vehicles, Heavy-duty electric vehicles, Off-road electric vehicles, Electric transit buses, Level-2 electric vehicle service equipment, Direct current fast charging equipment	California	Provides grants to fund the development of conveniently located fueling and charging infrastructure for low- and zero-emission vehicles and advancement and adoption of alternative fuel and advanced technology vehicles.
	Clean Vehicle Rebate Project (CVRP)	Rebate program	State	Passenger electric vehicles, Plug-in electric hybrid vehicles	California	Provides \$1,000 rebates for plug-in electric hybrid vehicles, and \$2,000-\$4,000 for passenger electric vehicles.
	Hybrid and Zero-Emission Truck and Bus Voucher Incentive Project (HVIP)	Rebate program	California Air Resources Board	Medium-duty electric vehicles, Heavy-duty electric vehicles, Electric transit buses	California	Provides vouchers between \$2,000 and \$315,000 on a first-come, first-served basis to eligible fleets to reduce the incremental cost of purchasing qualified electric trucks and buses

	Plug-In Electric Drive Vehicle Tax Credit	Tax incentives	Internal Revenue Service	Passenger electric vehicles, Plug-in electric hybrid vehicles	Federal	The federal government provides a tax credit for the purchase of a new all-electric or plug-in hybrid electric vehicle.
	SCE - Charge Ready 2	Rebate program	Southern California Edison	Level-2 electric vehicle service equipment	Areas served by SCE	Provides up to \$3,500 per port for the installation of customer-side make-ready electrical infrastructure work and EV charging equipment that exceeds the CALGreen building code.
	Zero-Emission Transit Buses	Tax incentives	State	Electric transit buses	California	Zero-emission transit buses are exempt from state sales and use taxes when sold to public agencies eligible for the Low Emission Truck and Bus Purchase Vouchers.

Sources: Collected from Database of State Incentives for Renewables & Efficiency® <https://www.dsireusa.org/>

II. State Energy Policies

California is regarded as a national leader in clean energy transformation and has developed various regulations and incentive programs, such as rebate programs and tax incentives, that will help achieve energy goals. This section summarizes how energy policies strive to achieve three goals: increasing energy efficiency, promoting renewable energy usage, and supporting alternative fuel vehicle solutions.

1. Policies aiming to improve energy efficiency

Most state-level policies and programs for energy efficiency aim to regulate energy usage, which requires establishing specific standards for commercial products and buildings. These requirements provide mandates for counties and cities to regulate their energy use and improve energy efficiency.

In addition to the regulations, the State has also provided incentive programs and developed legislation to promote energy efficiency for residents and commercial businesses. For example, the property-Assessed Clean Energy (PACE) financing program, enabled through state legislation, provides financing for property owners for specific certified energy improvements and upgrades to their homes and businesses. The California Energy Design Assistance (CEDA) is a rebate program for residents and assists residents statewide with designs in homes that can increase energy efficiency. The CEDA program is eligible for customers of Investor-Owned Utilities (IOUs). Another incentive program, the Energy Efficiency Financing for Public Sector Projects, provides loans to finance equipment updates to increase energy efficiency for public sectors, including but not limited to schools, governments, and non-profit agencies.

2. Policies aiming to increase the usage of renewable energy

Policies related to renewable energy are primarily financial incentives. These policies mainly focus on the promotion of solar systems for residents, businesses, and public sectors, with an emphasis on solar heating systems. These programs provide support for residents, including low-income households, to update their heating systems. They also provide support to help industries and commercial users increase the usage of renewable energy. For example, the California Solar Initiative provides residents statewide with rebates for solar heating system updates and allocates financial support for low-income households and single-family homeowners and renters to update their solar heating systems. The Technology and Equipment for Clean Heating (TECH) Initiative supplements the clean energy transformation the California natural

gas utilities offer.

The State also provides funding to help certain industries transition towards greener production. For example, the State provides tax exemptions for sales and use tax of solar power facilities for the agricultural industry and helps increase the usage of renewable energy in agriculture.

Supplementary to existing incentive programs, the State has developed several regulations to reduce obstacles to expanding the usage of renewable energy. For example, the California Solar Rights Act regulates the pricing of solar systems and ensures that the cost of installing the solar system will not exceed the market costs. Another regulation, the Enhanced Community Renewables Program, provides bill credits for customers who purchase renewable energy from the developers.

3. Policies supporting alternative fuel vehicle solutions

Table 1 lists financial strategies to promote alternative fuel vehicle solutions, primarily vehicle electrification. These programs fall generally into two categories: the first being a financial program which focuses on infrastructure development, mainly fueling and charging stations accessible to the public. Two financial programs, the Capital Access Program and the Clean Transportation Program, for example, provide loans and grants respectively for vehicle electrification infrastructure development. A second type of financial program focuses on providing rebates or tax credits to support all types of vehicle electrification ranging from private vehicles to buses. In addition to the federal Plug-In Electric Drive Vehicle Tax Credit, the State of California also has various supplementary rebate and tax incentives to accelerate vehicle and transit electrification. For example, the Clean Vehicle Rebate Project (CVRP) provides rebates for electric vehicles ranging from \$1,000 to \$4,000 depending on the vehicle type.

III. Local programs administered by IOUs and POU

Local-level programs are mainly administered by IOUs and POU. IOUs are publicly or privately owned for-profit corporations regulated by the California Public Utilities Commission (CPUC). In the Inland Region, the two major IOUs include Southern California Edison (SCE)¹ and SoCalGas. POU also have developed energy policies to supplement state and IOU actions. POU are managed by local elected officials and comply with laws that the California Energy Commission (CEC) has set. Unlike IOUs, POU, because they are municipally-owned and operated, have more flexibility in supporting local agendas. POU are represented by the California Municipal Utilities Association (CMUA), which advocates on behalf of their interests to relevant legislative and regulatory agencies. POU tend to have more affordable rates than IOUs, due in part because they are not-for-profit organizations.

1. Programs administered by IOUs

IOUs often serve as the actual implementing organizations for many state-level policies. For example, the California Solar Initiative is implemented through the customers of IOUs. California Energy Design Assistance (CEDA) is another example that involves the IOU customers as primary beneficiaries. In addition, programs such as the Low-Income Solar Water Heating Rebate Program provide additional support for eligible low-income customers of SCE and SoCalGas for solar heating system upgrades.

Table 1 further shows that in addition to the state-level policies, the two IOUs serving the Inland Region have developed their own programs for their customers. These programs mainly focus on equipment updates aiming to improve energy ef-

¹ Appendix 1 lists the websites of SCE's programs.

iciency. For example, SCE and SoCalGas both have multi-family and non-residential energy efficiency programs with the goal to provide equipment updates for residential and non-residential users, respectively. SCE also provides rebate support through the Charge Ready 2 program, which provides rebates up to \$3,500 for electric vehicle charging infrastructure for its customers.

2. Programs administrated by IOUs

As shown in Table 1, Riverside Public Utilities (RPU), the POU of the City of Riverside, offers rebates for home improvements to save energy through the Residential Energy Efficiency Rebate program. Compared to the same program offered by SCE and SoCalGas, rebates offered by RPU have more offerings for energy-efficient products, including Energy Star products, and equipment to cool, such as electric fans and cooling roofs.

3. Other local regulations and programs

Counties and cities in the Inland Region have also developed regulations and programs to respond to the state-level energy policies addressing climate change issues. These policies mostly consist of additional financial support or regulations to promote clean energy usage. At the county level, San Bernardino County has established regulations for solar and wind system development. Pursuant to enacted state legislation, WRCOG has implemented property assessed clean energy (PACE) programs for residential and commercial buildings. PACE programs provide financing for specified building improvements that can contribute to energy savings.

IV. Conclusions and Takeaways for Practice

This policy brief provides an overview of state- and local-level energy policies to address climate change. This brief has several critical conclusions:

- Energy regulations and financial incentives to combat climate change in California mainly focus on three areas: improving energy efficiency, promoting the usage of renewable energy, and supporting alternative fuel vehicle solutions.
- IOUs serving the Inland Region- SCE and SoCalGas - are important players in the implementation of energy incentives. They also have developed their own financial incentives to promote energy efficiency, renewable energy, and vehicle electrification.
- POUs have developed clean energy incentives which cover a larger scope of support for customers.

The findings of this brief have several takeaways for local practice. First, this brief shows the need to further advance energy support for low-income households in the region. A brief published earlier by ICSD, “The Costs of Energy Savings and Energy Burdens,” shows that the Riverside-Ontario-San Bernardino area ranked worst among the 15 most populous Metropolitan Statistical Areas in terms of the inability to pay energy bills in 2021-2022. As shown in the current study, few programs initiated by the State and IOUs include helping low-income households to get access to clean energy as a goal. These programs and initiatives mainly focus on limited functions, such as updating solar heating systems.

Second, this study shows a somewhat fragmented nature of energy financial incentives offered to Inland Region residents and businesses. SCE, SoCalGas, and RPU developed programs to improve energy efficiency for customers in their service areas. RPU provides a larger scope of incentives to support energy equipment updates for customers in the City of Riverside compared to those offered from IOUs. Future research should compare the effectiveness of IOU- and POU-administered programs and examine how to balance the goals of the cost-effectiveness of the programs and coverage of rebates for IOUs and POUs.

Finally, as the last ICSD report, “Local Climate Change Actions in the Inland Empire Region” shows, the Inland Region has more pressure to reduce GHG emissions from transportation and energy compared to the coastal areas due to its more sprawled and vehicle-dependent landscape. However, this study shows that IOUs and POUs in the Inland Region have developed a few energy financial incentives. One recent initiative that could hold promise in this regard is that local and county governments in the Inland Region have worked together and formed the Inland Regional Energy Network (I-REN). This new program aims to supplement the limitations of policies of the State, IOUs, and POUs, and promote coordination and collaboration across cities in the Inland Region in clean energy initiatives. Future research should be undertaken to understand whether energy networks like I-REN can help promote clean energy initiatives in underserved regions like the Inland Region. One of the next issue briefs from ICSD will focus on the newly-implemented I-REN in the Inland Region.

Appendix I. Program Websites of Southern California Edison

Rebates, Incentives, and Savings:

[Rebates, Incentives, & Savings Tips | Your Home | Home - SCE](#)

Small Business:

[Small Business Resources | Your Business | Home - SCE](#)

Business:

[Electric Vehicles for Business \(sce.com\)](#)

[Generating Your Own Power | Your Business | Home - SCE](#)

[Tools & Resources | Your Business | Home - SCE](#)

[Savings & Incentives | Your Business | Home - SCE](#)