Turning Energy Equity Talk into Action: Advancing Equity in California's Energy Efficiency Landscape

Ely Jacobsohn, Jessie Levine, Pamela Rittelmeyer, Gillian Weaver, California Public Utilities Commission

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Abstract

California continues to push the boundaries of energy efficiency (EE) programming and design by providing differentiated regulatory treatment to dedicated Equity programs. These programs prioritize extending EE services to Underserved, Hard-to-Reach, and Disadvantaged Communities and do not have requirements for energy savings and specific cost-benefit test thresholds like resource acquisition programs. Further, with up to thirty percent of large investor-owned utilities and community choice aggregators budgets (more for regional energy networks) carved-out for programs focusing on equity and EE industry infrastructure (Equity & Market Support) segments, the California Public Utilities Commission's commitment to executing on its Environmental and Social Justice Action Plan gains tangible form with these programs. This paper will:

- Present regulation changes – and preliminary lessons learned – on how an Equity budget carve-out for EE was created, enabling further investment in Equity and growth of the EE market;
- Share practical examples of Equity-focused programs being implemented starting in 2022; and describe how regional energy networks and investor-owned utilities' third-party contracts are ensuring Equity programs serve customers in 2024 and beyond.
- Provide concrete examples of how other states and regulatory frameworks can structure policies to prioritize Equity EE programs.

Introduction

For over two decades, the California Public Utilities Commission (CPUC), utility companies, local governments, communities, and various market actors have been working together to reduce energy consumption in homes and buildings using public purpose funds from ratepayers. Over that time, the regulatory and market environments evolved such that objectives, value streams, desired partnerships, and performance tracking for energy efficiency (EE) changed to become focused on more specific, comprehensive, and broader-reaching outcomes. This evolution necessitates more sophisticated approaches, procedures, and instruments for the

CPUC's Energy Division (ED) to oversee Portfolio Administrator (PA) achievements and to ensure reasonable expenditure of ratepayer funds.

The CPUC's role in EE is multifaceted. Its primary focus is to work with the PAs to deliver EE broadly and at reasonable expense to ratepayers. It is the PAs' responsibilities to develop, execute, administer, and assess their portfolios. The CPUC oversees all these activities through its regulatory oversight responsibilities, in addition to regular meetings and reporting, ad hoc requests when necessary, and by conducting its own evaluation studies. ED Staff respect PAs' management and responsibility over their portfolios by not providing specific direction or suggestion on how to administer a program or other offering. Instead, ED Staff provide guidance to be responsive to new market and regulatory conditions as well as to achieve performance goals, while not directly managing portfolios or programs.

Integrating Equity into the Regulatory Environment

The scale of California's transformative climate goals for decarbonization require participation by government, industry, civil society, and individuals. Government agencies can advance equity through a regulatory process by using policy to remove barriers to EE program participation that can result when relying on market-driven approaches. We want to be thoughtful of our use of the term equity throughout this paper, as it incorporates behavior, access, and systems.

The benefits to society from EE are increasingly recognized by California energy regulators. For example, several recent efforts at the CPUC and the California Energy Commission (CEC) seek to identify data and methods to include non-energy benefits into EE performance tracking.

Coordination across agencies is critical, given that the CPUC's energy regulatory authority only extends to PAs to whom they allocate ratepayer funding. Key agencies that the CPUC works closely

ESJ Action Plan 2.0 Subgoals Related to EE

Goal 2: *Increase investment in clean energy resources to benefit ESJ communities, especially to improve local air quality and public health.*

- **2.1 Enhance Outreach & Engagement**
  - 2.1.2. Improve Feedback Loop from Customers to Foster Iterative Process in Program Design: Conduct more robust outreach to specific ESJ customer segments including households, businesses, and communities to understand program interest and satisfaction. Set mechanisms into place to adjust programs on an ongoing basis based on this feedback. Ensure appropriate data and metrics are utilized that can be built into program design.
- **2.3 Move Towards Mutual Eligibility & Maximizing Impact**
  - 2.3.3 Leverage Scale of California Alternative Rates for Energy (CARE) and Energy Savings Assistance (ESA) Programs to cross-refer to other CPUC Initiatives: Regulated entities are directed to share information with customers about affordable broadband plans and other clean energy programs. Additionally, energy and water IOUs are encouraged to exchange information in order to facilitate more enrollment in low-income water assistance programs. Follow implementation and pursue additional opportunities for customer-focused coordination.
- **2.5 Continue Ongoing Investment**
  - 2.5.1 Establish Equity Segment of Program Administrators' EE Portfolios: Within EE Portfolios – Implement an Equity Segment that does not have to meet cost effectiveness criteria comprised of programs that provide energy, greenhouse gas, and non-energy benefits to HTR and underserved customers as well as disadvantaged communities, with the intention of serving households, businesses, and communities that are historically or currently marginalized.

on these issues include the California Air Resource Board, CEC, the State Water Resources Control Board, and California Workforce Development Board. Specifically, both the CEC and the CPUC take equity into account when setting policy objectives and working on statewide initiatives, such as building decarbonization. Equity considerations for both agencies are advised upon by the Disadvantaged Communities Advisory Group, known as DACAG. This advisory body, created by state law, "reviews CEC and CPUC clean energy programs and policies to ensure that disadvantaged communities, including tribal and rural communities, benefit from proposed clean energy and pollution reduction programs" (CEC 2024).

The CPUC adopted the Environmental and Social Justice (ESJ) Action Plan in February 2019. The ESJ Action Plan underpins the creation of the equity segment in the market rate EE portfolio. The initial and subsequent versions of the ESJ Action Plan serve as a guiding document, with goals and accountability measures, for the Commission's work in protecting all utility consumers and safeguarding the environment through recognizing historical inequities, including among Disadvantaged Communities, Tribal lands, and low-income households. These documents are pivotal in allowing the CPUC to take agency over equity considerations, create uniform definition to be used across the CPUC's work, and establish tangible goals related to increasing investment in clean energy resources that benefit ESJ communities, promoting career paths and economic opportunity within ESJ communities, and more.

The California EE Landscape

In this paper, we explore ways the CPUC seeks to equitably serve EE program customers. The CPUC divides delivery of EE into two high-level paths: one called *Energy Savings Assistance* (ESA) that focuses on providing basic EE improvements for residential customers who meet income qualifications. The other path we will call *market rate EE.* Market rate EE focuses on serving all potential customers, regardless of income qualification, to deliver resource, equity, and market support objectives. PAs satisfy these policy objectives by delivering or procuring EE programs in one or more of five sectors: Agriculture, Commercial, Industrial, Public, and Residential. An additional Cross-Cutting sector includes categories like marketing, finance, and workforce programs.

Income-Qualified Programs

Income specific equity considerations have been historically targeted by the ESA program. The ESA program, established in 1990, provides no-cost home weatherization services and EE measures to help low-income households conserve energy, reduce their energy costs/utility bills, and improve the health, comfort, and safety of the home. The ESA program serves single family and multifamily properties, including in-unit tenant areas, common areas, and whole building/property areas.

Table 1. ESA budgets

Portfolio Administrator		2021-2026 Approved Budget
IOU	PG&E	$928,000,000
	SCE	$431,000,000
	SoCalGas	$681,000,000
	SDG&E	$159,000,000
	Total	**$2,199,000,000**

Source: CPUC 2021b, Table 14, 313.

The ESA program is funded by all energy utility customers as part of a statutory public purpose program surcharge that appears on utility bills (Table 1).[1] Each utility administering the ESA program maintains uniqueness in service delivery but follows the same overarching rules and policies. To participate, customers must have incomes less than or equal to two hundred and fifty percent of the federal poverty guidelines (CA SB 756). While ESA is an income-verified program, customers can enroll without income verification if they participate in another public assistance program with similar criteria, such as CPUC bill discount programs, or social services like food or medical assistance.

The ESA program predates the ESJ Action Plan as well as equity considerations by several decades and represents a narrower view of what makes a customer vulnerable by tying it solely to federal poverty guidelines. The program is designed to only serve the income-qualified; however, the CPUC is collecting data on hard-to-reach (HTR), underserved, and disadvantaged community customers (definitions of these groups addressed in the next section) in the ESA program. All ESA eligible customers fall within the category of HTR. This means that they are eligible for EE through both the ESA program and market rate equity offering. The CPUC is currently assessing how to more seamlessly coordinate and/or layer funding from both ESA and market rate programs to serve eligible customers.

CALIFORNIA TAKEAWAY
In California, all customers with incomes less than or equal to 250% of the Federal Poverty Guideline are considered Hard-to-Reach or HTR. These customers are eligible for EE through the ESA program and market rate offerings.

Market Rate EE Programs

Market rate programs are delivered by investor-owned utilities (IOUs), regional energy networks (RENs), and community choice aggregators (CCAs) based on the types of programs offered and customers targeted. A primary objective for CPUC in the delivery of the programs is a thriving EE industry comprised of entities who can deliver value of all kinds to their customers. In June 2023, the CPUC approved all California PAs' business plan applications seeking authority and funds to administer portfolios of EE programs for the 2024-2027 time period.

PAs' updated budget forecasts for 2024-2027 are shown in Table 2.

Table 2. Market Rate EE budgets

Portfolio Administrator		2024-2027 Budgets
IOU	PG&E	$941,266,718
	SCE	$1,181,549,888
	SoCalGas	$615,873,145
	SDG&E	$306,263,988
REN	BayREN	$171,676,636
	I-REN	$56,951,316
	3C-REN	$71,367,490
	RuralREN (pending)	$74,200,000
	SoCalREN	$227,597,351
CCA	MCE	$76,670,990
	Total	**$3,723,417,522**

Source: PG&E 2023, SCE 2023, SoCalGas 2023, SDG&E 2023, BayREN 2023, I-REN 2023, 3C-REN 2023, MCE 2023, SoCalREN 2023.

[1] The ESA program is administered by each CPUC regulated energy utility (IOU or multi-jurisdictional utility) within their own territory.

Investor-Owned Utility Companies

The California IOUs are Pacific Gas and Electric Company (PG&E), Southern California Edison Company (SCE), Southern California Gas Company (SoCalGas), and San Diego Gas & Electric Company (SDG&E).

Demonstrating the importance of growing and maintaining a healthy market, the CPUC directed the IOUs to ensure by December 31, 2022, their EE portfolio budgets meet and maintain at least sixty percent of funding directed toward third-party programs (CPUC 2018a, Ordering Paragraph (OP) 1). The CPUC defines third-party EE programs as programs proposed, designed, implemented, and delivered by non-utility personnel under contract to a utility PA (CPUC 2018a, OP 10). Many IOUs use these procurements to encourage bidders who are certified as Diverse Business Enterprises or Small Business Enterprises, to increase their percentage of corporate spending with diverse suppliers.

Following the introduction of the EE Equity Segment in 2021 (CPUC 2021a, OP 2), IOUs began to competitively solicit third-party EE Equity Segment programs. Given that these Equity programs are not subject to the cost effectiveness Total Resource Cost (TRC)[2] requirement of 1.0, implementers can employ various tactics to increase the breadth of EE to disadvantaged, underserved, and HTR customers. As we have seen from recently solicited programs, the EE interventions include in-language marketing and outreach and supporting customers with electrification.

Regional Energy Networks

RENs are partnerships comprised of local governments, and they can include non-governmental organizations. Local governments and community-based organizations are directly connected to their constituents and have deep knowledge of their communities. In addition, RENs are positioned to engage other local governments to take actions to ensure effective coordination of EE efforts. Current RENs include: Southern California REN (SoCalREN), Bay Area REN (BayREN), Tri-County REN (3C-REN), Inland REN (I-REN). Rural REN is developing, and a new REN in San Diego was recently proposed.

One key difference between IOUs, CCAs and RENs is that RENs do not procure or sell energy. RENs were established to address aspects of the EE market that are inherently more challenging, such as serving communities of concern, executing innovative pilots, and delivering measures the IOUs do not prioritize. These offerings make typical evaluation tools like the TRC less appropriate because of the difficulty of estimating costs and benefits. Therefore, RENs are not held to cost-effectiveness requirements, which allows them to conduct outreach and holistic EE assistance programs where they are needed even if the cost

CALIFORNIA TAKEAWAY
RENs have a unique opportunity to shape the California clean energy future by filling gaps in the EE market and piloting new and innovative ideas.

[2] One way the CPUC assesses value to ratepayers of EE programs is by evaluating the benefit-cost ratio associated with the portfolio of programs in the Resource Acquisition segment. The specific ratio that is most reviewed is the TRC which compares the estimated avoided cost benefits of EE to the estimated sum of the participant and PA's costs to deliver said EE. While useful, the TRC also has limitations in that it does not represent all the costs or benefits to PAs and participants.

exceeds the estimated benefits as represented in the TRC. Evaluations of the RENs' EE programs found that they employ metrics that demonstrate their unique value (Opinion Dynamics 2023), and they provide value to traditionally overlooked and underserved populations (DNV 2024).

To keep "swim lanes" clear, RENs' EE programs fill gaps that the utilities cannot or do not intend to undertake. This includes pilot activities that can be scaled to a broader geographic area if they are successful. A primary focus of RENs is to make EE programs accessible to customers who are HTR, i.e., residents, businesses, or local governments who do not have easy access to EE or conservation programs, or generally encounter barriers to participation due to language, distance from an urban area, small business size, or lack of property ownership (CPUC 2023, Conclusion of Law 33). Insofar as supporting advancements in equity, it is extremely helpful to have a PA type that is focused on customers in that segment. To ensure the RENs are achieving the CPUC's policy objectives and providing value to ratepayers, they report on new indicators related to equity and market support as well as their own *unique value metrics* that convey specific performance achievements relevant to their portfolios.

Community Choice Aggregators

CCAs, like IOUs, procure and sell electrical energy. Signed into California law in 2002 (AB 117), Community Choice Aggregation allows local governments to purchase or generate electricity on behalf of their residents and businesses. CCAs operate as non-profits and provide an alternative to the IOUs. They prioritize clean energy, local control, innovation, and accountability.

Senate Bill 790, as amended in 2011, set forth pathways for CCAs to administer EE programs in their jurisdiction and to their customers. The simplest pathway, called "elect to administer," allows a CCA to provide EE programs only to their customers. These short-term programs tend to be small in budget and scope and expire after three years. Currently, five CCAs administer these three-year programs. The other pathway for CCAs is called "apply to administer." This approach is similar to the business plan applications and CPUC approval required of IOUs and RENs. MCE[3] is the only CCA that currently operates an apply to administer program. Through their connections to local governments, CCAs can design EE programs that focus on the needs of their communities.

Current and Evolving Regulatory Environment

In 2021, the CPUC required PAs to file business plan applications to seek authority to spend ratepayer funds in a manner consistent with objectives aligned with whole system thinking, equity, and providing adequate support to maintain a healthy business environment in which to procure and deliver EE (CPUC 2021a). This decision provided PAs with flexibility to move funding between years within a four-year cycle, as can be seen in Table 2, enabling them to respond more quickly and efficiently to market forces and performance intelligence without undue regulatory barriers. PA performance changed from being assessed based on energy

[3] MCE, formerly Marin Clean Energy, is the CCA for Marin, Contra Costa, Napa and Solano Counties, https://www.mcecleanenergy.org/

savings achievement-to measured by Total System Benefit (TSB). TSB is an aggregated monetary value representing lifetime net avoided costs of kWh, kW, therms, GHG compliance costs, and other system benefits to the grid. Because TSB is the primary metric representing energy benefits rather than first year energy savings, the PAs are more motivated to consider measures and programs that achieve longer-term savings and focus on decarbonization in their portfolios.

In 2023, the CPUC provided new authorization for business plan applications for nine out of the ten EE PAs in California: four IOUs, five RENs[4], and one CCA to manage nearly $4.3 billion in ratepayer funds to achieve a forecasted $3.5 billion in TSB[5] in addition to other unmonetized equity, workforce, and supply chain benefits over 2024-2027 (CPUC 2023, OP 5, Tables 9 & 10, 95-96). The decision authorized a new REN called Rural REN, to deliver EE benefits to underserved customers and communities in rural areas across California in four incontiguous regions[6].

The new authorization implements previous CPUC guidance to split EE portfolios into *four* segments: Resource Acquisition, Market Support, Equity, and Codes & Standards[7]. Further, as described below, it adopted objectives and indicators for the Market Support and Equity segments.

Resource Acquisition, Market Support, and Equity Portfolio Segments

CALIFORNIA TAKEAWAY
Up to 30% of portfolio budgets for IOUs and CCAs can be programs within the Equity and Market Support segments.

As described in the CPUC's ESJ Action Plan, one of the broader-reaching outcomes the CPUC seeks is greater focus on improving equity insofar as increasing access and opportunities for communities of concern[8] to: energy saving programs, workforce and business opportunities, engagement in the policy development process, and participation in the design of portfolio offerings by PAs. One way the CPUC addresses equity in its EE portfolios is by allowing a carveout of IOUs' EE portfolio budgets for programs focused specifically on improving equity, as well as growing the EE market. The CPUC's 2021 Decision allows IOUs and CCAs to budget up to thirty percent of their portfolio budget on programs within equity and market support segments (CPUC 2021a, OP 4).

Whereas in the past, the PAs' portfolios were focused on "resource" and "non-resource" programs (where the resource was energy savings), this segmentation approach acknowledged that portfolios have more than one primary purpose of achieving cost-effective energy savings;

[4] I-REN did not file a business plan application as part of this proceeding because its 2024-2027 budget was already approved in (D.) 21-11-013.
[5] PAs updated their budget forecasts to $3.7 billion and TSB forecasts to $3.9 billion in their subsequent True-Up Advice Letters. These updated budget forecasts are available in Table 2.
[6] As of May 2024, the new Rural REN has yet to begin implementation of its EE programs while it undergoes administrative structuring.
[7] The CPUC clarified existing policy to treat C&S programs distinctly from other programs in the portfolio by establishing it as a fourth segment focused on improving the EE of buildings and products through state and federal advocacy and other programs.
[8] Communities of Concern include: HTR customers, Disadvantaged Communities (DAC), and Underserved customers. Criteria for these customer segments is described in (D.) 23-06-055 (CPUC 2023).

to make EE appropriately available to all who want it, and to make sure there is a thriving EE industry from which to procure goods and services. Non-resource programs made up roughly twenty percent of portfolio budgets prior to segmentation. The CPUC decided to promote the expansion of these programs by allowing more funding than previously proposed. Although, to prevent unreasonable spending in IOU and CCA portfolios, forecasted spending on equity and market support must not exceed thirty percent[9]. The primary purposes of the segments can be briefly described as:

- **Resource Acquisition** – focused on short-term cost-effective TSB. IOU and CCA RA segments must forecast a TRC of at least 1.0 over the four-year cycle.
- **Market Support** – focused on the long-term growth of the EE market. Includes offerings to promote workforce development, market demand, technology advancement, partnerships, and access to capital.
- **Equity** – focused on increasing access and opportunities EE for HTR, DAC, and Underserved customers and communities. Can include offerings that focus on comfort, safety, indoor air quality, and more affordable utility bills. This segment is separate from the income-qualified programs and includes many factors other than income.

Applying forecasted cost-effectiveness requirements to the resource acquisition segment

Removing TRC requirements for market support and equity segments allows PAs to offer programs in those segments that generate benefits that are not currently quantified and have more flexibility to "meet customers where they are". Before segmentation, while valued by the CPUC, these types of programs were at risk of being terminated because of the negative pressure applied to portfolio cost-effectiveness. Allowing PAs to meet cost-effectiveness thresholds over a four-year period also allows them to adapt to arising market, third party, and contractual conditions.

CALIFORNIA TAKEAWAY
Programs in the Equity and Market Support segments do not need to be cost-effective.

Equity Further Defined

In adapting the EE portfolio to include a segment focused on equity, the CPUC committed to investing EE programs to HTR, underserved customers and disadvantaged communities. As defined by CPUC ESJ Action Plan 2.0, the objective of equity in the utility context is "increasing access to power, redistributing and providing additional resources, and eliminating barriers to opportunity, to empower low-income communities of color to thrive and reach full potential" (CPUC 2022, 8). More specific to EE program delivery, the new authorization established equity segment specific objectives.

[9] Each program in the portfolio must have a designated segment based on the primary purpose of that program, though it is expected that many programs will offer benefits toward more than one purpose.

Equity Segment Objective

Section 7.5 in CPUC (2023) outlines objectives for the Equity and Market Support segments[10].
For HTR, disadvantaged, and/or underserved communities:

- *Address disparities in access to EE programs;*
- *Promote resilience, health, comfort, safety, energy affordability, and/or energy savings;*
- *Reduce energy-related greenhouse gas and criteria pollutant emissions; and*
- *Provide workforce opportunities*

Equity Targeted Customers

PAs are required to design their equity segment programs to primarily benefit the customer types that fall under equity, however; customers that do not fall within those segment guidelines are not precluded from participating. To strategically design equity programs that target the appropriate customer types, the CPUC codified definitions of "hard-to-reach (HTR)," "underserved", and "disadvantaged communities" to be used by PAs in 2023. These definitions build upon guidelines from previous CPUC action, other state agencies, and environmental social justice literature to make them specific to the California EE context.

Hard-to-Reach (HTR)

HTR customers are considered those who generally do not participate in EE programs or have had a challenging time accessing these programs due to "language, income, housing type, geographic, or home ownership (split incentives) barriers" (CPUC 2018b, 42). HTR customers include All Native American tribes, and other customers that meet at least two criteria based on geography, language, business size, income, renter status, and multifamily or mobile home property type.

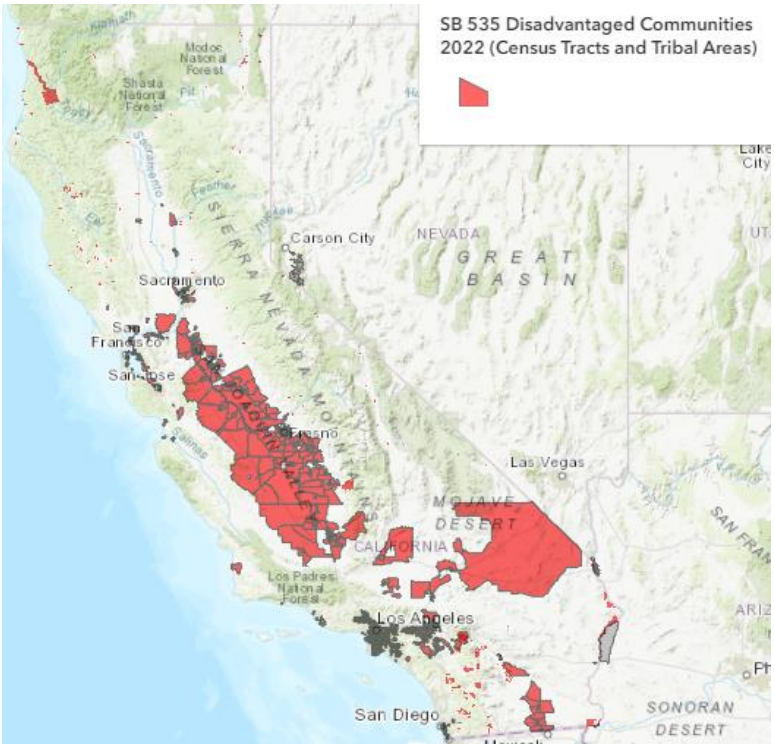
CALIFORNIA TAKEAWAY
Tribal communities are uniquely eligible for Equity EE programs, as they qualify as underserved, HTR, and DAC.

[10] For completeness, the market support objectives are provided:
Segment Objective: Supporting the long-term success of the energy efficiency market.
Sub-Objective #1: Demand: Build, enable, and maintain demand for energy efficient products and services in all sectors and industries to ensure interest in, knowledge of benefits of, or awareness of how to obtain energy efficiency products and/or services.
Sub-Objective #2: Supply: Build, enable, and maintain supply chains to increase the capability and motivation of market actors to supply energy efficient products and/or services, and to increase the ability, capability, and motivation of market actors to perform/ensure quality installations that optimize energy efficiency savings.
Sub-Objective #3: Partnerships: Build, enable, and maintain partnerships with consumers, governments, advocates, contractors, suppliers, manufacturers, community-based organizations and/or other entities to obtain delivery and/or funding efficiencies for energy efficiency products and/or services and added value for partners.
Sub-Objective #4: Innovation and Accessibility: Build, enable, and maintain innovation and accessibility in technologies, approaches, and services development to increase value, decrease costs, increase energy efficiency, and/or increase scale of and/or access to emerging or existing energy efficient products and/or services.
Sub-Objective #5: Access to Capital: Build, enable, and maintain greater, broader, and/or more equitable access to capital and program coordination to increase affordability of and investment in energy efficient projects, products, or services.

Stakeholders and some PAs raise several challenges and limitations to the scope of the HTR definition. One challenge suggested is the specific geographic criterion, which greatly limits targeting customers in urban, or high population density areas, regardless of whether these communities have other disadvantages that make participating in EE difficult. Additionally, stakeholders comment on how the language in the criteria lacks clarity in how to document and determine who must primarily speak a language other than English.

Underserved

The CPUC has grappled with the intertwined definitions of underserved and HTR for decades, and the current definitions have evolved over time. The current underserved definition classifies at the community level, rather than require criteria at the individual customer level. For the residential and public sectors for example, an underserved customer is a member of an underserved community. As adopted in 2023, meeting one type of underserved community, as defined by Pub. Util. Code Section 1601(e) is sufficient (CPUC 2023, Conclusion of Law 31). These underserved communities as defined in Code include disadvantaged communities, those with certain Area Median Income (AMI) levels (AMI is usually a higher income limit than federal poverty guidelines and is locally specific at the county level), communities where there is large participation in the National School Lunch Program, and those located on lands belonging to a federally recognized California Indian tribe.



Disadvantaged Communities

Disadvantaged Communities, as a separate category from the subcategory that falls under “Underserved”, is defined in the ESJ Action Plan as census tracts that score in the top twenty-five percent of CalEnviroScreen 3.0, along with communities that score within the highest five percent of CalEnviroScreen 3.0's Pollution Burden but do not receive an overall CalEnviroScreen score (CPUC 2022). This definition comes from the Clean Energy and Pollution Reduction Act of 2015 (also known as Senate Bill 350) and applies to California statewide. The legislation designates the California Environmental Protection Agency (CalEPA) to be the repository for the list of disadvantaged communities via the CalEnviroScreen tool, which combines different types of census tract-specific information into a score to determine which communities are the most burdened or "disadvantaged” in a GIS modeling website) (CPUC 2024).

Disadvantaged communities from this lens are those burdened by pollution and environmental injustice. The category is geographical in nature, however, these geographic boundaries often align with other socioeconomic indicators, such as income, that align with other factors that could determine a customer as HTR or underserved.

Enhancing Accountability

Together, decisions authorized in 2021 and 2023 made several changes to how the PAs administer and justify their portfolios. These changes necessitated new guidance and tools to assess performance of the portfolios collectively and individually. One of the first steps toward establishing accountability for the new segments was the California Energy Efficiency Coordinating Committee (CAEECC) establishing two working groups in 2021 – one each for Market Support and Equity – to define objectives, metrics, and indicators for the new segments (see CPUC 2023 for an explanation of metrics and indicators). While each PA proposed the consensus metrics and indicators for market support and equity in their business plan applications, the CPUC determined that a more reasonable approach was to adopt most of the metrics and indicators but adopt them only as indicators for the initial four-year cycle of 2024-2027. In total, the CPUC adopted 13 equity indicators and 25 market support indicators (CPUC 2023).

CALIFORNIA TAKEAWAY
Stakeholder working group (CAEECC) tasked with defining objectives, metrics and indicators for Equity and Market Support segments.

Additionally, the CPUC also required the PAs to:

- Propose new indicators related to Community Engagement to assess whether and how PAs connect with their communities of customers to understand and address their needs, desires, and concerns.
- Identify indicators of Non-Energy Benefits (NEBs) using a working group organized by Energy Division Staff and made up of PAs and interested stakeholders to develop recommendations for the PAs to consider in a scope of work for a study on the selected, prioritized NEB indicators to understand how they can be quantified[11].
- Propose approaches to better understand participation in EE programs by different demographic groups.

Goal Development

For the resource acquisition segment, it is helpful for the IOUs and CCAs to have goals related to TSB. Their goals are established by the CPUC using its Potential & Goals Study to understand likely potential of energy savings that can be achieved in any given year. Innovatively, the CPUC ordered the PAs to submit a process for proposing and adopting long term market support and equity goals by March 2025 for possible adoption with the next program cycle in 2028 (CPUC 2023).

[11] The NEBs working group is in progress. Thus far, they are primarily focused on NEBs that focus on participants and society, rather than those focused on the PA. It is still too early to determine around which NEBs indicators will be proposed. Final identification and prioritization by the working group is anticipated in July 2024.

Taken as a whole, the work developing progress and performance trackers during the 2024-2027 cycle will aid the CPUC in considering new accountability mechanisms in future cycles to ensure IOUs, RENs, and CCAs are serving their customers, ratepayers, and EE market reasonably and effectively.

As ED Staff engage with stakeholders through various working groups, workshops, regular and ad hoc meetings, there is strong consideration for who is and is not "in the room." While there is much room for improvement, as evidenced in the CPUC ESJ Action Plan, there is acknowledgement and desire to increase and improve the opportunities for engagement with representatives from communities of concern.

Equity Programs Deep-Dive

IOU Third Party Equity programs

IOU Third-Party Solicited Programs generally fall in the following two categories: equity electrification pilot programs, predominantly in the PG&E territory, and marketing and outreach, in SDG&E, SoCalGas and SCE territories. Program examples are provided below.

Equity Electrification Programs

In early 2023 PG&E solicited two equity EE electrification programs. These programs act on the State's goal to limit greenhouse gas emissions[12], CPUC's Decision to reduce ratepayer-funded incentives for natural gas EE measures[13] (CPUC 2023), while supporting long-term rate affordability. Other benefits include reducing emissions by leveraging the State's decarbonized electricity supply and improving air quality by reducing the combustion of fossil fuels in homes and businesses (PG&E 2022).

The first PG&E program aims to electrify equity targeted homes in the residential sector. The second program, PG&E's Zonal Electrification Pilot Program, aims to electrify low-income and disadvantaged communities in geographic zones where natural gas assets can be retired, as an alternative to a planned gas system upgrade, maintenance, or capacity project. Zones are identified using PG&E's Gas Asset Analysis Tool and CPUC's Affordability Ratio and Socioeconomic Vulnerability Index (SEVI) metrics to target program participants in geographic areas which include underserved and vulnerable communities (PG&E 2022). PG&E's two electrification programs are currently in active contract negotiations and programmatic details will be released in late 2024.

[12] California Assembly Bill (AB) 3232 (Pavley, 2016) aims to reduce GHG emissions to 40 percent below 1990 levels by 2032, and Senate Bill (SB) 100 (de Leon, 2018) establishes a target of serving Californians with 100 percent renewable and zero carbon electricity by 2045.

[13] CPUC's Decision (D.) 23-04-035 determined the circumstances under which ratepayer-funded gas EE incentives would no longer be authorized. The Decision was in response to the Sierra Club's January 13, 2022 motion requesting the CPUC to stop funding non-cost effective natural gas appliances. Per the motion, the majority of natural gas appliances that receive EE incentives are not cost effective and providing incentives for these measures lock in the emissions from those measures for years to come, which is counter to the State's climate goals.

Marketing, Outreach, and Awareness

In addition to electrification pilot programs in the PG&E territory, SCE and SDG&E recently launched third party equity EE programs that spread information, marketing and outreach to residential and commercial equity targeted customers. These programs - SDG&E's Commercial Small Business Saver Program, SCE's Commercial Simplified Savings Program and Residential Advisor Program - offer services such as energy education, bill analysis, free direct install (DI) measures, information about other EE and demand response (DR) programs, in addition to engaging and training trade ally businesses to better serve their communities. Summary information about all three recently launched Equity programs can be found below in Table 3.

Table 3. SCE and SDG&E Equity Program Forecast Summary

Forecasts	**SDG&E Small Business Saver Program**	**SCE's Residential Advisor Program**	**SCE's Simplified Savings Program**
Sector	Commercial	Residential	Commercial
Program Budget	$11,826,502	$12,277,544	$14,551,739
kWh	550,668	2,331,964	6,405,117
kW	50	387	836
Therms	157,512	N/A	268,115
TSB	$2,734,394	No TSB forecast	No TSB forecast
Expected yearly TRC	No TRC provided[14]	0.20	1.33

Source: CEDARS 2024

REN programs

Apart from the IOU administered equity programs, RENs operate equity EE programs across all sectors. RENs' EE programs are required to fill gaps in markets where IOUs or CCAs do not intend to administer programs, be scalable pilot programs where there is no other program offering, or be activities for HTR customers whether or not there is overlap with other programs (CPUC 2019). For example, BayREN's refrigerant program provides access to maintenance, retrofitting, or replacement of high greenhouse gas emitting refrigeration equipment at little to no cost for participating small and medium sized food service businesses, particularly those that otherwise would find it challenging to maintain or replace the equipment. Through this program, participants benefit from a reduction in harmful leaking refrigerants and energy bills.

Since 2023, Inland REN has partnered with CivicSpark, an AmeriCorps program focused on sustainability, equity, and community engagement, to place recent graduates with local public agencies where they gain professional experience through working directly on public sector EE activities, including, but not limited to, municipal climate action plans.

BayREN partners with a non-profit to operate a workforce education and training programs. The Green House Calls program recruits young adults from low-income and non-English speaking communities to become Energy Specialists that help residents in their

[14] Not reported as this will be an Equity program not subject to EE program cost effectiveness requirements.

communities install energy and water conservation measures at no-cost to participants. The Climate Careers program supports training for low-income youths with the skills needed to join the emerging building decarbonization workforce. Opportunity Build provided certified apprenticeships for adults, many of whom are female and/or formerly incarcerated, for union construction jobs.

SoCalREN currently administers the Architecture, Construction, Engineering Students (ACES) Pathway program, which provides resources for students to assist with reaching their higher education goals in engineering and technology, and the Green Path Careers prepares youth ages 18 and up for a career in EE at no cost to the individual. A recently approved program for SoCalREN is a Community Based Program Design Collaborative that will enable communities to design their own EE programs and implement them. The expectation of this pilot is that community-based organizations (CBOs) will work with the REN to design programs that meet the specific needs of their communities, and the CBOs can also be involved in implementation.

Noteworthy: Multifamily EE

Historically, the multifamily market has been underserved by EE programs. At the CPUC, multifamily is usually defined as a property consisting of five or more units. One reason that the multifamily market is difficult to penetrate is the split incentive problem between tenants and owners. The owner is responsible for the upfront cost of EE but will not see the full benefits if the tenants are responsible for utility bills. Additionally, renters have less agency to install EE if the property owner does not approve. These issues are faced by both the ESA and market rate sections of the EE portfolio. Low-income customers may reside in “deed restricted” housing, or housing where a certain percentage of the tenant units are set aside to income qualified residents by virtue of receiving government funding (colloquially called affordable housing). Deed-restricted properties qualify for EE investments easier and with greater incentives, and they are also able to leverage funding for other building improvements, such as solar installation, water system upgrades, and structural improvements. For properties that are not necessarily serving a vulnerable population, PAs have more work in identifying eligible equity customers and encouraging property managers to participate in EE.

The new multifamily component within the ESA program – the Multi-Family Energy Savings program - addresses in-unit tenant areas, common areas, and whole building/property areas. For deed restricted properties, if sixty five percent of tenants meet the federal poverty level (FPL) guidelines, the entire building can be treated, including both in-unit and common area measures at no cost. For non-deed restricted buildings, eighty percent of the tenants must meet the FPL income guidelines and certain measures require a financial contribution from the property manager. The common area measures are available for both deed and non-deed restricted properties, as long as a majority of the tenants meet the income guidelines. In-unit measures are available to any income qualified tenant.

For market rate EE, a complication for qualifying as HTR with the multifamily criteria is that if the location does not meet the HTR geographic criteria, the project must meet two other criteria. Given that there is a high density of multifamily properties in urban areas, specifically calling out urban as a type of geography that does not meet HTR qualities, limits the number of properties that can be served with equity segment funds.

Since ESA eligible customers are another criterion of HTR, there is potential to layer funding from both ESA and market rate EE budgets, in order to offer deeper measures with low to no cost to the property manager. How to coordinate between these programs effectively and efficiently, as well as other government funding opportunities for multifamily buildings, is an outstanding challenge to be addressed.

Conclusion

California's climate and decarbonization goals are aggressive and the funding allocated to EE programs is substantial. The CPUC acknowledges that to reach its climate goals, all who can and want to participate in programs to reduce energy consumption and their environmental footprint should have access to the tools and resources necessary to do so. While focusing on improving equity is appropriate insofar as working toward righting wrongs of the past, it is critical to get hundreds of thousands more customers to participate to meet the grid and climate challenges of today and beyond as well as maintaining a healthy EE market.

This paper demonstrates advances the CPUC is taking to improve equity in California. In many ways, the advances are the building blocks for additional efforts in the future. Many of the ideas may be appropriate for other states and jurisdictions to embrace and make their own. At the same time, the work is not complete and it's nearly certain at least one of the concepts in this paper will require adjustment down the road. Nonetheless, we must persist in trying, and also support other states exploring these topics.

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