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PACIFIC GAS AND ELECTRIC COMPANY

ENERGY EFFICIENCY 2028-2035 BUSINESS PLAN AND 2028-2031 PORTFOLIO PLAN

REVISED TESTIMONY

EXHIBIT (PG&E-1)

CHAPTERS 2, 4, AND 10

PACIFIC GAS AND ELECTRIC COMPANY
ENERGY EFFICIENCY 2028-2035 BUSINESS PLAN AND
2028-2031 PORTFOLIO PLAN
REVISED TESTIMONY
EXHIBIT (PG&E-1)

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PACIFIC GAS AND ELECTRIC COMPANY

CHAPTER 1

EXECUTIVE SUMMARY

PACIFIC GAS AND ELECTRIC COMPANY
CHAPTER 1
EXECUTIVE SUMMARY

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PACIFIC GAS AND ELECTRIC COMPANY
CHAPTER 1
EXECUTIVE SUMMARY

A. Introduction

Pacific Gas and Electric Company (PG&E) hereby respectfully submits this combined 2028-2031 Portfolio Plan and 2028-2035 Strategic Business Plan (Business Plan or Plan) to the California Public Utilities Commission (CPUC or Commission). This Plan is the result of extensive efforts by PG&E to evolve its energy efficiency (EE) portfolio to enable the transition to a decarbonized energy future, while achieving the CPUC's Total System Benefit (TSB) goals, and reflecting PG&E's commitment to innovation, affordability, reliability, and the environment.

B. PG&E's Vision

California's energy landscape is at an inflection point. Traditional EE continues to deliver reliable and valuable savings, but the needs of the electric and gas systems are rapidly changing. Building Electrification (BE) is emerging as a core statewide decarbonization strategy to meet the state of California's target of reducing Greenhouse Gas emissions by 40 percent below 1990 levels by 2030 and economy-wide carbon neutrality by 2045. PG&E's EE Portfolio is well-positioned to support this goal and other state of California goals, such as installing six million heat pumps by 2030.[1] At the same time, PG&E expects electricity demand to double by 2040, driven by growing demand for electric vehicle charging, new data centers, and electrification of homes and businesses.[2] PG&E's recently published *Electrification Impacts Study Part 2* estimates that load growth can drive improved affordability for PG&E's customers by providing a downward pressure on distribution rates by as much as 25 percent by 2040, even while requiring investment of between $23 and $31 billion in distribution grid upgrades by 2040.[3] Optimally utilizing

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1 *Letter from Governor Newsom to CARB Chair Liane Randolph,* (July 22, 2022). Available here.

2 *PG&E 2025 Corporate Sustainability Report,* PG&E, (2025), p. 2. Available here.

3 *Electrification Impacts Study Part 2 (FINAL)*, PG&E, (January 28, 2026), p. 14. Available here.

demand-side resources, while strategically scaling up BE are key strategies to reduce distribution infrastructure costs and bill impacts during this transition period.

PG&E's EE portfolio enters this transition period with a responsibility and an opportunity to do two things at once: (1) continue to consistently deliver cost-effective EE, and (2) lay the groundwork for scaled deployment of efficient, flexible electrification. For BE to succeed at scale, it must be installed correctly, operate efficiently, and integrate smoothly with evolving grid needs. The 8-year Business Plan period is key to preparing the market to support a customer-centered transition. PG&E's Portfolio Plan proposes seven new prospective program concepts to ease this transition and make progress towards the state's climate goals. These prospective programs span support for contractor readiness; pre- and post-electrification customer experience; targeted electrification in areas with underutilized electric assets; heat pump incentives to complement available state and federal funding; coordinated deployment of EE and load management measures in grid constrained areas; non-residential installer engagement to accelerate all-electric Heating, Ventilation, and Air Conditioning technology market adoption; and a market support (MS) segment add-on program to pilot innovative technologies and interventions within existing resource acquisition (RA) segment programs (see Chapter 6).

PG&E's proposed EE Portfolio Plan also uses its RA segment foundation to build toward this future. EE will continue to deliver grid benefits in the near term, while targeted MS segment activities expand the availability and effectiveness of efficient, load flexibility-enabled BE technologies. As markets mature and customer readiness increases, BE and load flexibility-enabled-technologies are likely to take on a growing share of the portfolio. Future increases in BE measures in the RA segment are likely to occur as those measures demonstrate cost-effectiveness and the ability to scale.

By the end of the 8-year strategic plan period, PG&E envisions its EE portfolio evolving into an integrated platform that better supports reliable, flexible, and affordable BE. By 2035, the market should have: customers who understand and choose efficient electrification solutions; communities that are equipped and empowered to adopt BE and complementary EE measures; a skilled installation workforce across PG&E's service area; a strong availability of

efficient, load flexibility-enabled equipment across retail and distributor channels; and a multi-distributed energy resource (multi-DER) integrated EE portfolio capable of delivering savings, reducing peak loads, and supporting long-term reliability.

To realize this vision, PG&E has established four portfolio-level goals for the 2028-2035 Business Plan period. These goals are to: (1) Optimize Delivery of TSB (2) Scale Efficient BE, (3) Enable the Energy System of Tomorrow, and (4) Facilitate Rate Affordability (see Chapter 3). These goals articulate the outcomes the EE portfolio intends to achieve and provide a coherent framework for prioritizing activities across the RA, MS, equity, and codes & standards (C&S) segments (see Chapter 6, Section C).

PG&E conducted extensive stakeholder engagement to help inform its Plan objectives and strategies. Such engagement included: discussions with local government agencies and community organizations to solicit their input on effective approaches to community engagement and adoption of technologies, with a focus on vulnerable customers and electrification; in-person and online focus groups across its service area to gain a deeper understanding of customers' awareness regarding and barriers to electrification; hosting third-party implementer feedback forums and engaged with key intervenors in the EE proceeding to collect feedback to strengthen PG&E's Plan proposals; and outreach to peer portfolio administrators across the United States to benchmark its efforts against those of other utilities, and to inform the development and refinement of portfolio strategies presented within this Plan. This stakeholder input ultimately informed PG&E's Plan across a range of topics including portfolio goals, community engagement, EE and BE barriers, approaches to support efficient electrification, new measure offerings, customer bill impacts, customer targeting, workforce development, and income-qualified program coordination (see Chapter 8).

PG&E is committed to improving rate affordability and driving downward pressure on electric rates. This Plan aims to deliver a broad range of customer and system benefits including reduced system costs, lower energy bills for participating customers, improved availability of high-efficiency products, financial incentives to offset upfront costs, and education and training for customers and contractors. PG&E is committed to continuing to deliver EE

programs in a strategic and responsible manner by prioritizing cost-effective investments, carefully managing program costs, and remaining mindful of rate and bill impacts. PG&E is also exploring the use of emerging analytical methods to better understand the complex dynamics of bill and rate impacts resulting from EE and BE investments.

PG&E also intends to enhance its existing programs by strategically evolving its behavioral-based offerings to support residential customers' increasingly complex and dynamic energy management needs, expanding its Strategic Energy Management portfolio, and better serving small-medium businesses customers through additional deemed measures and measure packages. PG&E also aims to facilitate BE and decarbonization training courses to address the customer need for information in this rapidly changing landscape (see Chapter 6, Section B).

C. Regulatory Background

PG&E prepared this Plan in compliance with Decision 21-05-031 and the Energy Division template.[4] Rulemaking (R.) 25-04-010 is the CPUC's forum for EE portfolio policy and implementation issues, including items relevant to this Plan, such as natural gas measure policy, definition of viable electric alternatives, portfolio oversight, cost-effectiveness, specific program area oversight, including integrated demand-side management policy and oversight of EE related groups such as the California Energy Efficiency Coordinating Committee.[5] In this Plan, PG&E recommends policy modifications that would support more effective portfolio oversight, promote innovation, and enhance the impact of PG&E's strategies (see Chapter 11).

The CPUC's consideration of these issues occurs against the backdrop of California's push for energy affordability, as directed by Executive Order N-5-24, and its long-term decarbonization efforts. Assembly Bill (AB) 1279[6] codifies California's commitment to achieving net-zero emissions by 2045 and

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[4] Energy Division staff released the Application template (narrative workbook templates) on September 29, 2025, with updates to the template on November 20, 2025, and February 4, 2026.

[5] R.25-04-010, *Assigned Commissioner's Scoping Memo and Ruling* issued July 23, 2025.

[6] Executive Order N-5-24. Available here; AB 1279. Available here.

establishes an 85 percent emissions reduction target from 1990 levels. The California Air Resources Board's (CARB) *2022 AB 32 Scoping Plan* provides the roadmap for meeting this statutory target and identifies BE as a central strategy.[7] CARB's draft regulatory proposals for zero-emission appliance standards are under development, but are anticipated to reduce total TSB from fuel substitution and gas measure incentives.[8] At the local level, the Bay Area Air District (BAAD) recently issued amendments requiring water heaters and furnaces to meet zero-Nitrogen Oxide emission standards, with compliance dates beginning in 2027, 2029, and 2031 depending on the size and type of equipment.[9] These rules are estimated to affect about 57 percent of PG&E's gas customers and expected to accelerate electrification.[10] In this Plan, PG&E establishes a renewed vision for its portfolio that shifts towards the future envisioned by these state of California and local policies.

D. Summary of Request

PG&E requests that the Commission approve its 8-year budget cap request for 2028-2035 of approximately $1.8 billion, which includes two 4-year portfolio cycles (2028-2031 and 2032-2035). The first 4-year portfolio cycle includes a revenue requirement of approximately $909.7 million, excluding Regional Energy Networks and Community Choice Aggregators. PG&E's request for 2028-2031 enables PG&E to achieve cumulative forecasted TSB of approximately $1.17 billion (excluding C&S) and a Total Resource Cost ratio for its RA segment of 1.89 (see Chapter 4 for additional details).

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7 *2022 Scoping Plan Update,* CARB, (December 2022). Available here.

8 *Zero-Emission Space and Water Heater Standard Public Workshop*, CARB, (December 11, 2025). Available here; *2025 Energy Efficiency Potential and Goals Study - Final*, Guidehouse Inc., (June 23, 2025), p. 81. Available here.

9 *Final Staff Report Proposed Amendments to Building Appliance Rules,* BAAD, (March 2023), Available here.

10 Rincon Consultants, on behalf of BAAD, estimated 2.6 million of the 2.96 million Bay Area households use gas water heaters (source available here). There are approximately 4.6 million natural gas customer accounts in PG&E's service area.

PACIFIC GAS AND ELECTRIC COMPANY

CHAPTER 2

PORTFOLIO SUMMARY

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CHAPTER 2
PORTFOLIO SUMMARY

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PACIFIC GAS AND ELECTRIC COMPANY
CHAPTER 2
PORTFOLIO SUMMARY

A. Introduction

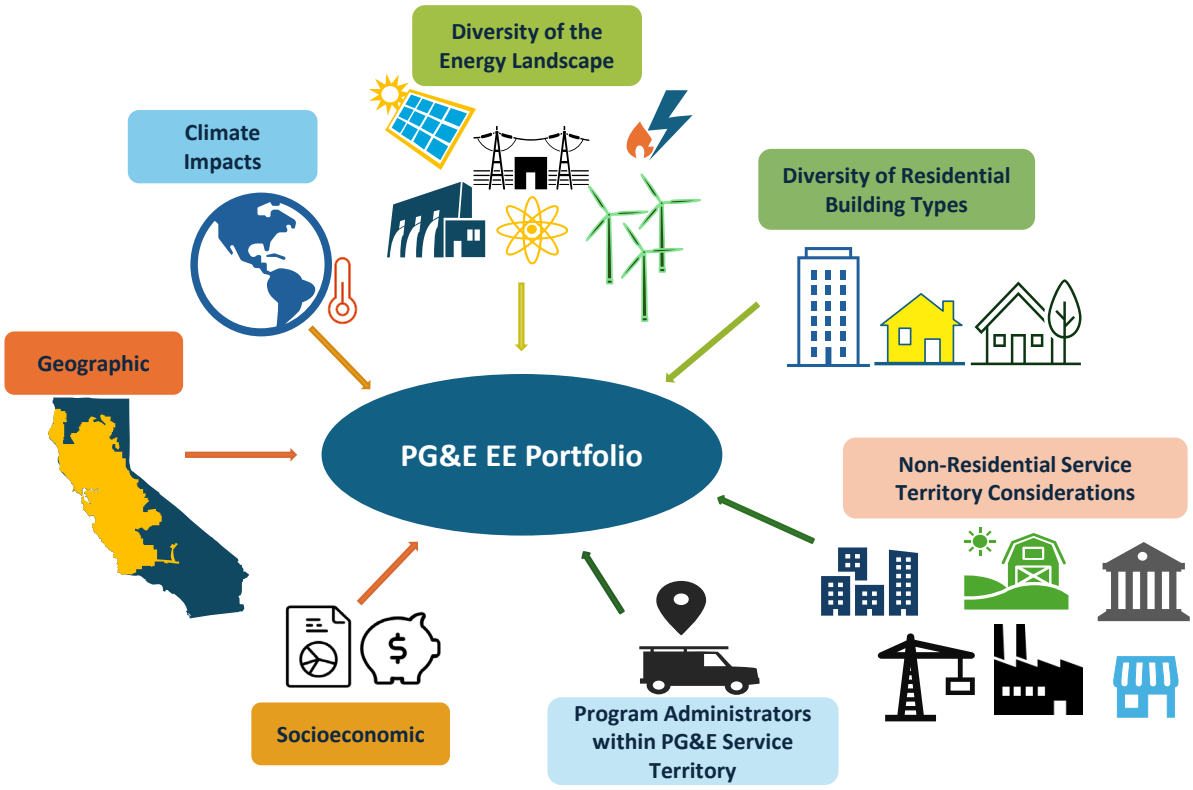
This chapter provides a summary of Pacific Gas and Electric's (PG&E) Energy Efficiency (EE) portfolio for the 2028-2035 Business Plan, including an in-depth description of PG&E's service territory, annual budget request, forecasted cost-effectiveness, and other expected performance metrics over the portfolio cycle. The chapter is organized as follows:

- Section B: Service Territory and Service Territory-Related Factors;
- Section C: Diversity of the Energy Landscape;
- Section D: Diversity of Residential Building Types;
- Section E: Non-Residential Service Territory Considerations;
- Section F: PAs within PG&E Service Territory; and
- Section G: Annual Portfolio Budgets, Forecasted Cost-Effectiveness, and Performance Metrics for 2028-2035.

B. Service Territory and Service Territory-Related Factors

The service territory factors discussed in this chapter include aspects that are unique to PG&E's service territory and present both opportunities and challenges for program delivery. These characteristics directly informed PG&E's approach to identifying and prioritizing customer groups within our service area targeted for program accessibility and participation in this application. The portfolio goals described in Chapter 3 are designed with these service territory-related factors in mind, leveraging opportunities as well as addressing the unique challenges present in PG&E's service territory. The graphic below illustrates the service territory and service territory-related factors described in this chapter.

FIGURE 2-1
PG&E SERVICE TERRITORY AND SERVICE TERRITORY-RELATED FACTORS



1. Geographic Factors

In 2024, PG&E delivered some of the cleanest energy in the nation[1] to more than 16 million customers across its 70,000 square-mile service area in Northern and Central California. PG&E has approximately 5.6 million electric customer accounts and 4.6 million natural gas customer accounts.[2] To better serve the diverse needs of its customers and communities, PG&E continues to operate its Regional Service Model consisting of five regions:

- North Coast;
- North Valley and Sierra;
- Bay Area;

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1 In 2024, 98 percent of the electricity delivered to customers who purchased their power directly from PG&E was Greenhouse Gas (GHG)-free.
PG&E 2025 Corporate Sustainability Report, PG&E, (2025), p. 4. Available at: https://www.pgecorp.com/assets/pgecorp/csr/csr_2025/assets/pge-csr-2025.pdf.

2 *Ibid*, p. 4.

- South Bay and Central Coast; and
- Central Valley.

This geographic representation enables PG&E to more effectively respond to regional customer needs, improve program accessibility, and align EE and electrification offerings with local needs. PG&E continues to focus on addressing our hometown customer needs while building a safe, reliable, climate-resilient grid at the lowest cost possible across each region. See PG&E's Regional Service Model map in Figure 2-2.

FIGURE 2-2
PG&E REGIONAL SERVICE MODEL MAP



2. Socioeconomic Factors

PG&E customers across the service area described above experience a wide range of social and economic conditions that shape their daily lives and opportunities to participate in EE programs. Many PG&E customers face socioeconomic barriers that limit their ability to invest in EE and building electrification (BE) upgrades; however, these improvements can deliver significant and immediate benefits. EE and efficient BE[3] measures can reduce energy costs, improve health and safety, increase home comfort, and enhance resilience to climate impacts. Importantly, these benefits can be greatest for customers facing socioeconomic barriers, for whom high energy burdens and housing constraints make efficiency gains especially meaningful.

Many equity customers face distinct challenges and affordability burdens for essential utility services. The California Public Utilities Commission's (CPUC or Commission) *2021/2022 Annual Affordability Report*[4] identified multiple areas of affordability concern within PG&E's service territory,[5] including select areas of the Central Valley, San Francisco Bay Area, and Northern California where low-income households experience less affordable utility service as a percentage of household income relative to the rest of the state. Households with high energy burdens spend a disproportionate amount of their income on energy, leaving less money for essentials like food, healthcare, housing, and transportation. Accordingly, it is often difficult for them to afford the up-front costs of EE investments, and they may have difficulty qualifying for financing options that help make efficiency investments affordable due to financial and other systemic barriers. Physical housing characteristics, such as the housing age, type, Heating, Ventilation, and Air Conditioning (HVAC) system,

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3 Defined in Chapter 3, Section B.2

4 The Commission's Affordability Rulemaking 18-07-006 proceeding adopted affordability metrics and the issuance of an annual report from CPUC staff to assess the affordability of utility services for communities across the state.

5 *2021/2022 Annual Affordability Report*, CPUC, (October 2023), pp. 22-26. Available at: https://www.cpuc.ca.gov/-/media/cpuc-website/divisions/energy-division/documents/affordability-proceeding/2021-2022/2021-and-2022-annual-affordability-report.pdf.

building envelope, and appliances, can also contribute to energy burden when they are not energy efficient. Language and education barriers may also limit participation in EE and BE program offerings.[6]

While equity customers and households with high energy burdens may face constraints that limit access, affordability, and participation in EE and efficient BE programs, these same factors can also create opportunities for addressing these communities. EE and efficient BE projects can deliver significant benefits in energy savings and comfort, which may help reduce energy burdens and improve quality of life. Equity-focused program offerings can accelerate participation among underserved groups while also creating job and community benefits.

Market rate customers are those who pay standard electricity rates without income-qualified bill-affordability discounts. They are typically more willing to and capable of investing in new EE and efficient BE technologies, particularly if they are single-family homeowners with full decision-making authority over EE upgrades.[7] Customers who live in newer or recently renovated homes have the added benefit that their homes may require fewer, if any, retrofits to prepare their homes for electrification upgrades. And although the prospect of installing electric vehicle (EV) chargers, solar photovoltaic (PV) systems, and electrical HVAC equipment may result in the added expense of an electrical panel upgrade, the age and structural integrity of newer homes are generally not prohibitive factors to these project opportunities. As a result, the primary barriers to participation for market rate customers tend to be informational or behavioral. Customers living in older vintage homes may also face barriers if substantial retrofit investments are required, as described later in this chapter as part of Section D.1.

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6 *Toward More Equitable Energy Efficiency Programs for Underserved Households*, ACEEE, (May 2023), pp. 7-8. Available at: https://www.aceee.org/sites/default/files/pdfs/B2301.pdf.

7 Renters often lack the authority to make major appliance upgrades without the approval of landlords. Landlords also have less incentive to invest in energy efficiency improvements if residents pay their own energy bills. This barrier is known as the split incentive challenge.

A New Lease on Energy: Guidance for Improving Rental Housing Efficiency at the Local Level, ACEEE, (August 2021), p.7. Available at: https://www.aceee.org/sites/default/files/pdfs/u2102.pdf.

3. Climate Impacts

Climate change can drive greater system stress and reliability risks as well as higher peak energy demand. PG&E's EE portfolio is designed to help mitigate and adapt to climate change impacts by deploying targeted, customer-centric solutions that meet the needs of customers and the grid and enhance overall system reliability.

PG&E's 2024 *Climate Adaptation and Vulnerability Assessment* (CAVA)[8] identifies current and projected climate hazards affecting its service territory, including rising temperatures, precipitation and flooding, sea level rise, wildfires, and drought-driven subsidence. CAVA stakeholders also expressed concern about the impacts of outages on Disadvantaged Communities (DAC).[9] Further, rural communities have been disproportionately affected by extreme weather events, and many are also located in CPUC high fire threat districts Tiers 2 and 3[10] where wildfires could physically damage or destroy power infrastructure.

These climate risks across California reinforce the importance of making timely investments in grid reliability to mitigate the impacts of extreme weather events on PG&E's customers. Awareness of climate-related hazards can also help prioritize EE and efficient BE efforts in high-risk regions. In these areas, investing in more efficient HVAC systems and insulation can help offset the challenges of living in extreme heat while also helping to speed the clean energy transition.

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8 *PG&E Climate Adaptation and Vulnerability Assessment*, PG&E, (2024). Available at: https://www.pge.com/tariffs/assets/pdf/adviceletter/GAS_4914-G.pdf.

9 The CPUC defined Disadvantaged Vulnerable Communities in the context of the CAVA as those in the 25th percentile highest scoring census tracts according to the most recent version of the *California Communities Environmental Health Screening Tool* (CalEnviroScreen 4.0), as well as all of California's tribal lands, census tracts with median household incomes less than 60 percent of the state median income, and census tracts that score in the highest 5 percent of Pollution Burden within CalEnviroScreen, but do not receive an overall CalEnviroScreen score due to unreliable public health and socioeconomic data.

10 Tier 2 consists of areas where there is an elevated risk for wildfires. Tier 3 consists of areas where there is an extreme risk for wildfires. The CPUC Fire Threat Map is available at: https://experience.arcgis.com/experience/7dfb589984a442e79b1441e791341db0 Experience .

C. Diversity of the Energy Landscape

PG&E's service territory encompasses a diverse energy landscape with wide variations in grid infrastructure, capacity, and local conditions. This diversity creates both challenges and opportunities as PG&E works to deliver energy services that meet the needs of all customers. The sections below describe the breadth of grid conditions and factors that inform PG&E's proposed EE portfolio.

1. Transmission and Distribution System Congestion

PG&E contends with transmission and distribution (T&D) system congestion conditions that vary by geographic region. Capacity constrained systems can create opportunities for targeted EE, efficient BE, and load flexibility deployment in those areas. Such efforts may help reduce or shift load, which could support more load growth and potentially enable PG&E to defer costly grid upgrades.

At the same time, grid congestion may also constrain PG&E's ability to add new load and deliver power where desired by its customer base. As described in the *Electrification Impacts Study* (EIS) *Part 2*,[11] PG&E finds that electrification growth will require investing between $23 billion and $31 billion in distribution grid upgrades over the course of 2025 through 2040. Addressing system congestion and capacity constraints will play an important role in shaping the pace and trajectory of BE goal attainment.

2. Surplus Solar Generation

Even as California's overall energy needs continue to grow, so too does the mismatch between solar generation and electric demand in some areas of the state at certain periods throughout the year. Consequently, across California, solar and wind power curtailments are increasing as the state seeks to balance energy supply and demand while maintaining a stable electric system. From 2023 to 2024, the state experienced a 29 percent increase in the amount of renewable energy curtailed across the California Independent System Operator network, with solar accounting for 93 percent

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[11] *Electrification Impacts Study Part 2 (FINAL)*, PG&E, (January 28, 2026), p. 14. Available at: https://pgera.azurewebsites.net/Regulation/ValidateDocAccess?docID=861520.

of the electricity curtailed.[12] Certain areas in PG&E's territory (e.g., Central and North Valley) routinely experience surplus solar generation that exceeds customer demand, thereby necessitating solar curtailment.

In today's evolving energy landscape, it is increasingly important to consider when energy savings occur, not just the quantity of energy savings. Periods of surplus solar generation present a system-wide load flexibility opportunity.

The growing abundance of solar generation can advance EE and decarbonization goals by pairing efficient technologies with load flexibility and strategic BE. Certain electrical equipment can be programmed to operate during periods of high renewable generation, particularly midday, turning excess solar energy into a grid-balancing resource. Customers with efficient electric equipment enabled with grid responsive capabilities can also be simultaneously enrolled in demand response programs or dynamic retail rates.[13] This load flexibility-enabled equipment represents an opportunity for PG&E to encourage shifting usage to periods of surplus solar generation while maintaining a positive customer experience, thus increasing system value by reducing curtailment and lowering procurement costs.

At the same time, EE measures that reduce evening peak demand become increasingly valuable when solar output declines. Combined with energy storage, these strategies could improve renewable energy utilization, smooth load profiles, and support more cost-effective, system-wide decarbonization.

3. Aging Gas Distribution Infrastructure

The natural gas distribution pipelines across PG&E's service territory vary in age and material, leading to different levels of vulnerability to environmental stressors such as temperature extremes, precipitation, and

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12 *Solar and wind power curtailments are increasing in California*, United States (U.S.) Energy Information Administration, (May 28, 2025). Available at: https://www.eia.gov/todayinenergy/detail.php?id=65364.

13 While EE programs might deploy load flexibility-capable equipment, the actual orchestration and load flexibility would occur outside of the EE portfolio in accordance with PG&E's load flexibility programs and their stipulations.

wildfire.[14] These conditions may affect gas pipeline performance and, in limited aspects, are considered as part of PG&E's operational risk modeling, which is used in prioritizing gas line replacement or decommissioning decisions. Targeted electrification could help reduce or potentially defer the need for reinvestments in aging gas infrastructure while supporting more integrated and cost-effective planning across both PG&E's electric and gas networks.

While targeting efficient BE efforts can potentially help PG&E defer costly gas system investments, there are also planning challenges associated with such an approach. It can be difficult to align efficient BE project timing with gas pipeline replacement planning cycles and needs. Findings from a recent California Energy Commission (CEC) study describe how the current three-to-four-year gas rate case planning timelines may not align well with the longer timelines required to plan and conduct targeted electrification and gas decommissioning projects.[15]

Project scale may also be constrained by funding sources, cost recovery, and PG&E's obligation to serve,[16] which can be challenging to reconcile with gas decommissioning efforts, especially for larger sites serving many customers. In addition, PG&E's 2027 General Rate Case (GRC) Application noted that the regulatory framework for large-scale decarbonization of the gas distribution system remains under development at the Commission. As a result, funding for substantial gas

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14 For additional detail on the condition of the gas distribution system by region see PG&E's 2024 *CAVA*.
PG&E Climate Adaptation and Vulnerability Assessment Full Report 2024, PG&E, (2024), section 3.1.2.b. Available at: https://www.pge.com/assets/pge/docs/about/corporate-responsibility-and-sustainability/CAVA-report.pdf.

15 *An Analytical Framework for Targeted Electrification and Strategic Gas Decommissioning: Identifying Potential Pilot Sites in Northern California's East Bay Region*, CEC, (June 2024), p. 30. Available at: https://www.energy.ca.gov/sites/default/files/2024-06/CEC-500-2024-073.pdf.

16 Public Utilities Code, § 451.

decommissioning projects during the 2027-2030 period was not proposed as part of the 2027 GRC Application.[17]

4. Propane

As of 2025, California has more single-family or manufactured homes using propane for space and water heating than any other state,[18] and there are more propane users in PG&E territory compared to the other utility territories.[19] Within PG&E territory, 5.7 percent of homes and 2.6 percent of commercial buildings utilize propane for primary space heating.[20] The Commission has previously stated that propane-to-electric fuel switching of customer end uses aligns with California's goals,[21] could improve indoor air quality and reduce greenhouse gas (GHG) emissions,[22] and, for low-income households, could decrease customer bills and increase overall financial health.[23] Fuel switching opportunities represent a particularly valuable opportunity for equity customers within hard-to-reach (HTR) and DAC profiles across PG&E's service area because propane is a common fuel source in rural and remote areas without gas pipelines.[24] See Chapter 11, Section C.3 for details on PG&E's proposed policy modification related to propane to electric fuel switching.

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17 *2027 General Rate Case Application of Pacific Gas and Electric Company,* PG&E, p. 13. Available at: https://docs.cpuc.ca.gov/PublishedDocs/Efile/G000/M566/K363/566363587.PDF.

18 *Lower Bills, Cleaner Air: Heat Pump Benefits for Homes Relying on Delivered Fuels*, Rocky Mountain Institute, (May 7, 2025). Available at: https://rmi.org/lower-bills-cleaner-air-heat-pump-benefits-for-homes-relying-on-delivered-fuels/.

19 *Ibid.*

20 *Propane Utilization in Buildings Across California*, TRC, (December 12, 2025), p. 24-25. Available at: https://ww2.arb.ca.gov/sites/default/files/2026-01/Research Contract 23STC009 Final Report.pdf.

21 D.19-08-009, p.11-12.

22 D.18-12-015, FOFs 7, 17, 36, p. 151-154.

23 *Ibid*.

24 *California Building Decarbonization Assessment,* CEC, (August 13, 2021), p.119. Available at: https://www.energy.ca.gov/publications/2021/california-building-decarbonization-assessment.

5. Load Growth

After decades of relatively flat demand, load growth across California is forecasted to rise by more than 40 percent by 2040,[25] driven largely by new data centers, BE, and EVs. This load growth can complicate capacity planning and increase the strategic importance of EE and efficient BE.

Over the next decade, PG&E anticipates significant load growth from new data centers within its territory. Silicon Valley serves as a localized technology hub within PG&E territory and is expected to host significant load growth. As of Q4 2025, PG&E was working on new data center projects mostly sited in Silicon Valley and the greater San Francisco Bay Area, which are expected to begin operating between 2026 and 2030.[26] This type of large, highly concentrated load growth can stress T&D capacity and may require substantial grid infrastructure upgrades, particularly due to the unique 24 hours-a-day, seven-days-a-week load profile of data centers. Accordingly, PG&E is in the process of upgrading a substation to accommodate 100 megawatts (MW) of load growth to serve new data centers in San Jose.[27]

For the residential built environment, the 2025 Energy Code (Title 24)[28] encourages all-electric new construction, along with requirements for electric-ready infrastructure in mixed-fuel new construction for future electric conversion and performance metrics that support building decarbonization. More specifically, the 2025 Energy Code specifies electric heat pump equipment for space heating and water heating in newly constructed single-family buildings and select multi-family buildings under the prescriptive approach. As described in the California Air Resources Board

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25 *Final 2024 Integrated Energy Policy Report Update*, CEC, (September 25, 2025), p. 37. Available at: https://www.energy.ca.gov/publications/2024/2024-integrated-energy-policy-report-update.

26 *Revolutionizing Data Centers: The Ultimate Power Play for Today and Tomorrow,* PG&E, (June 18, 2025). Available at: https://www.pge.com/en/newsroom/currents/future-of-energy/revolutionizing-data-centers--the-ultimate-power-play-for-today-.html.

27 *Ibid.*

28 *2025 Building Energy Efficiency Standards for Residential and Nonresidential Buildings: Title 24, Part 6, and Associated Administrative Regulations in Part 1*, CEC. Available at: https://www.energy.ca.gov/sites/default/files/2025-07/CEC-400-2025-010-F_0.pdf.

(CARB) 2022 Scoping Plan, all-electric new construction is one of the most cost-effective near-term applications for building decarbonization efforts due to the avoided costs of gas infrastructure.[29] These load growth contributors stand in addition to the air district regulations discussed in Section C.6 below.

While such new large loads required by data centers, buildings and transportation can create planning challenges due to uncertainties in their size, timing, and location, PG&E's EE portfolio is designed to help address these significant load growth needs through strategies to strengthen and prepare the energy system for current and future demands. For instance, the above-mentioned infrastructure investments in the San Jose substation upgrades to accommodate local data center load growth also present an opportunity to integrate targeted EE and efficient electrification measures in these high priority service areas. Likewise, PG&E plans to target comparable opportunities for targeted EE and efficient BE measures in other regions of high load growth, as identified by PG&E's system planning team. Additionally, PG&E intends to leverage the EE portfolio to ready the market for future deployment of load flexibility-enabled solutions to enhance customer resiliency, grid utilization, and energy system reliability. See Chapter 3, Section D.3 for more information.

6. Air District Regulations

In a commitment to reduce building-related emissions and to improve public health, California state and local air quality agencies are adopting standards for zero-nitrogen oxides (NOx) and zero-GHG emissions from space and water heating equipment in the residential and commercial building sectors. These standards are expected to accelerate the state's building decarbonization efforts beginning in 2027.

CARB initially proposed the development of zero-emission appliance standards (ZEA) for all new water heating and space heating equipment sold in the state as a measure in the *2022 State Strategy for the State*

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29 *California Air Resources Board 2022 Scoping Plan – Appendix F: Building Decarbonization,* CARB, (November 2022), p. 15-16. Available at: https://ww2.arb.ca.gov/sites/default/files/2022-11/2022-sp-appendix-f-building-decarbonization.pdf.

Implementation Plan (SIP).[30] CARB originally suggested a compliance date of 2030 for the ZEAS in the 2022 SIP Strategy, but draft concepts have also since been developed proposing staggered compliance dates that range from 2027 to 2033, depending on equipment type[31] and an updated proposal concept that would shift to emissive sales limits combined with a credit system.[32] The draft regulatory proposal remains under development and is being discussed in public workshops. As discussed in the *2025 Potential and Goals Study* (PGS), the impact of the ZEAS on Total System Benefit (TSB) performance depends on the design and implementation of the adopted regulation.[33] Regardless of the approach, the 2025 PGS identified a reduction in the total TSB from fuel substitution activities and gas measure incentives because of the ZEAS.[34]

At the local level, on March 15, 2023, the Bay Area Air Quality Management District (BAAQMD), now known as the Bay Area Air District (BAAD), issued amendments to Rules 9-4 (Nitrogen Oxides from Gas-Fired Furnaces) and Rule 9-6 (Nitrogen Oxides from Natural Gas-Fired Water Heaters).[35] The amendments require new commercial and residential space heating and water heating appliances sold, installed, and manufactured within BAAD's jurisdiction, which includes the counties of Contra Costa, Alameda, Santa Clara, San Mateo, San Francisco, Marin,

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30 *2022 State Strategy for the State Implementation Plan*, CARB, (September 22, 2022), p. 101. Available at: https://ww2.arb.ca.gov/sites/default/files/2022-08/2022_State_SIP_Strategy.pdf.

31 *Zero-Emission Space and Water Heater Standards Public Workshop*, CARB, (May 29, 2024), slide 13. Available at: https://ww2.arb.ca.gov/sites/default/files/2024-05/May_2024_Workshop_Slides.pdf.

32 *Zero-Emission Space and Water Heater Standards Public Workshop,* CARB, (December 11, 2025). Available at: https://ww2.arb.ca.gov/sites/default/files/2025-12/December_2025_Workshop_Slides_2.pdf.

33 *2025 Energy Efficiency Potential and Goals Study- Final*, Guidehouse Inc., (June 23, 2025), p. 81. Available at: https://www.cpuc.ca.gov/-/media/cpuc-website/divisions/energy-division/documents/energy-efficiency/2025-potential-goals-study/2025-group-e-potential--goals-study-final-report-20250717.pdf.

34 *Ibid.*

35 *Air District strengthens building appliance rules to reduce harmful NOx emissions, protect air quality & public health*, BAAD, (March 15, 2023). Available at: https://www.baaqmd.gov/news-and-events/page-resources/2023-news/031523-ba-rules.

Napa, and portions of Sonoma and Solano, to meet the zero-NOx emissions standards.[36] Depending on the size and type of the equipment, the compliance dates will begin in 2027, 2029, and 2031:

TABLE 2-1
BAAD AMENDMENTS TO RULE 9-4 AND 9-6 COMPLIANCE TIMELINE

Line No.	Date	Rule	Applicable Equipment
1	Jan. 1, 2027	9-6	Tank storage water heaters and boilers 75,000 British thermal unit (BTU)/hour or less
2	Jan. 1, 2029	9-4	All commercial and residential furnaces up to 175,000 BTU/hour
3	Jan. 1, 2031	9-6	All water heaters and boilers between 75,001 and 2 million BTU/hour

These rules are expected to affect approximately 58 percent of PG&E's gas customers across the nine counties.[37, 38] PG&E anticipates that the rules will further accelerate electrification adoption, resulting in additional load growth across the service territory. While this acceleration supports the state's air quality and decarbonization goals, PG&E also expects that rapid ZEAS implementation could impact claimable avoided cost benefits achievable via EE programs. As the baseline shifts from a natural gas baseline to electric equipment, appliances that may otherwise have been

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36 *Final Staff Report Proposed Amendments to Building Appliance Rules – Regulation 9, Rule 4: Nitrogen Oxide from Fan Residential Central Furnaces and Rule 6: Nitrogen Oxides Emissions from Natural Gas-Fired Boilers and Water Heaters*, BAAQMD (March 2023). Available at: https://www.baaqmd.gov/~/media/dotgov/files/rules/reg-9-rule-4-nitrogen-oxides-from-fan-type-residential-central-furnaces/2021-amendments/documents/20230307_fsr_rules0904and0906-pdf.pdf?rev=100de6caff2342e6b095b59acf2321d0.

37 An estimated 2.6 million of the 2.96 million households in the nine Bay Area counties use gas water heaters, according to a Whitepaper on BAAD Rules 9-6 and 9-4. *Market and Sales Trends for Zero-Nox Appliances*, Rincon Consultants, Inc., (September, 2024), p. 20-21. Available at: https://www.baaqmd.gov/~/media/files/community-health/building-appliance-implementation/market-and-sales-trends-for-zero-nox-appliances-clean-pdf.pdf?rev=86e5b084773c4cf0b822ea64efc9778b&sc_lang=en) and

38 There are approximately 4.5 million gas customer accounts in PG&E's territory. PG&E Company Profile Web Page. Available at: https://www.pge.com/en/about/company-information/company-profile.html).

eligible for EE incentives could yield smaller incremental savings, potentially making them less cost-effective to incentivize.[39]

D. Diversity of Residential Building Types

PG&E's service territory includes a wide spectrum of residential building types, spanning many construction eras and structural types. This diversity shapes how customers use energy and presents both challenges and opportunities for delivering equitable, effective programs. The sections below outline the range of residential building vintages and types, followed by a discussion of key considerations for non-residential buildings across the territory.

1. Building Vintage

The age and era in which a building was constructed often plays a critical role in determining its structural characteristics and EE performance. Building vintage also directly influences the feasibility and cost of electrification upgrades, as older buildings often require substantial retrofit investments to become electrification ready. According to the *California Single-Family Housing Electrification Readiness Report*,[40] 59 percent of the state's existing housing stock was built before the adoption of modern EE building codes.

Older homes built before the implementation of modern energy codes tend to be the least efficient and the most expensive to prepare for electrification. Electrical service and wiring upgrades represent the biggest barriers, though structural challenges such as a lack of ductwork in homes that were not designed for central HVAC systems also pose challenges. Additionally, older vintage homes also sometimes present challenges pertaining to non-energy remediation, such as abating hazards prior to implementing BE solutions. Newer homeowners and lower-income residents, with limited discretionary funds, are also more likely to buy older

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39 *2025 Energy Efficiency Potential and Goals Study – Final*. Guidehouse Inc., (June 23, 2025), p. 81. Available at: https://www.cpuc.ca.gov/-/media/cpuc-website/divisions/energy-division/documents/energy-efficiency/2025-potential-goals-study/2025-group-e-potential--goals-study-final-report-20250717.pdf.

40 *California Single-Family Housing Electrification Readiness*, CARB, (June 2024), p. 2. Available at: https://techcleanca.com/documents/5426/CARB_Housing_Stock_Briefing_Paper_v240619.pdf.

vintage homes, further compounding affordability challenges. While structural and infrastructure-related limitations of older homes often lead to higher project costs and longer payback periods, they also offer greater energy savings and carbon reduction potential. These homes present opportunities to bundle EE and efficient BE improvements and may qualify for higher incentive levels or targeted equity funding, which can improve the overall project economics and encourage participation.

In contrast, newer homes are typically designed with modern features and electrification-ready infrastructure, such as 100-amp electric panels or larger,[41] central HVAC systems, ductwork, and insulation. Such modern features generally facilitate more straightforward EE and efficient BE improvements with minimal upgrade requirements. Efficient appliance upgrades in these homes, such as HVAC and water heaters, may simply require the swapping of equipment and can accelerate the adoption of electric alternatives. Newer homes are also more likely to be designed for smart and flexible technologies that enable automation and load management controls to more easily integrate EE, efficient BE, and demand response (DR) for grid reliability. Despite all these advantages, newer buildings may only offer incremental energy savings potential which may make the home improvements less cost-effective. Additionally, appliance electrification and replacement may be less appealing if a newer home has recently installed natural gas appliances, such as furnaces, water heaters, and cooktops.

2. Building Type

Within the residential sector, the distinction between single-family and multi-family buildings has a significant impact on the feasibility of implementing EE and BE upgrades.

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41 The *Service Upgrades for Electrification Retrofits Study* reported that most homes built in California after 1968 have at least 100-amp service, which is usually sufficient for 2,000 square foot homes, whereas larger homes may need 200 amp or higher. This study also explains that 200 amps is now the code minimum for most homes.
Service Upgrades for Electrification Retrofits Study Final Report, NV5 Inc., (May 27, 2022), p. 17, 23. Available at: https://pda.energydataweb.com/api/view/2635/Service%20Upgrades%20for%20Electrification%20Retrofits%20Study%20FINAL.pdf.

Single-family homes typically feature individual HVAC, water heating, and electrical panels, which simplifies the process of replacing or upgrading equipment for electrification. Because homeowners directly experience the comfort and bill savings benefits of their EE and BE investments, they often have clearer motivations to act. Owner-occupied homes also benefit from decision-making autonomy, allowing upgrades to proceed without external coordination barriers. However, single-family retrofits lack economies of scale, and the combination of widely variable housing stock (as mentioned above in Section D.1) and a lack of readily available electrification information and BE-trained contractors can make adoption uneven and slower. Additionally, consumer preference for gas cooking as well as the high cost of induction cooking technology present barriers to appliance electrification in single-family homes.[42]

In contrast, multi-family buildings often have shared electrical and mechanical systems and may use centralized HVAC or water heating equipment designed to serve multiple units.[43] These shared configurations can make it difficult to measure and allocate energy savings to individual residents and could inhibit tenants' abilities to implement EE measures. While property owners of multi-metered buildings can directly benefit from whole-building EE and BE investments, they also face coordination challenges and higher upfront costs. Similar to single-family buildings, multi-family buildings also vary widely in terms of HVAC system types and building age, and they have their own unique variances related to building size, tenant incomes, financing structures, ownership structures, and other important factors that may affect EE and BE-related decision making. Nevertheless, multi-family properties can offer economies of scale, allowing

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42 *California Building Decarbonization Assessment*, CEC, (August 2021), p. 82. Available at: https://www.energy.ca.gov/publications/2021/california-building-decarbonization-assessment.

43 According to the *U.S. Building Stock Characterization Assessment*, 38 percent of heating systems and 56 percent of domestic hot water systems are centralized in the Bay Area's low-rise multifamily building stock.
U.S. Building Stock Characterization Study: A National Typology for Decarbonizing U.S. Buildings, National Laboratory of the Rockies. Available at: https://resstock.nrel.gov/page/typology.

bulk retrofits that reduce per-unit costs and improve overall cost-effectiveness.

Additionally, split incentives remain a major barrier since property owners typically pay the upgrade costs while tenants receive the utility bill savings. As a result, multi-family buildings in particular have historically been underserved by EE programs.[44] Split incentive challenges impact tenants across income levels and underscore the need for targeted incentives, financing tools, and program models that balance benefits between owners and tenants.

E. Non-Residential Service Territory Considerations

Some non-residential sectors have unique circumstances that impact their likelihood of adopting EE and electrification measures. These sectors face barriers from cost, complexity, operational risk, and specialized equipment. Still, PG&E's large industrial and agricultural sectors present an opportunity to provide high-impact offerings with large-scale savings potential.

The industrial sector is characterized by processes that are often highly specialized, which can limit opportunities for prescriptive, cost-effective EE and efficient BE solutions.[45] The industrial food processing sub-sector provides an example of differing barriers in non-residential sectors that may impact EE adoption rates. Food processing is a prolific sub-sector in California, and roughly 44 percent of the state's food processing establishments are within PG&E's service territory.[46] For these establishments, seasonal production schedules and lower overall hours of use can result in longer payback periods for EE equipment investments. While in other cases, food facilities that operate

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44 *Turning Energy Equity Talk into Action: Advancing Equity in California's Energy Efficiency Landscape,* CPUC, (2024), p. 14. Available at: https://www.aceee.org/sites/default/files/proceedings/ssb24/assets/attachments/20240722163053391_f10beabc-4fcc-4219-8ac9-68559095d5d6.pdf.

45 *Industrial/Agricultural Market Saturation Study*, Guidehouse Inc., (April 16, 2021). See Section 2.4 and 2.9. Available at: https://www.cpuc.ca.gov/-/media/cpuc-website/divisions/energy-division/documents/energy-efficiency/2021-potential-goals-study/industrial-ag-market-saturation-study-final.pdf?sc_lang=en&hash=123825958BE1A39B21ED8E4592D8F665.

46 *All Sectors: County Business Patterns, including ZIP Code Business Patterns, by Legal Form of Organization and Employment Size Class for the U.S., States, and Selected Geographies: 2022*, U.S. Census Bureau, Available at: https://data.census.gov/table?q=CBP2022.CB2200CBP.

24 hours a day, seven days a week, can be reluctant to halt production to allow for EE or BE equipment installation.[47]

Manufacturing is also a key industrial sub-sector in PG&E's territory with a significant number of manufacturing establishments in Silicon Valley. The region is known for electronics, semiconductors, and other hardware manufacturing. The portfolio has a growing opportunity to support this regional sector as it faces growth in data center infrastructure and other specialized manufacturing, while balancing grid constraints discussed in the load growth section above (Section C.5).

Because of their higher energy needs, industrial facilities also offer significant energy and emissions reduction opportunities due to the ability for small efficiency gains to yield substantial results. In 2024, the industrial sector was the largest contributor to PG&E's portfolio TSB and lifecycle GHG savings, mostly driven by the Industrial Strategic Energy Management (SEM) – Food Processing and Industrial SEM - Manufacturing Programs.[48] PG&E expects Industrial SEM programs to continue enabling a cost-effective Resource Acquisition (RA) segment.

In commercial settings, electrification also presents operational challenges, especially within the commercial food service industry, where the market is dominated by gas-fired cooking equipment.[49] Many cooks and chefs are primarily trained to use gas cooking equipment and thus strongly prefer this cooking method. To further complicate the adoption process, electric models of replacement equipment may be very limited in the marketplace and existing restaurant-level electrical infrastructure may not be large enough to handle the

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47 *Industrial/Agricultural Market Saturation Study*, Guidehouse Inc., (April 16, 2021), p. 39-40. Available at: https://www.cpuc.ca.gov/-/media/cpuc-website/divisions/energy-division/documents/energy-efficiency/2021-potential-goals-study/industrial-ag-market-saturation-study-final.pdf?sc_lang=en&hash=123825958BE1A39B21ED8E4592D8F665.

48 Industrial SEM – Food Processing, Program ID: PGE_Ind_001a; Industrial SEM – Manufacturing, Program ID: PGE_Ind-001b

49 *All-Electric Commercial Kitchen Electrical Requirement Study*, Energy Solutions, (December 21, 2022), p. 10-11. Available at: https://calnext.com/wp-content/uploads/2023/02/ET22SWE0010_All-Electric-Commercial-Kitchen-Electrical-Requirements-Study_Final-Report.pdf.

additional loads required to fully electrify a commercial kitchen, potentially requiring expensive service upgrades.[50]

PG&E's non-residential sector is also heavily comprised of agricultural operations, especially in the Central Valley, Central Cost, Sierra, and North Coast regions, where the majority of California's farmland lies.[51] PG&E's agricultural sector's highly seasonal energy use complicates year-round EE and efficient BE program participation. Many agricultural operations also have limited access to financing and low awareness of DR opportunities for water pumping,[52] which creates barriers to upfront investment in EE or efficient BE projects and perceived barriers to DR participation. Although electric alternatives have historically not been available for agricultural customers or those alternatives have not been cost-competitive, several key end uses hold high potential for electrification, such as irrigation pumps and electric tractors. These end uses may emerge as viable options in some situations.

Many public sector buildings require significant upgrades due to age before EE or efficient BE retrofits are feasible. Public agencies also commonly face limited or uncertain funding cycles, further challenging their ability to invest in EE or efficient BE technologies.[53] Within California, many public sector customers are also shifting their focus from energy reductions toward GHG emissions reductions, to meet state decarbonization targets. While these factors can present challenges to traditional EE and efficient BE program implementation, they also create opportunities. Since public agencies typically own and occupy their buildings, they can benefit from longer-term cost savings from EE and efficient BE investments. Decarbonization goals may also contribute to sustainability-oriented motivation to adopt EE and efficient BE measures and a desire to demonstrate leadership through public visibility.

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50 *Ibid.*

51 *2025 crop acreage data as of August 1, 2025*, U.S. Department of Agriculture. Available at: https://www.fsa.usda.gov/tools/informational/freedom-information-act-foia/electronic-reading-room/frequently-requested/crop-acreage-data.

52 *Ibid.*

53 *SoCalREN Electrification Research—Early Insights on Local Government Policies*, Grounded Research and Consulting, (February 14, 2021), p. 2. Available at: https://pda.energydataweb.com/api/view/3933/SoCalREN Electrification Report - 2024_0228.pdf.

F. Portfolio Administrators Within PG&E Service Territory

PG&E's service territory overlaps with multiple approved and expected to be approved Portfolio Administrators (PA), including the Bay Area Regional Energy Network (BayREN), Tri-County Regional Energy Network (3C-REN), Northern Rural Energy Network (NREN), Central California Rural Regional Energy Network (CCR REN), Marin Clean Energy (MCE), Peninsula Clean Energy (PCE), and Ava Community Energy (AVA). PG&E actively collaborates with PAs to coordinate and align offerings, and to minimize duplication, while expanding access to diverse EE and electrification opportunities. Joint Cooperation Memos (JCM) remain the formal venue for PG&E to report on coordination activities with the other PAs within PG&E's service territory. Partnerships with Regional Energy Networks (REN) present valuable opportunities to expand EE accessibility across PG&E's geographically diverse territory, particularly among rural and HTR areas, due to their locally-focused approach.

G. Annual Portfolio Budgets, Forecasted Cost-Effectiveness, and Performance Metrics for 2028-2035

PG&E requests that the Commission approve its eight-year budget cap request for 2028-2035 of approximately $1.8 billion, which includes two four-year portfolio cycles (2028-2031 and 2032-2035). This budget cap excludes budget requested on behalf of RENs and Community Choice Aggregators (CCA) approved for PA status within PG&E's territory where PG&E acts as a fiscal agent.[54] The first four-year portfolio cycle covers 2028-2031 and includes a revenue requirement of approximately $909.7 million, excluding RENs and CCAs.[55]

PG&E's 2028-2035 budget cap request supports its forecast to achieve a cumulative TSB, excluding C&S, of approximately $2.5 billion. PG&E is

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54 This request does not reflect the budget needs of RENs and CCAs. This includes the BayREN, MCE, 3C-REN, CCR REN, NREN, and PCE. PG&E includes the requested budgets of RENs and CCAs in Exhibit 1, Chapter 10, Cost Recovery.

55 *Ibid.*

forecasting to achieve a 2028-2031 cumulative Total Resource Cost (TRC) ratio for its RA segment of 1.89.[56] See Tables 2-3 and 2-5.

[56] D.21-05-031 Ordering Paragraph (OP) 5 requires cost effectiveness showings only for the first four-year program portfolio.

TABLE 2-2
4-YEAR PORTFOLIO BUDGET FORECAST SUMMARY (2028-2031)

Line No.		2028	2029	2030	2031	Total (4 years)
1	RA Segment Budget	$112,695,553	$115,010,638	$116,154,071	$115,976,647	$459,836,909
2	Market Support Segment Budget	51,247,443	50,327,394	49,063,495	49,924,271	200,562,603
3	Equity Segment Budget	17,243,642	16,744,084	16,256,371	16,311,511	66,555,608
4	Codes and Standards Budget	36,039,695	36,211,593	36,415,803	36,614,214	145,281,305
5	EM&V	9,051,097	9,095,571	9,078,739	9,117,777	36,343,184
6	ED Portfolio Oversight	285,900	285,900	285,900	285,900	1,143,600
7	Total Budget	$226,563,330	$227,675,180	$227,254,379	$228,230,319	$909,723,209

TABLE 2-3
4-YEAR PORTFOLIO FORECAST SUMMARY (2028-2031)

Line No.		2028	2029	2030	2031	RA Segment Only (Total 4-year)	Entire Portfolio (Total 4-year)
1	TSB	$1,327,124,489	$1,253,766,233	$1,269,636,926	$1,290,200,658	$1,073,544,854	$5,140,728,306
2	TRC Ratio	1.48	1.51	1.60	1.67	1.89	1.56
3	Program Administrator Cost (PAC) Ratio	5.35	4.98	5.03	5.08	2.06	5.11
4	Societal Cost Test (SCT) – Base	2.11	2.15	2.28	2.37	2.53	2.22
5	SCT – High	2.14	2.16	2.28	2.38	2.54	2.23
6	Ratepayer Impact Measure Test Ratio (RIM)	0.50	0.52	0.54	0.55	0.63	0.53
7	Lifecycle MWh	10,611,388	9,024,794	8,410,192	8,096,493	2,446,655	36,142,866
8	First Year MW	219	199	192	188	272	797
9	Lifecycle MMTHERMS	372	358	355	350	427	1435
10	Lifecycle Net Electric CO2 Metric Tons	2,164,552	1,811,118	1,701,348	1,631,112	1,231,479	7,308,130
11	Lifecycle Net Gas CO2 Metric Tons	1,976,941	1,899,707	1,883,298	1,857,955	2,267,595	7,617,902

TABLE 2-4
4-YEAR PORTFOLIO BUDGET FORECAST SUMMARY (2032-2035)

Line No.		2032	2033	2034	2035	Total (4-year)
1	RA Segment Budget	$113,654,204	$111,378,211	$109,147,738	$106,961,874	$441,142,027
2	Market Support Segment Budget	48,924,533	47,944,790	46,984,642	46,043,697	189,897,662
3	Equity Segment Budget	15,984,871	15,664,765	15,351,060	15,043,630	62,044,327
4	Codes and Standards Budget	35,881,011	35,162,472	34,458,304	33,768,220	139,270,007
5	EM&V	8,935,193	8,756,260	8,580,906	8,409,059	34,681,418
6	ED Portfolio Oversight	285,900	285,900	285,900	285,900	1,143,600
7	Total Budget	$223,665,713	$219,192,398	$214,808,550	$210,512,379	$868,179,041

TABLE 2-5
4-YEAR AND 8-YEAR TSB FORECAST (WITHOUT C&S) VS. GOALS
(THOUSANDS OF DOLLARS)

Line No.	Year	TSB Forecast	TSB Goals	Percent of TSB Goal
1	2028	$269,842	$245,982	110%
2	2029	286,547	277,205	103%
3	2030	301,882	220,970	137%
4	2031	312,429	261,360	120%
5	Total (4 years)	$1,170,699	$1,005,517	116%
6	2032	318,000	276,406	115%
7	2033	323,000	293,966	110%
8	2034	350,000	332,863	105%
9	2035	371,000	370,909	100%
10	Total (4 years)	$1,362,000	$1,274,146	107%
11	Cumulative (8 years)	$2,532,699	$2,279,663	111%

TABLE 2-6
4-YEAR AND 8-YEAR CODES AND STANDARDS FORECAST VS. GOALS

Line No.	Year	Energy Savings (gigawatt -hour (GWh))	Goal (GWh)	Percent of Goal (GWh)	Capacity Savings (MW)	Goal (MW)	Percent of MW Goal	Energy Savings (MMTherm)	Goal (MMTherm)	Percent of Goal (MMTherm)
1	2028	689	689	100%	147.4	127.0	116%	16.7	8.0	208%
2	2029	566	525	108%	127.5	103.6	123%	15.3	7.6	202%
3	2030	523	459	114%	120.4	95.5	126%	15.2	7.5	203%
4	2031	497	414	120%	116.9	90.8	129%	14.9	7.2	207%
5	Total (4 years)	2275	2086	109%	512.2	416.9	123%	62.1	30.3	205%
6	2032	409	372	110%	93.6	85.1	110%	10.7	7.1	150%
7	2033	392	357	110%	90.1	81.9	110%	10.5	7.0	150%
8	2034	308	280	110%	80.6	73.3	110%	10.2	6.8	150%
9	2035	290	263	110%	74.5	67.7	110%	10.1	6.7	150%
10	Total (4 years)	1399	1272	110%	338.8	308.0	110%	41.4	27.6	150%
11	Cumulative (8 years)	3674	3357	109%	851.0	724.9	117%	103.5	57.9	179%

TABLE 2-7
PORTFOLIO STATEWIDE AND THIRD-PARTY CONTRIBUTION PERCENTAGE REQUIREMENTS

Line No.	Time Period	Budget Component	Qualifying Budget	Cumulative Total Budget without On-Bill Financing Loan Pool and Energy Division Portfolio Oversight	Contribution Percentage	Minimum Threshold
1	2028-2031 (4-years)	Statewide (SW)[a]	$213,645,842	$908,579,609	24%	20%
2	2028-2035 (8-years)	SW[a],[c]	N/A	N/A	N/A	20%
3	2028-2031 (4-years)	Third-party[b]	$640,496,714	$908,579,609	70%	60%
4	2028-2035 (8-years)	Third-party[b],[c]	N/A	N/A	N/A	60%

(a) SW program definition per D.16-08-019, OP5.

(b) Third-party program definition per D.16-08-019, OP 10, includes SW third-party budget.

(c) PG&E forecasted 2032-2035 Values at the Sector and Segment level and did not estimate SW and Third-party percentages at the Program level.

PACIFIC GAS AND ELECTRIC COMPANY

CHAPTER 3

PORTFOLIO STRATEGIES

PACIFIC GAS AND ELECTRIC COMPANY
CHAPTER 3
PORTFOLIO STRATEGIES

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PACIFIC GAS AND ELECTRIC COMPANY
CHAPTER 3
PORTFOLIO STRATEGIES

A. Introduction

This chapter provides Pacific Gas and Electric Company's (PG&E) 2028-2035 Energy Efficiency (EE) Business Plan vision, portfolio goals, and desired outcomes, and the strategies designed to support them. It lays out PG&E's 8-year strategic plan for its EE portfolio and provides detail on its key portfolio strategies for the first 4-year Portfolio Plan period from 2028-2031. This chapter further describes each portfolio strategy, including the intent, rationale, scope, and key considerations for each. A summary table mapping the strategy prompts requested in the California Public Utilities Commission (CPUC or Commission) EE Application template[1] to PG&E's portfolio strategies is provided in Section F to support review. The chapter is organized as follows:

- Section B: Background and Vision;
- Section C: EE Portfolio Goals;
- Section D: EE Portfolio Desired Outcomes;
- Section E: EE Portfolio Strategies; and
- Section F: Portfolio Strategy Prompt Mapping.

B. Background and Vision

California's energy landscape is at an inflection point. Traditional EE continues to consistently deliver valuable savings, but the needs of the electric and gas systems are rapidly changing. Building electrification (BE) is emerging as a core statewide decarbonization strategy; at the same time, increasing electrification will place new demands on the electric system that must be thoughtfully managed to support affordability and grid reliability. Effectively utilizing demand-side resources while strategically scaling up electrification is a key strategy to reducing infrastructure costs and limiting customer bill impacts during this transition.

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1 Energy Division staff released the Application template (narrative template and workbook template) on September 29, 2025, with updates to the template on November 20, 2025, and February 4, 2026.

PG&E's EE portfolio enters this period with a responsibility and an opportunity to do two things at once:

1) Continue to consistently deliver cost-effective EE; and
2) Lay the groundwork for scaled deployment of efficient, flexible electrification.

For BE to succeed at scale, electric equipment must be installed correctly, operate efficiently, and integrate smoothly with evolving grid needs. This means that electrification technologies should be efficient and controllable, and customers should feel confident that electrification will maintain or improve comfort, deliver bill savings over time, and fit into their lives. The 8-year business plan period presents a pivotal opportunity to prepare the market to support a strategic, customer-driven transition.

PG&E's proposed EE Business Plan uses its resource acquisition (RA) segment as a foundation to build toward this future. EE will continue to drive energy savings in the near term, while targeted market-support activities expand the availability and effectiveness of efficient, flexible-ready BE technologies over time. As markets mature and customer readiness strengthens, both BE and load flexibility-enabled technologies are expected to account for a growing share of the portfolio. Future growth of BE measures are likely to occur in the RA segment as those measures demonstrate cost-effectiveness and scalability.

By the end of the eight-year strategic plan period, PG&E envisions its EE portfolio evolving into an integrated platform that better supports reliable, flexible, and affordable BE. By 2035, the market should have:

- Customers who understand and trust electrified building solutions;
- Strong availability of efficient, load flexibility-ready equipment across retail and distributor channels;
- A skilled installation workforce distributed across PG&E's service area; and
- A multi-distributed energy resource (DER) integrated EE portfolio capable of delivering savings and load flexibility, while supporting long-term reliability.

C. EE Portfolio Goals

PG&E proposes an EE portfolio plan positioned to actively support customer and grid needs, as well as state policy priorities within a dynamic environment of evolving energy system conditions, market capabilities, and energy affordability challenges. PG&E's EE portfolio will endeavor to continue to consistently deliver

cost-effective system benefits today—and facilitate rate affordability—while also preparing customers, markets, and the energy system for longer-term change.

To guide the portfolio through this transition, PG&E has established four portfolio-level goals for the 2028-2031 and 2028-2035 planning horizons. These goals articulate the outcomes the EE portfolio is intended to achieve and provide a coherent framework for prioritizing activities across RA, market support (MS), equity, and codes and standards (C&S) segments. Together, they reflect PG&E's internal vision for the evolving role of EE and provide a durable structure for managing the portfolio over time.

These portfolio goals are responsive to the Energy Division's strategy areas for the 2028-2035 business plan cycle.[2] PG&E has organized the Energy Division's priorities into a smaller set of outcome-focused goals to reflect how activities are planned, delivered, and managed across the portfolio. While the structure differs from the Energy Division's list, all 14 Energy Division strategy areas that are applicable to PG&E are addressed through one or more portfolio goals and their associated strategies, as demonstrated in the strategy mapping table in Section F included later in this chapter.

Each portfolio goal is advanced through a primary strategy, described in detail in subsequent sections of this chapter. While delivery approaches may evolve as markets, technologies, and policies change, the goals provide outcome-oriented grounding over both the 4-year and 8-year horizons as the EE portfolio continues to evolve.

PG&E's EE portfolio goals for 2028-2035 are to: (1) Optimize Delivery of Total System Benefit, (2) Scale Efficient BE, (3) Enable the Energy System of Tomorrow, and (4) Facilitate Rate Affordability. The proposed portfolio strategies and tactics in PG&E's EE Business Plan application are designed to pursue these goals and promote these outcomes.

1. Portfolio Goal: Optimize Delivery of Total System Benefit

EE remains one of the most effective tools available to reduce energy system costs, mitigate peak demand, and deliver persistent benefits to customers. At the same time, delivering Total System Benefit (TSB) has

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[2] The Energy Division template released on September 29, 2025, included 15 strategy questions for addressing under Chapter 3. 14 strategies were applicable to PG&E.

become more complex as stricter building codes and appliance standards raise baseline efficiency, industry standard baselines shift, decarbonization efforts advance, and avoided-cost values evolve. Without active portfolio management, EE risks becoming misaligned with system needs or under-delivering relative to its full potential.

This goal affirms that optimizing TSB remains the foundation of PG&E's EE portfolio, even as the portfolio evolves to support BE and load flexibility. It emphasizes disciplined delivery, stewardship of ratepayer funds, thoughtful measure selection, and continuous adaptation to changing market and policy conditions. Optimizing TSB is not a static exercise; it requires balancing savings magnitude, timing, persistence, and cost-effectiveness across all portfolio sectors and delivery pathways.

Over both the 4-year and 8-year horizons, this goal ensures that EE continues to provide a strong and reliable performance baseline, anchoring the portfolio as other elements mature and expand.

To gauge success of this goal, PG&E intends to track 4-year cumulative portfolio TSB performance relative to CPUC-adopted goals across all RA, equity, and MS portfolio segments. PG&E presents an EE portfolio that is overall forecasted to achieve a cumulative TSB (excluding C&S) of approximately $1.17 billion and with a RA segment Total Resource Cost (TRC) of 1.89 (see Chapter 4 for details).

2. Portfolio Goal: Scale Efficient BE

This goal is focused on enabling efficient BE at scale to support: California's decarbonization goals by 2045, the potential for downward pressure on electric rates, and a managed transition of the gas system. PG&E defines "efficient BE" as the intentional approach to transition buildings from gas-powered systems to electricity in a way that prioritizes energy affordability for all ratepayers and optimizes decarbonization benefits while maintaining or improving building occupant comfort and grid reliability. What fundamentally distinguishes efficient BE from less intentional BE efforts, and why it warrants being defined, is the emphasis on proactive, coordinated planning to achieve these aforementioned objectives.

The three key elements of efficient BE include: (1) installation of high-performance electric equipment with an emphasis on peak efficiency;

(2) treating buildings as integrated systems while electrifying and considering envelope improvements, commissioning and controls optimization, and right-sizing of equipment; (3) incorporation of load flexibility to enable shifting of demand away from peak periods to off-peak periods while minimizing panel upgrades, front-of-the-meter (FTM) costs (including distribution system upgrade costs), and generation costs.

PG&E believes efficient BE is a central element of California's long-term energy transition, but its success depends on more than policy intent or technology availability. Customer understanding, contractor capability, project complexity, and overall experience (pre-installation, during installation, and post-installation) all play a decisive role in whether electrification solutions are adopted at scale and delivered effectively. PG&E's efforts to support efficient BE are outlined in Portfolio Strategy 2 below, and position the EE portfolio as an enabler of electrification that is efficient and customer-driven, rather than forced or premature.

PG&E intends to focus on creating the conditions to enable efficient BE at scale across three key areas of market readiness: increased customer and contractor demand for BE, improved economics of BE, and increased confidence in BE technologies delivering on performance and cost savings.

3. Portfolio Goal: Enable the Energy System of Tomorrow

This goal reflects PG&E's intent for efficiency investments made today to be compatible with the needs of tomorrow's grid. As the energy system becomes more dynamic, the value of efficiency investments increasingly depends on when and where measures are deployed and how loads respond to system and local conditions. EE must therefore evolve to support not only permanent load reduction but also enable load flexibility that can respond to dynamic grid conditions. Thus, this goal emphasizes the deployment of technologies that are both efficient and controllable, as well as the development of methods to understand and quantify their flexibility potential.

To gauge success of this portfolio goal, PG&E intends to develop a valuation methodology that tracks total enabled load flexibility, in kilowatts, from devices installed through the EE portfolio.

4. Portfolio Goal: Facilitate Rate Affordability

This goal reflects PG&E's commitment to improvement in rate affordability and driving downward pressure on rates. PG&E's focus on electric rate affordability is critical to addressing the customer energy affordability pressures that have emerged in recent years as well as customer concerns regarding the electric bill impacts of participating in BE.[3] As electric system investments increase to support electrification and energy systems evolve to manage the new load and clean energy supply, EE plays an important role in delivering avoided energy system costs that would otherwise be recovered through rates. However, electric rate affordability is a complex topic that requires better understanding of how EE programs collectively impact average rates for all customers vs. EE participant bills, and how PG&E's EE programs can best drive downward pressure on rates.

The complexity of the relationship between EE and electric rate affordability is demonstrated by the following directional bill and rate outcomes from EE interventions, which reduce gas and electric usage: (a) reduced gas or electric bills for EE participants; (b) downward pressure on average electric or gas rates from the electric and gas system avoided costs benefits enabled by EE interventions; (c) upward pressure on average electric or gas rates from the recovery of reduced revenue for fixed costs;[4]

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[3] See the CPUC's response to California Governor Newsom's Executive Order N-5-24 to mitigate the rising cost of electricity service in California.
CPUC Response to Executive Order N-5-24, CPUC, (February 18, 2025). Available at: https://www.cpuc.ca.gov/-/media/cpuc-website/industries-and-topics/reports/cpuc-response-to-executive-order-n-5-24.pdf

[4] The impact on average rates from the reduced revenue from lower EE participant bills creates a "cost shift" from participant to non-participant bills. Reduced revenue from EE participant bills for fixed costs—where fixed costs are incorporated into volumetric rates (i.e., $/ kilowatt-hour and $/therm) and must be made up elsewhere—include, but are not limited to, wildfire mitigation costs and Net Energy Metering Program costs. See the CPUC's *Response to Executive Order N-5-24* (February 18, 2025) for more general information on utility revenue requirements, rates, and cost shifts. Because lower EE participant bills reduce revenue collections, PG&E must ensure it still meets its revenue requirement by adjusting rates upward to enable more revenue to be collected from other ratepayers to compensate for the reduced revenue from EE participants. The cumulative magnitude of revenue reduction from EE participant bills and the resulting cost shift to non-participants is driven by rate structures (i.e., average volumetric rates); rate structures are out of scope of the EE proceeding. Cost shifts are also offset by EE program benefits to rates. PG&E's future affordability analyses will account for the Base Service Charge rate structure implemented in March 2026.

and (d) upward pressure on average electric or gas rates from EE program budgets that are recovered through rates. Gas-to-electric fuel substitution interventions for BE, which reduce gas load and increase electric load, may result in similar or different directional impacts on average rates and participant bills depending on the type, scale, and grid location of BE intervention. These complex relationships between EE, BE, and rates are described in Tables 1 and 2 below.

TABLE 3-1
DIRECTIONAL RATE IMPACTS RESULTING FROM IMPLEMENTATION OUTCOMES OF EE

Line No.	EE Implementation Outcome (Applies to Electric or Gas)	Directional Impact on Average Rates	
1	Lower Energy System Costs	↓ Downward Pressure	Lowered energy system costs include avoided costs of generation, transmission, and distribution resulting from EE interventions that reduce the total energy system costs that the utility collects from ratepayers. Only the portion of avoided cost benefits that directly benefit the electric and gas systems will impact electric and gas rates directly.
2	Budget Recovery for EE Portfolio	↑ Upward Pressure	EE portfolio budgets are collected from ratepayers to fund EE portfolios, including administrative, implementation, and incentive costs. EE portfolio budgets include investor-owned utility (IOU), community choice aggregation (CCA), and regional energy network (REN) budgets.
3	Reduced Energy Bills for EE Program Participants	↑ Upward Pressure	EE measures reduce energy usage, thereby reducing EE program participants' energy bills. Lower participant energy bills lead to reduced revenue collection for fixed costs from these participants, which in turn increases rate pressure to ensure the utility can still meet its total revenue needs by collecting more revenue from ratepayers.

TABLE 3-2
DIRECTIONAL RATE IMPACTS RESULTING FROM IMPLEMENTATION OUTCOMES OF GAS-TO-ELECTRIC FUEL SUBSTITUTION FOR BE

Line No.	BE Implementation Outcome (Applies to Electric or Gas)	Directional Impact on Average Rates for All Customers		
		Gas	Electric	
1	Lower Gas System Costs	↓ Downward Pressure		Lower gas system costs gas-to-electric fuel substitution measures for BE include avoided costs of gas generation, transmission, and distribution, and result in reduced gas usage and gas system costs that the utility collects from gas ratepayers.
2	Added Electric System Costs[(a)]		↑ Upward Pressure	Added electric costs (negative benefits) include costs of electric generation, transmission, and distribution that may be required to accommodate added electric load resulting from gas-to-electric BE interventions. The utility collects electric system costs from electric ratepayers.
3	Budget Recovery for BE Program Costs (if Ratepayer-Funded)		↑ Upward Pressure	BE program budgets collected from electric ratepayers to fund BE interventions may include administrative, implementation, and incentive costs. If EE portfolios include gas-to-electric fuel substitution measures, Decision (D.) 19-08-009 requires electric ratepayers to fund these measures.
4	Decreased Gas Bills for BE Program Participants	↑ Upward Pressure		BE measures reduce participant gas usage, thereby reducing the BE program participant's gas bills. The reduction in participant gas bills results in reduced gas revenue for the utility, which in turn increases rate pressure to ensure the utility can still meet its total revenue needs by collecting more revenue from other gas ratepayers.
5	Increased Electric Bills for BE Program Participants[(b)]		↓ Downward Pressure	BE measures may increase participant electric usage in some cases, and may increase the BE program participant's electric bills on a net annual basis. The increase in electric bills results in increased electric revenue for the utility, which in turn decreases rate pressure because the utility needs to collect less revenue from other electric ratepayers to meet its total revenue needs.

TABLE 3-2
DIRECTIONAL RATE IMPACTS RESULTING FROM IMPLEMENTATION OUTCOMES OF GAS-TO-ELECTRIC FUEL SUBSTITUTION FOR BE
(CONTINUED)

Line No.	BE Implementation Outcome (Applies to Electric or Gas)	Directional Impact on Average Rates for All Customers		
		Gas	Electric	
6	Decreased Electric Bills for BE Program Participants[(c)]		↑ Upward Pressure	BE measures may decrease participant electric usage in some cases, which may decrease the BE program participant's electric bills. The decrease in participant electric bills results in decreased electric revenue for the utility, which in turn increases rate pressure to ensure the utility can still meet its total revenue needs by collecting more revenue from other ratepayers.

(a) Whether added electric system costs are incurred, and the magnitude of these costs, will depend on the type, scale, and grid location of gas-to-electric BE interventions. For example, an efficient heat pump replacing a gas furnace in a residence may actually result in lower peak electric load on the electric grid, if that residence had an existing inefficient air conditioner that is replaced by the efficient heat pump resulting in lower electric usage during times when the electric grid experiences peak load.

(b) Whether a BE program participant's electric bills increase on a net basis, and the magnitude of the bill increase, will depend on the type of gas-to-electric BE intervention, the participant's local climate, and any other efficiency improvements to the participant's electric end uses and building envelope. For example, increased electric bills (and decreased gas bills) will result if a program participant replaces a gas water heater with an efficient electric heat pump water heater and no other changes are made to the participants' building end uses.

(c) Whether a BE program participant's electric bills increase on a net basis, and the magnitude of the bill increase, will depend on the type of gas-to-electric BE intervention and the participant's local climate, and any other efficiency improvements to the participant's electric end uses and building envelope. For example, decreased electric bills (on a net annual basis) may result if a program participant replaces a gas furnace with an efficient electric heat pump, and that heat pump also replaces an existing inefficient air conditioner, and no other changes are made to the participants' building end uses. In this case, lower peak electric cooling costs may exceed increased electric heating costs on an annual basis, thus resulting in lower net annual electric bills.

PG&E does not currently plan to consider the TRC or Program Administrator Cost (PAC) tests to assess the impact of its EE portfolio on electric rate affordability because, as described by the California Standard Practice Manual, the TRC and PAC tests are not suited for a meaningful assessment of revenue shifts and BE impacts on rates.[5] For its 2028-2031 portfolio, PG&E intends to further develop and refine the methodology that will facilitate better understanding of this complexity and enable PG&E to identify the right metrics to track rate affordability impacts from its EE

[5] *California Standard Practice Manual: Economic Analysis of Demand-Side Programs and Projects,* CPUC, (October 2001). Pages 21 and 24 describe the weaknesses of the TRC and PAC tests, respectively. Available at: https://www.cpuc.ca.gov/-/media/cpuc-website/files/uploadedfiles/cpuc_public_website/content/utilities_and_industries/energy_-_electricity_and_natural_gas/cpuc-standard-practice-manual.pdf.

portfolio over time. While no single metric is expected to provide a comprehensive view of the EE portfolio's impact on rate affordability, PG&E will leverage the *National Standard Practice Manual* guidance to consider multiple analyses for assessing EE portfolio impacts on rates, such as the Rate Impact Measure test and a Rate, Bill, and Participation Impact Analysis (RBPA).[6]

PG&E recognizes that maintaining equitable gas rate affordability is also critical as BE scales in future years and fewer customers are left to bear the costs of the remaining gas system. Effectively managing the impact of scaled BE on gas rate affordability involves gas asset transition and management strategies that are outside the scope of the EE proceeding. Gas rate affordability is likely to be impacted by the rate and scale of BE adoption. Given the long timeframe and uncertainty of BE scaling, PG&E intends to further refine its EE affordability goals and metrics in future years to incorporate gas rate affordability considerations, as appropriate.

D. EE Portfolio Desired Outcomes

PG&E is pursuing the four portfolio goals described in Section C to achieve desired outcomes for 2031 and 2035 as outlined below in Figure 3-1.

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6 *National Standard Practice Manual for Benefit-Cost Analysis of Distributed Energy Resources*, National Energy Screening Project, (August 2020), Appendix A. Available at: https://www.energy.gov/sites/default/files/2020/10/f79/national-standard-practice-manual.pdf.

FIGURE 3-1
PG&E EE PORTFOLIO DESIRED OUTCOMES

GOALS	2031 Desired Outcomes	2035 Desired Outcomes
Optimize Delivery of Total System Benefit (TSB)	Achieve four-year forecasted cumulative TSB of $1.17B (excluding C&S)	Achieve eight-year forecasted cumulative TSB of $2.53B (excluding C&S)
Scale Efficient Building Electrification (BE)	Increased customer and contractor demand for electric appliances	High customer and contractor demand for electric appliances
	BE economics have improved compared to fossil fueled alternatives	Cost parity between electric and fossil fuel alternatives
	Customers have increased confidence that BE will be able to meet their needs	Customers have confidence in electric equipment performance and costs
	No more financial support for natural gas appliances where there is a VEA	Strong market availability of efficient, flexible-ready equipment
Enable the Energy System of Tomorrow	Valuation methodology for kW enabled by load flexibility through EE portfolio	Integrated EE portfolio that delivers kW value of load flexibility
Facilitate Rate Affordability	Better understanding of EE and BE impact on rates	EE portfolio (including EE and BE interventions) with downward electric rate pressure

E. EE Portfolio Strategies

This section summarizes the key strategies for PG&E's EE portfolio, developed in support of the goals and desired outcomes described above. Each strategy section demonstrates how PG&E intends to advance the corresponding goal for both the 4-year and 8-year time horizons through specific approaches, activities, and portfolio segments.

A strategy crosswalk included later in this chapter in Section F maps each Energy Division strategy area to PG&E's portfolio goals and strategies,

demonstrating how the Commission's priorities are comprehensively addressed within PG&E's portfolio framework.

PG&E's primary portfolio strategies each align with a portfolio goal and are to: (1) Maintain a Strong Foundation of Cost-effective TSB Delivery; (2) Prepare the Market for BE to Scale; (3) Enable Load Flexibility; and (4) Advance Customer Affordability.

1. Portfolio Strategy 1: Maintain a Strong Foundation of Cost-effective TSB Delivery

PG&E has cost-effectively delivered its TSB portfolio goals each year since TSB became the EE portfolio goal metric starting in 2024. PG&E intends to maintain this strong, foundational aspect of its EE portfolio delivery while also evolving its portfolio to support BE and load flexibility. PG&E proposes three tactics to pursue this strategy: (a) enhance cost-effective programs that customers already value; (b) continue with effective portfolio management; and (c) pursue flexibility for portfolio administrators (PA) to adapt to changing policy and market dynamics.

a. Enhance Cost-effective Programs That Customers Already Value

PG&E's EE portfolio includes programs that have consistently and cost-effectively delivered energy savings prior to 2024, and now TSB performance since 2024. PG&E intends to enhance those existing programs during the 2028-2031 Portfolio Plan period, focusing on two key program areas: (1) strategic energy management (SEM) and (2) residential behavioral programs.

1) Expand SEM Portfolio of Programs

PG&E's industrial SEM programs[7] have demonstrated success in overcoming non-residential customer barriers such as project

[7] Industrial SEM – Food Processing, Program ID: PGE_Ind_001a; Industrial SEM – Manufacturing, Program ID: PGE_Ind-001b.

complexity, timelines, and lack of adequately trained staff[8] while providing high customer satisfaction by aligning energy management solutions that meet customers' needs.[9] PG&E intends to enhance its existing industrial and commercial SEM programs, including expanding the Commercial SEM Program[10] to include public sector customers. PG&E intends to build on its industrial SEM success by working with its third-party implementers to encourage increased industrial SEM program participation to cohorts of varying business sizes and tapping into "graduates" of the industrial SEM programs, empowering tenured participants to pursue more advanced energy management strategies and strengthening the relationships that drive incremental EE projects while delivering more TSB. See Chapter 6, Sections B.2, B.3, and B.5 for more detail.

2) Evolve Residential Behavior Programs

PG&E intends to evolve its residential behavior programs[11] to support residential customers' increasingly complex and dynamic energy management needs. PG&E intends to explore opportunities to incorporate more complex customer premises into its residential behavioral platform, such as those with electric vehicles (EV), solar, load flexibility-enabled technologies, and electrified homes, to yield

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8 The *California Statewide Commercial and Industrial Customer Wants and Needs Study* reported that 44 percent of SMB survey respondents felt their organization did not have the expertise or support needed to invest in EE. An additional 36 percent were unsure. *California Statewide Commercial and Industrial Customer Wants and Needs Study*, TRC, (April 8, 2021), p. 33. See Figure 2-19. Available at: https://pda.energydataweb.com/api/view/2499/California Statewide Wants and Needs Report FINAL DRAFT 4.8.21.pdf.

9 The *SEM 2021-2022 Impact Evaluation* states that: "[t]he SEM program had a substantial influence on the installation of capital measures... [t]his indicates that SEM's immersive nature is successfully leading customers to install more capital projects than they would have without program participation."
SEM 2021-2022 Impact Evaluation, DNV, (July 11, 2024), p. 10. Available at: https://www.calmac.org/%5C/publications/CPUC_Group_D_SEM_Impact_Report_Final_CALMAC.pdf.

10 Commercial SEM, Program ID: PGE_Com_009.

11 Virtual Energy Audit Program, Program ID: PGE_Res_001b; Residential Behavioral Program, Program ID: PGE_Res_002d.

additional savings opportunities and associated TSB. PG&E is also evaluating ways to improve the virtual audit tool's usability and functionality. These improvements are intended to make it easier for customers to access customized resources and recommendations based on their building's unique characteristics and household usage patterns, equipping customers with the knowledge to take more energy-saving actions. See Chapter 6, Section B.1 for more detail.

b. Continue with Effective Portfolio Management

PG&E is committed to its role as a responsible steward of ratepayer funds. This commitment drives PG&E's portfolio management actions to deliver cost-effective TSB for its customers. Following the D.18-05-041 directive for the IOU EE PA portfolios to transition to majority third-party implemented programs,[12] PG&E has refined its portfolio management approaches. The table below shows PG&E's cost-effectiveness performance since 2022[13] that demonstrates PG&E's continued commitment to cost-effective portfolio administration.

TABLE 3-3
TRC RATIO PERFORMANCE

Line No.	Year	RA Segment TRC Ratio	Portfolio TRC Ratio (excluding C&S)	Portfolio TRC Ratio (including C&S)
1	2022	1.15	0.78	2.79
2	2023	1.11	0.77	2.72
3	2024	1.90	1.40	1.52
4	2025(a)	1.47	1.01	1.83
5	2026(a)	1.51	1.10	1.53
6	2027(a)	1.96	1.38	1.56

(a) 2025-2027 represent forecasted TRC ratios from PG&E's True Up Advice Letter (AL) (4814 G/7047 E) and Mid Cycle AL (5141 G/7752 E)

PG&E plans to continue its ongoing refinements in the 2028-2031 Portfolio Plan period by: (1) scaling down or sunsetting measures that

12 D.18-05-041, Ordering Paragraph (OP) 4, p. 183.

13 2022 is the first year that PA cost-effectiveness requirements were limited to the RA segment.

do not meaningfully contribute toward portfolio objectives;
(2) rebalancing its portfolio budget based on program performance and strategic priorities across its four portfolio segments; and
(3) implementing corrective actions with underperforming third-party implementers. See Chapter 5, Section C.2 for more detail.

1) Scale Down or Sunset Measures and Programs That Do Not Contribute Meaningfully Toward Portfolio Objectives

PG&E plans to periodically assess the contribution of measures and programs to portfolio objectives, including cost-effectiveness, TSB delivery, and alignment with evolving policy and strategic objectives such as BE and load flexibility. Measures or programs that persistently demonstrate low market uptake, declining incremental energy impacts, or insufficient contribution to portfolio goals may be modified, scaled down, or sunset.

2) Rebalance the Portfolio Budget

PG&E intends to rebalance its portfolio budget as necessary to support continued alignment with CPUC-adopted TSB goals, cost-effectiveness, portfolio segmentation, program performance, and policy and strategic objectives. PG&E plans to leverage program performance data; evaluation, measurement, and verification findings; and its implementation experience to inform potential adjustments to portfolio budget rebalancing. Rebalancing actions could include increasing or decreasing program budgets or reallocating resources from scaled-down or sunset measures and programs. See Chapter 5, Section C.2 for more on PG&E's strategies for rebalancing resources.

3) Implement Corrective Actions with Underperforming Implementers

PG&E intends to continue monitoring implementer performance relative to contractual requirements, CPUC objectives, and approved program implementation plans, using performance metrics such as delivery timelines, quality assurance, customer experience, cost controls, and attainment of program goals. PG&E plans to

implement corrective actions to ensure effective program delivery and stewardship of ratepayer funds in instances where implementer performance deficiencies are identified. Corrective actions would be taken if the implementer fails to remedy deficiencies within a reasonable timeframe after PG&E provides a notice of performance concerns. Corrective actions could include, but are not limited to: work scope adjustments, increased reporting requirements or oversight, performance improvement plans, reallocation of tasks or budgets, or other contractually authorized remedies. See Chapter 5, Section D.2 for more information on PG&E's strategies for managing third-party performance.

c. Pursue Flexibility for PAs to Adapt to Changing Policy and Market Dynamics

As California's energy landscape continues to become more complex and dynamic, EE PA portfolios must adapt to changing conditions to successfully deliver TSB for California's energy systems and meet customers' needs. PG&E commends the CPUC's actions in recent years[14] that recognize these changing dynamics and the important role EE portfolios can play in supporting strategic and policy objectives for California's transition to clean energy. Given the sometimes-rapid pace of changing policy and market dynamics, PAs need the flexibility to adapt their portfolios, including developing innovative solutions to emerging and known challenges, while continuing to keep customers and affordability at the forefront. As such, PG&E proposes policy changes that provide flexibility to enable nimble EE portfolios of the future, including: (1) changing the third-party outsourced budget requirements and definition and (2) establishing a new innovation-enabling MS segment program to support RA segment programs.

14 For example, the creation of portfolio segments in D.21-05-031.

1) Change the Third-Party Outsourced Budget Requirements and Definition

The CPUC originally adopted the third-party outsourcing requirements in D.18-01-004 OP 1 (which originated in D.16-08-019 OP 12), which expanded the third-party definition and required 60 percent of IOU portfolio budgets to be third-party outsourced by the year-end of 2022, to encourage innovation and produce program delivery cost savings. In response, PG&E achieved the 60 percent outsourcing target by the deadline through third-party solicitations. To enable PG&E's strategic portfolio goals of scaling BE and load flexibility, nimbleness and flexibility will be paramount to navigate the changing and complex market and regulatory landscape. PG&E therefore requests the Commission change the third-party outsourcing requirements by: (a) modifying the existing third-party outsourcing requirement of 60 percent to a more flexible minimum requirement of 50 percent with a soft target of 60 percent and (b) changing the definition of "third party" to require third-party programs to be implemented and delivered—but not necessarily proposed and designed—by non-utility personnel under contract to the IOU. See Chapter 11, Section C.1 for more detail.

2) Establish New Innovation-enabling MS Segment Program

PG&E proposes the Commission allow it to seek approval for a new MS segment program that can provide supplemental funding for RA segment programs to develop and explore innovative offerings within existing RA program design and implementation structures, without adversely impacting an RA program's cost-effectiveness. The new MS program could support many of the existing MS segment strategies identified in Chapter 6, including: (1) increase demand (awareness); (2) strengthen supply (training and contractor support); (3) build strategic partnerships; (4) foster innovation; (5) and expand financing options, while also building a foundation for the long-term success of pilot objectives. See Chapter 6, Section B and Chapter 11, Section C.2 for more detail on this policy proposal.

2. Portfolio Strategy 2: Prepare the Market for BE to Scale

This strategy focuses on preparing the market so that BE can scale efficiently, reliably, and at a pace customers and contractors can support. Rather than prioritizing near-term adoption targets, PG&E's EE portfolio emphasizes improving the conditions under which electrification occurs and addressing key barriers to BE including: costs (upfront and ongoing); grid reliability (both fact-based and perceived challenges) and associated resiliency concerns; awareness; technology preferences (e.g., gas cooking); workforce availability; and timelines. PG&E intends to focus on three key tactics to support this strategy: (a) increase demand for BE; (b) improve the economics of BE; and (c) increase long-term confidence in BE.

a. Increase Demand for BE

Demand in California for electric appliances as an alternative to natural gas (NG) or other fossil fuel (e.g., propane) appliances is still relatively low. For example, several market studies find that adoption of heat pump space and water heating to replace NG and alternative fuels is a nascent but growing trend, with installers and programs reporting a need for additional policy, financial incentives, workforce training, and consumer awareness efforts to achieve the state's 2030 goal of

six million heat pump installations.[15,16,17] PG&E intends to increase demand for BE by: (1) increasing awareness via education and marketing; (2) enabling and supporting engaged communities; (3) enabling a simple, accessible, and appealing customer electrification journey; and (4) facilitating the transition of the contractor workforce to BE.

1) Increasing Awareness Via Education and Marketing

PG&E has long positioned itself as a trusted energy advisor for its customers, and as a dual-fuel utility, it has an opportunity to further that capacity by supporting the managed transition of its customers to BE, where feasible. PG&E plans to increase awareness of BE through comprehensive, multichannel marketing campaigns and leveraging demographic participation data to provide

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15 A market study was completed in 2022 assessing the progress of statewide heat pump adoption for space heating, water heating, clothes drying, and pool heating. The study reported that, as of 2020, market adoption of heat pumps across the end uses was either nascent and growing or small, with varying levels of projected market growth. *California Heat Pump Residential Market Characterization and Baseline Study*, Opinion Dynamics, (May 13, 2022). Available at: https://pda.energydataweb.com/api/view/2625/OD-CPUC-Heat-Pump-Market-Study-Report_Final.pdf.

16 A market characterization study of California's heat pump water heater market was completed in 2024. The study found that heat pump water heater adoption in the residential sector is a recent but growing phenomenon, with 52 percent of surveyed installers reporting that they started installing heat pump water heaters after 2019, and 22 percent reporting that they had been installing them for a decade or longer. *California Water Heating Market Study: Contractor Business Models, Training, and Electrification*, Opinion Dynamics, (March 29, 2024), p. 10. Available at: https://pda.energydataweb.com/api/view/4024/Water Heater Market Characterization Study PDA Draft1_8_25_2024.pdf.

17 The California Heat Pump Partnership (CAHPP) is a partnership created by the California Energy Commission (CEC) between state policy leaders, heat pump manufacturers, retailers, distributors, utilities and other stakeholders to scale heat pump technology adoption and achieve the goal of 6 million heat pump installations statewide by 2030 as established by Governor Gavin Newsom. CAHPP recently published a blueprint to scale adoption, and identified that, at current adoption rates, the state is projected to install 3.4 million heat pumps by 2030, falling short of the goal to install 6 million. Even with higher adoption rates due to recently implemented policy, codes, and incentives, the blueprint projects 4 million installations by 2030. *California Heat Pump Partnership Blueprint: Scaling California's Heat Pump Market: The Path to Six Million*, CAHPP, (March 2025), p. 7. Available at: https://heatpumppartnership.org/wp-content/uploads/2025/03/CAHPP-Blueprint-Final.pdf.

data-driven personalized outreach efforts with relevant and accessible communications.

Leveraging Demographic Participation Data to Improve Accessibility

D.23-06-055 called for joint PA efforts to develop a better understanding of EE participation among different demographic groups through collection of demographic participation data, and ordered the PAs to develop a joint report addressing demographic questions in Section 7.7 of the decision.[18] This data may help PG&E understand how the portfolio is addressing various demographic groups within its service area, including those that have been identified as most impacted by high electric and gas rates according to the Commission's annual affordability reporting and environmental and social justice (ESJ) communities as defined in the *CPUC's ESJ Action Plan*[19]. Leveraging demographic reporting can help advance the CPUC's ESJ Action Plan Goal 2[20] by providing the data needed to facilitate increased clean energy resource investments in ESJ communities. Furthermore, it could allow for additional tailoring to improve customer experiences across demographic groups. Consistent with PG&E's response in the joint PA D.23-06-055 OP 23 report,[21] PG&E's preferred approach to regular reporting on demographic EE program participation data is annual reporting for metrics and quarterly reporting for claims related data.

Examples of how data may be used include:

i) Assessing program participation from different demographic groups (e.g., by region, language, ethnicity/race, disability status, tribal participants) across the equity, MS, and RA

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[18] D.23-06-055, OP 23, p. 125.

[19] Environmental & Social Justice Action Plan, Version 2.0, CPUC (April 7, 2022). Available at: esj-action-plan-v2jw.pdf

[20] CPUC ESJ Action Plan Goal 2: Increase Investment in clean energy resources to benefit ESJ communities, especially to improve local air quality and public health. *Ibid* p. 23.

[21] *PG&E's Reporting PCG's Demographic Data Working Group Final Report,* PG&E (August 6, 2025). Available at: http://pgera.azurewebsites.net/Regulation/ValidateDocAccess?docID=837946

segments to target demographic groups that may be underrepresented in a segment; and

ii) Leveraging the data to identify which programs may benefit from additional language materials and services.

2) Enabling and Supporting Engaged Communities

PG&E has seen that engaged communities, where local officials, neighbors, and businesses all recognize value in BE, can drive increased demand for BE.[22] PG&E plans to continue its focus in the 2028-2031 Portfolio Plan period on community engagement activities by collaborating with community-based organizations (CBO), local governments, schools and other community institutions to broaden the reach of EE and BE efforts and facilitate the creation of community "champions" who can generate interest and demand at a local level. PG&E believes this is particularly important for zonal electrification because multiple customers must come together within a community to agree to pursue electrification as a viable non-pipeline alternative (NPA) and achieving this customer consent across a "zone" is more likely to happen with the support of strong partnerships with trusted grassroots organizations.

Beyond zonal electrification, PG&E also recognizes the benefits of engaged communities as the Bay Area Air District's Zero Emissions Appliance Standards (BAAD ZEAS) take effect across nine counties in PG&E's service area. Cities, counties, CBOs, NGOs, and other organizations are actively mobilizing to prepare for ZEAS implementation, and PG&E is an engaged partner in those efforts. PG&E recognizes the value that these types of

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22 For example, in the CPUC Decarbonization Workshop Local Programs Panel, EcoBlock, discusses the economies of scale that can result from the neighbor/peer effect. EcoBlock reports that it has found that "Neighbors talk to each other about new technologies" and that they have found "approaching a group of neighbors at one time about adopting energy and water efficiency, electrification, and solar can help speed adoption."
Oakland EcoBlock: A Neighborhood Retrofit Story, California Institute for Energy and Environment (CIEE) University of California, Berkeley, (January 2026). See Day 1 presentation, p. 125. Available at: https://www.cpuc.ca.gov/about-cpuc/divisions/energy-division/building-decarbonization/building-decarbonization-workshops.

organizations can provide and has a strong desire to listen and learn from its communities to understand how best to facilitate greater BE adoption.

PG&E envisions pairing each organization's respective strengths together to create mutually beneficial coordination opportunities that can enable more engaged communities that are ready and able to pursue BE. For example, CBOs are well suited to gather local resident perspectives, understand community priorities and many have the organizational capacity to identify local barriers, test neighborhood-specific messaging approaches, and build enthusiasm for BE. PG&E's strength lies in its deep programmatic knowledge, ability to provide transparent information on topics PG&E may be uniquely positioned to provide such as rates, energy system reliability, energization timelines, and geospatial information to support targeted electrification. By bringing these capabilities together, PG&E sees an opportunity to make BE offerings more accessible and appealing to customers by leveraging trusted, on-the-ground leadership to educate customers, market programs, and tailor implementation approaches to meet local needs.[23] PG&E aims to deepen its role as a trusted partner and energy advisor by empowering communities with information they need to advance BE.

3) Enabling a Simple, Accessible, and Appealing Customer Electrification Journey

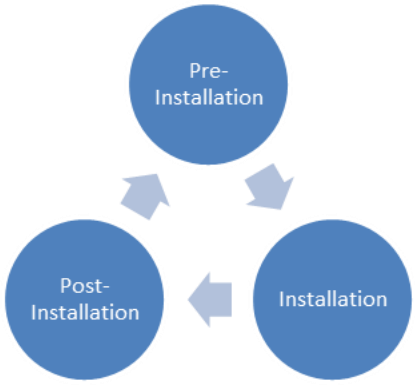
PG&E plans to focus efforts within its EE portfolio to enable customers going through their electrification journey, as shown in Figure 3-2 below, to have an experience that is easy, accessible,

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23 In the CPUC Decarbonization Workshop Local Programs Panel, the Energy Coalition states that "CBOs were integral partners in the design and implementation" of their Direct-to-Renter™ pilot (p. 96). Their recommended best practices also include the integration of CBOs in program design, outreach, and education as well as that program implementers tailor offerings to local priorities and conditions (p. 103). *Direct-to-Renter A Clean Energy Solution Meeting the Urgent Needs of Low-Income Tenants*, The Energy Coalition, (January 2026). See Day 1 presentation, pp. 96 and 103. Available at: https://www.cpuc.ca.gov/about-cpuc/divisions/energy-division/building-decarbonization/building-decarbonization-workshops.

and appealing. A customer's electrification journey spans three main phases: (1) Pre-Installation, (2) Installation, and (3) Post-Installation.

FIGURE 3-2
ELECTRIFICATION JOURNEY PHASES



PG&E recognizes that not all customers will electrify all appliances within their buildings all at once, and therefore views this process as a looped cycle until a building is fully electrified, with a positive experience electrifying one appliance reinforcing the demand for incrementally electrifying more appliances. PG&E intends to offer accessible tools and guidance that can be leveraged across all three phases, so customers adopt electrification measures because the value proposition is compelling, not because it is required. This may include supporting customers early with resources and tools to inform their decision, deploying solutions to reduce costs such as panel and service upgrading[24] avoidance technologies, improving energization timelines, and providing post-installation customer assistance to support the proper use and experience with their electrified appliances, including aligning their

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24 Panel upgrades may include optimization (e.g., smart circuit breakers or smart panels) and/or upsizing (increasing panel ampacity).
Administrative Law Judge's Ruling Providing Notice and Opportunity to Comment on Staff Proposal for Policy on Natural Gas Energy Efficiency Incentives, Attachment 1 (December 1, 2025). See Section 3.2 p. 8 for more discussion on panel optimization. Available at https://docs.cpuc.ca.gov/PublishedDocs/Efile/G000/M589/K479/589479620.PDF

energy use with the appropriate electric rate. See Chapter 6, Section B.1 for more detail on potential activities within an Electrification Customer Experience Support Placeholder Program.

4) Facilitate the Transition of the Contractor Workforce

Installation contractors serve as trusted advisors in the field and are uniquely positioned to influence customer decisions while strategically promoting electrification technologies. However, workforce demand for BE, BE-specific knowledge, and workforce supply are all lower than what would be needed to achieve California's goal of installing six million heat pumps by 2030. According to the *California Residential Fuel Substitution Workforce Readiness Study*,[25] installation rates need to triple to 750,000 installations per year and would require every existing qualified HVAC and plumbing contractor to install at least 22 heat pumps. But the reality is that not every qualified contractor will be familiar with and/or trained on installing BE technologies.[26] PG&E intends to focus on two key areas to facilitate the transition of the contractor workforce to BE: (a) expand and empower trade ally networks and (b) support high-quality installations of BE technologies.

a) Expand and Empower Trade Ally Networks

While original equipment manufacturers (OEM) offer training opportunities for installation contractors, they mostly cater to their specific equipment and its commissioning and operation. PG&E intends to strengthen and empower a trade ally network

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25 *California Residential Fuel Substitution Workforce Readiness Study*, Opinion Dynamics (September 27, 2024). See Section 1.2.3. Available at: https://opiniondynamics.com/ca-residential-fuel-sub-workforce-readiness/.

26 According to a memorandum prepared for the BAAD on the workforce in the Bay Area ahead of the Zero-NOx Rules 9-4 and 9-6, between 70-83 percent of surveyed contractors had difficulty hiring for Electricians, Plumbers, and HVAC technicians, frequently citing lack of training, education, and work experience. *Workforce Challenges for Zero NOx Requirements – Implementation Working Group Research*, BW Research Partnership, (June 6, 2024). Available at: https://www.baaqmd.gov/~/media/files/community-health/building-appliance-implementation/workforce-summary-memo-pdf.pdf?rev=a8670756237f4fcdbc4e3b8603ff951b&sc_lang=en.

capable of driving sustained BE market growth by equipping them with diverse training opportunities, technical and process resources, and ongoing support. PG&E envisions providing contractors and market partners with marketing collateral, training, and technical resources to support the delivery of consistent and accurate messaging, empowering them to serve as advocates for efficient BE adoption while actively growing a network of contractor advocates that can move the market forward. See Chapter 6, Section B.6 for further detail.

b) Support High-quality Installations of BE Technologies

PG&E underscores the importance of installation quality for the ability of electrification technologies to scale. Installations that are done incorrectly or inefficiently (e.g., misaligned sizing to customers' needs, incorrect settings, etc.) may result in poor customer experiences from greater energy use (and therefore higher energy bills), and/or an inability to properly use controls that could result in reduced comfort, energy savings, and/or performance.[27] Space conditioning and water heating heat pumps are also transitioning to low-Global Warming Potential (GWP) refrigerants[28,29] therefore contractors supporting the transition to BE must also be trained in the proper and safe removal and disposal of high-GWP refrigerants. PG&E intends to expand its workforce education and training (WE&T) efforts to emphasize quality installation of heat pumps and associated controls and proper configuration for flexible operation. See Chapter 6 Section B.6 for more detail on PG&E's WE&T efforts.

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27 *Technology and Equipment for Clean Heating Clean California Heat Pump Equipment: Insights into Customer Experience and Satisfaction,* Opinion Dynamics, (September 15, 2023). See Section 2.3.4. Available at: https://opiniondynamics.com/tech-hp-equip-insights-cust-exp-and-satisfaction/ - 2-3-4-issues-w-equip.

28 *Transitioning to Low-GWP Alternatives in Commercial Refrigeration*, United States Environmental Protection Agency (last updated: October 28, 2025). Transitioning to Low-GWP Alternatives in Commercial Refrigeration | US EPA

29 California State Bill 1206 Hydrofluorocarbon gases: sale or distribution passed 2022-09-3

b. Improve the Economics of BE

Scaling BE will require addressing cost barriers to BE adoption, and PG&E intends to pursue opportunities to give customers lower-cost pathways to electrification through BE interventions within scope of the EE proceeding. BE costs to participating customers can include components such as upfront appliance costs, remediation, service and panel upgrades, and energy bills. Cost parity has not yet been achieved between some gas appliances and their viable electric alternatives (VEA), but there are opportunities to reduce or mitigate costs across each of those components. Importantly, BE tactics that reduce peak load such as installing efficient electric appliances or mitigating a participating customer's service and panel upgrade costs can also mitigate the utility's electric infrastructure upgrade costs to serve that added load. BE can also indirectly impact gas ratepayers by increasing upward pressure on gas rates as gas revenue decreases following gas-to-electric fuel substitution. PG&E intends to explore four key tactics to improve the economics for BE: (1) test solutions to reduce costs and project timelines; (2) pair efficient BE with other DERs and exempt measures; (3) increase customer access to capital; and (4) test ways to flexibly scale targeted electrification.

1) Test Solutions to Reduce Costs and Project Timelines

Electrification can often result in a net increase in a building's electric load and a customer's panel or electric service may not be able to accommodate the added load.[30] Upgrading panels and/or electric service can result in extended timelines and increased

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30 Nearly half of California's homes have panels under 200 amps. *Solving the Panel Puzzle: Avoiding and streamlining electric panel and service upsizing to accelerate building decarbonization*, SPUR, (May 2024), p. 8. Available at: SPUR_Solving_the_Panel_Puzzle.pdf.

costs,[31] further challenging the economics of BE. According to *The Service Upgrades for Electrification Retrofits Study*, this occurs in approximately 1/3 of residential electrification projects,[32] however PG&E intends to explore solutions to defer or avoid panel and/or service upgrading such as power efficient design (PED) and panel avoidance technologies. PED is the practice of fitting whole BE onto existing electric panels through design practice (e.g., using multi-function appliances, thoughtful sizing of HVAC and other BE technologies, incorporation of load controls, and power efficient appliances such as heat pumps without resistance strip heat).[33] Panel upgrade avoidance technologies can bypass the customer's panel, be connected to smart meters, and could defer or avoid many of the common electrification-driven panel and/or service upgrades. PG&E announced a strategic collaboration in February 2026 (funded outside of the EE portfolio) to pilot a panel upgrade avoidance technology.[34] If solutions such as these are proven out, during the 2028-2031 Portfolio Plan period, PG&E intends to incorporate them into its BE projects throughout the EE portfolio to support improved economics.

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31 Key findings from *The Service Upgrades for Electrification Retrofits Study* reported that customers found the service upgrade process to take longer than expected, often exceeding 6 to 9 months. Customer costs can range between $2,000 and $30,000. *Service Upgrades for Electrification Retrofits Study*, NV5, (May 27, 2022), p. 6. Available at: https://pda.energydataweb.com/api/view/2635/Service%20Upgrades%20for%20Electrification%20Retrofits%20Study%20FINAL.pdf.

32 *The Service Upgrades for Electrification Retrofits Study* estimates that, based on home vintage data, approximately 71 percent of single family homes in the state have at least 100-amp panels. Assuming it is possible to electrify on 100-amps, of the remaining 29 percent, those that have not already upgraded to 100-amp service are likely to require a panel upgrade for electrification projects. *Ibid*., p. 23.

33 *Reducing Electrification Barriers: Encouraging Power Efficient Design*, Tom Kabat, Co-Chair of POWER Steering Committee, (January 2026). See Day 1 presentation, p. 212. Available at: https://www.cpuc.ca.gov/about-cpuc/divisions/energy-division/building-decarbonization/building-decarbonization-workshops.

34 *PG&E Accelerating Home Electrification for Customers via SPAN Edge*, PG&E, (February 5, 2026). Available at: https://investor.pgecorp.com/news-events/press-releases/press-release-details/2026/PGE-Accelerating-Home-Electrification-for-Customers-via-SPAN-Edge/default.aspx.

Customers may need to engage with PG&E during the electrification process[35] therefore PG&E is designing a BE experience that enables an easy and timely transition for customers. According to the *California Water Heating Market Study,*[36] around 50 percent of customers replace their water heaters upon failure, rather than before. Customers in these emergency replacement scenarios want to regain access to hot water as quickly and affordably as possible, however customers pursuing fuel substitution by replacing their NG-powered water heater with an efficient heat pump water heater may require a load evaluation, and panel and/or service upgrading prior to energizing their appliance, and therefore may experience a delay in installation timelines. PG&E intends to pursue a multi-pronged effort to help customers gain access to operable equipment faster. This includes improving energization timelines,[37] exploring options to help customers restore hot water expediently, while still pursuing electrification, and leveraging data to identify customers who may have appliances at the end of their useful life to target them for electrification prior to appliance failure. See Chapter 6, Section B for further detail on PG&E's Targeted Electrification and Electrification Customer Experience Support Placeholders.

2) Pairing Efficient BE with other DERs and Exempt Measures

Improving the economics of BE will require more than deploying individual technologies in isolation. PG&E sees value in pairing

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35 Per PG&E's Tariff Rule 3, customers who add load must notify PG&E.

36 The *California Water Heater Market Study* included residential insights on the primary reasons for water heater replacement. When homeowners were asked why they replaced their water heaters, 51 percent of respondents indicated equipment failure as the reason for replacement.
California Water Heating Market Study, Opinion Dynamics, (March 29, 2024), p. 30. Available at: https://pda.energydataweb.com/api/view/4024/Water%20Heater%20Market%20Characterization%20Study%20PDA%20Draft1%20_8_25_2024.pdf .

37 Efforts to improve energization timelines are outside the purview of the EE portfolio, however, are mentioned here to provide information and context to PG&E's broader efforts to support the electrification customer journey by reducing costs and timelines.

efficient BE with complementary demand-side resources (such as traditional EE, load flexible technologies, and customer-facing rate options) and exempt measures[38] to improve overall customer and system outcomes. PG&E views this integrated approach as a way to sequence and stack benefits, rather than simply layering costs. By aligning efficiency, electrification, and flexibility around a coherent customer pathway, the portfolio can reduce duplication, streamline delivery, and improve customer experience. Importantly, this strategy does not rely on all elements being deployed simultaneously or universally. Instead, it emphasizes thoughtful pairing where conditions are favorable, learning from early applications, and applying those insights over time.

a) Pairing Efficient BE with Other DERs

When designed thoughtfully, paired DER components can reinforce one another, allowing benefits to accumulate more quickly than costs when compared to deploying each component separately. For example, pairing efficient BE technologies with targeted efficiency measures can reduce baseline energy use and equipment sizing needs, lowering both upfront and ongoing costs. Adding load flexibility capability, whether through controllable devices, operational flexibility, or customer responsiveness to time of use rates, can further improve economics by shifting usage away from higher-cost periods. Together, these combinations can improve customer bill outcomes, reduce peak system impacts, and make electrification more practical and affordable, even where impacts of components might appear marginal on a standalone basis.

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38 D.23-04-035 Conclusion of Law 1 defines exempt measures as

> …a measure that results in gas savings but does not burn gas. Exempt measures can include building insulation, sealing, smart thermostats, faucet aerators, building envelope measures such as windows and doors, behavioral measures and energy audits.

b) Pairing BE with Exempt Measures

PG&E's BE efforts will seek to support equity customers' decarbonization experience by connecting them with incentives for the installation of exempt measures, particularly in cases of partial electrification where some customer end uses remain gas-powered. While the benefits of reducing gas usage can be considerable, the implementation costs of exempt measures can present challenges for equity customers. PG&E's EE Equity segment programs do not currently directly offer exempt measures because these programs connect customers to Energy Savings Assistance (ESA) programs which provide these measures.[39] PG&E intends to continue to leverage incentives from the ESA Programs to deliver exempt measure incentives to residential equity customers.[40]

Outside of exempt measures, PG&E's Portfolio Plan forecast includes cost-effective measures for NG-powered appliances with no current VEAs (e.g., industrial gas boilers), however PG&E envisions that it may revisit whether to continue support for these measures in the 2027 TUAL or 2029 MCAL. PG&E does not intend to provide financial support for NG-powered appliances where VEAs exist for programs PG&E directly administers. PG&E's application forecast does include eligible NG efficiency measures offered via other IOU-led

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39 D.21-05-031, p.15 states that EE equity programs are not intended to target income-qualified populations with program offerings they could receive from ESA programs at no cost.

40 D.23-04-035, p. 12 states:

> Program administrators should seek to leverage the various programs and incentives, including those other than energy efficiency, that provide support for exempt measures or other options for decarbonization.

statewide programs where PG&E is limited in its ability to impact funding decisions on equipment support.[41]

3) Increasing Access to Capital

Access to affordable capital continues to be a key customer barrier to a clean energy transition, including for BE. In 2024 PG&E expanded its on-bill financing (OBF) platform to allow access to capital for battery storage and EV chargers, if the project also includes EE. PG&E intends to continue to expand its OBF platform to enable increased access to capital for BE projects, including capital for costs associated with enabling BE projects.

4) Test Ways to Flexibly Scale Targeted Electrification

PG&E intends to pursue targeted BE to deliver benefits to both electric and gas ratepayers through: (a) targeting areas with underutilized electric assets; (b) leveraging data for targeting potential BE customers; and (c) exploring flexible pathways to achieving gas system cost savings.

a) Target BE in Areas with Underutilized Electric Assets

California regulators and ratepayers have identified the risk of higher energy bills as a top concern and potential barrier to BE, noting that high electric rates can undermine customer willingness to switch from gas-to-electric equipment unless affordability is explicitly addressed.[42] However, electrification can provide downward electric rate pressure, particularly when

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[41] In instances where PG&E has limited ability to impact funding decisions on equipment support, such as for statewide programs for which PG&E is not the lead program administrator, funding may continue for long-life gas equipment in PG&E's territory. D.18-05-041, OP 18 directed that the lead program administrator for each statewide program shall have sole responsibility for the program.

[42] The Draft *2025 California Building Energy Action Plan* provides a roadmap to achieve the state's building decarbonization goals and cites bill affordability concerns among ratepayers as a key barrier to electrification. To overcome this barrier, the plan suggests the development of tools to estimate project costs and bill impacts to help reduce ratepayer uncertainty around electrification decision-making. *2025 California Building Energy Action Plan*, CEC, (December 2025), pp. 33-43. Available at: https://www.energy.ca.gov/sites/default/files/2025-12/CEC-400-2025-001-CMD.pdf .

coupled with locational targeting in areas with underutilized electric assets. PG&E intends to explore piloting geographically targeted BE interventions, paired closely with load flexibility solutions, to try and deliver electric ratepayer cost savings through improved grid utilization. Enabling flexible load resources may help shape demand and alleviate peak hour constraints emerging due to forecasted load growth.[43] See Chapter 6, Section B for more detail on PG&E's proposed Targeted Electrification Program Placeholder.

b) Leverage Data to Better Target Customers for Electrification

PG&E intends to leverage data across internal and external resources to identify customers who may have already partially or fully electrified or may be good candidates for BE (such as those with failing gas appliances), to create clusters of customers that may enable opportunities to more affordably pursue zonal, or targeted electrification.[44,45] Zonal decarbonization offers an opportunity to mitigate impacts to future gas system costs and gas rates by enabling a managed transition of the gas system. This requires all customers within a "zone"[46] to agree to a NPA such as BE to enable the decommissioning of the gas asset. Policies such as the BAAD ZEAS may also lead to customers in PG&E's service area electrifying some, but not all, appliances, thereby potentially creating stranded or underutilized gas assets and upward

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43 The nature of grid peaks is rapidly changing. For example, the *2024 Integrated Policy Report* projects the California ISO system peak to grow at a rate of 2.3 percent annually from 2024 through 2040.
Final 2024 Integrated Policy Report Update, CEC, (October 9, 2025), p. 47. Available at: https://www.energy.ca.gov/publications/2024/2024-integrated-energy-policy-report-update.

44 If a building is already partially electrified, less investment is required to convert the remaining appliances as compared to the investment to convert all appliances.

45 Such targeting will be done pursuant to applicable California privacy laws.

46 A zone can be as few as one gas meter.

pressure on gas rates. Identifying clusters of partial electrification driven by BAAD ZEAS could make it less costly to complete the electrification of full zones at a later time.

In addition, PG&E has developed a Geospatial Electrification Tool (GET)[47] that could enable proactive targeting where there are aligned electric and gas system benefits, thereby more efficiently utilizing ratepayer funds. PG&E intends to expand GET and other system planning tools to support targeted electrification and an affordable managed transition of its gas system.

c) Explore Flexible Pathways to Achieve Gas System Cost Savings

PG&E has been exploring various approaches to influencing customers to pursue BE as a viable NPA via its Zonal Equity Electrification Pilots.[48,49] Based on early learnings from these pilots, PG&E recognizes the benefits of flexibility and nimbleness in customer acquisition methods and tactics to scale electrification and support gas system cost savings. This includes pursuing different sizes of "zones" that may not immediately result in a broader retirement of main pipeline but can incrementally contribute to retirement of other levels of gas assets. PG&E plans to continue to test ways to flexibly scale targeted electrification and minimize customer acquisition costs. See Chapter 6, Section B for more detail on PG&E's proposed Targeted Electrification Program Placeholder.

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47 The GET is designed to facilitate initial screening of candidates for zonal electrification projects by combining dozens of data sources and aggregating into index scores.

48 Program IDs: PGE_Res_004a and PGE_Res_004b

49 PG&E also administers other programs that pursue NPA projects that include BE such as the Alternative Energy Program (approved via D.23-11-069), the Mobile Home Electrification Program (approved via D.25-11-009), and the Santa Nella Mobile Home Electrification Pilot (approved via D.23-04-057). Those are all outside the scope of this EE Application, however PG&E internally coordinates across these programs to share lessons learned and iterate on strategies.

c. Increase Long-Term Confidence in BE

Customers seek confidence when considering transitions to new and potentially unfamiliar technologies, including clarity on pathways to address uncertainty about future costs and performance. Some BE technologies are still relatively nascent and customers do not have the experience with them to know that they will deliver the estimated long-term energy and cost savings. PG&E proposes increasing long-term confidence in BE by: (1) addressing reliability and resiliency concerns and (2) addressing customer concerns about transitioning to electric appliances.

1) Address Reliability and Resiliency Concerns

Customers expect reliability in their electric service with steady performance during normal conditions. But in the event of planned or unplanned power outages, customers need resiliency to be comfortable with BE. Customers still perceive going to a single fuel as a concern, specifically being over-reliant on electric appliances and therefore "at the mercy" of outages and increasing electric rates.[50] Battery storage can support customer resiliency during a power outage by providing backup power to electric loads, sometimes for the entire home or building. PG&E intends to explore programmatic opportunities in its EE portfolio to address customer resiliency, such as through a pilot program that could pair resiliency solutions such as battery storage with EE and BE technologies. PG&E envisions that this could be one of the tactics pursued via its Targeted Electrification Placeholder Pilot Program.[51]

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50 These perceptions were gathered during qualitative research that PG&E conducted and concluded in November 2025 to better understand customer awareness of electrification and related technologies, to gauge customers' interest in electrification adoption, and to gain a deeper understanding of customer barriers to electrification adoption and validate existing known barriers.

51 Program ID: PGE_Res_009.

2) Address Customer Concerns Towards Transitioning to Electric Appliances

Customers may have concerns about using electric appliances for space and water heating and cooking, particularly around performance and comfort. These concerns can create initial resistance to convert, and without addressing those concerns, they can remain entrenched, increasing customer anxiety about transitioning from NG appliances to electric appliances and limiting long-term confidence in electrification technologies. PG&E intends to provide targeted education and awareness that includes: the benefits of electrification; differences in performance or functionality compared to gas appliances; and marketing case studies with customer testimonials. PG&E also intends to provide hands-on opportunities to interact with electrification technologies through its WE&T programs, such as the Induction Loaner Program,[52] and via in-person workshops and community events.

Contractors, who are viewed as key sources of information for customers regarding electric appliances, also have concerns about electric appliances. Therefore, it is imperative to address hesitancy in the contractor community toward BE. PG&E includes a placeholder MS segment Electrification Contractor Support Program to address ease, time, and cost barriers that may lead to hesitancy to promote BE technologies. See Chapter 6, Sections B.1 and B.6 for more detail.

3. Portfolio Strategy 3: Enable Load Flexibility

California's energy system is forecasting increasing electric load growth[53] and changing customer load profiles driven largely by data centers, transportation electrification, growing BE, and widespread behind-the-meter (BTM) solar and storage adoption (see Chapter 2, Section

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52 An offering within PG&E's local Integrated Energy Education & Training program, program ID: PGE21071.

53 *Final 2024 Integrated Policy Report Update*, CEC, (October 9, 2025), p. 37. Available at: https://www.energy.ca.gov/publications/2024/2024-integrated-energy-policy-report-update.

C.5 for more information on the impact of electric load growth on PG&E's EE portfolio). PG&E's customers are at the heart of this dynamic energy landscape, they collectively represent the highest number of connected solar customers in the country,[54] have connected over one gigawatt (GW) of BTM energy storage,[55] are estimated to drive nearly 820,000 EVs[56] and are anticipated to add 8.7 GW of new data center load over the next decade.[57]

PG&E plans to leverage its 2028-2031 EE portfolio to ready the market for future deployment of load flexibility solutions to enhance customer resiliency, grid utilization, and energy system reliability. PG&E seeks to enable load flexibility through targeted EE and BE programmatic investments across its portfolio, which include load reduction, load shifting, and load growth interventions.

The CEC defines load flexibility as "the practice of adjusting load (or energy usage) to match the supply of electricity. Electricity customers with smart devices can automatically shift their energy usage to when electricity is cheaper and clean, and use less energy when the grid is under stress or running polluting power plants."[58] Consistent with this definition, PG&E intends to focus some of its EE and BE investments in measures and activities that help customers shift and shape load and readily integrate with load flexibility offerings. PG&E proposes three tactics as part of this strategy: (a) deploy efficient electric equipment capable of load flexibility; (b) integrate EE and BE with load flexibility programs; and (c) support load flexibility standards. PG&E's load flexibility strategy will leverage IDSM

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54 *2019 Utility Solar Market Snapshot*, Smart Electric Power Alliance (SEPA), (June 2019). See Table 1 on p. 7. Available at: https://sepapower.org/resource/2019-utility-solar-market-snapshot/.

55 2025 PG&E energy storage capacity charts available at: https://www.californiadgstats.ca.gov/.

56 Data provided for PG&E's service territory with the permission of EPRI. Copyright (c) Electric Power Research Institute, Inc. All rights reserved.

57 *Surging Data Center Growth to Help Lower Energy Costs for PG&E Customers,* PG&E, (May 27, 2025). Available at: https://www.pge.com/en/newsroom/press-release-details.fd841459-b124-4cde-94ef-95db4dfbdf23.html.

58 CEC load flexibility webpage available at: https://www.energy.ca.gov/programs-and-topics/topics/load-flexibility.

policy where appropriate. See Chapter 11, Section C.4 for more details on PG&E's policy proposal to streamline and clarify IDSM policy.

a. Deploy Efficient Electric Equipment Capable of Load Flexibility

PG&E intends to deploy some efficient electric equipment that is either: (1) enabled with grid-responsive capability at the time of installation or (2) readily upgradable by the customer after installation. This approach is attractive because many electric EE measures can also support participation in demand response (DR) programs or complement dynamic retail rates.[59]

1) Deploy Load Flexibility-Enabled Efficient Electric Equipment

PG&E plans to explore offering incentives for efficient electric equipment with grid responsive capabilities at the time of customer installation (e.g., heat pump water heater with built-in Wi-Fi or a CTA-2045[60] port). When equipment is load-flexibility ready at installation, customers can more easily enroll in DR or load flexibility offerings without requiring a separate follow-on visit to add communications or controls. This can reduce load flexibility program enrollment barriers and potentially lower implementation costs for load flexibility programs. At the same time, adding grid-responsive functionality may increase incremental EE measure cost without increasing claimable EE TSB, which can reduce EE measure- and program-level cost effectiveness. Therefore, PG&E plans to apply this approach selectively in RA segment programs where it supports load flexibility objectives while maintaining cost-effective TSB delivery.

2) Deploy Load Flexibility-Upgradeable Efficient Electric Equipment

PG&E also plans to incentivize efficient electric equipment that is “load flexibility-upgradeable,” meaning it can be upgraded after

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59 While the EE programs might deploy the load flexibility capable equipment, the actual orchestration and load flexibility would occur outside of the EE portfolio in accordance with PG&E’s load flexibility programs and their stipulations.

60 A communications standard used by appliances to communicate with DR programs.

initial installation to provide load flexibility services. For example, a customer may choose to install an efficient heat pump water heater that does not come installed with a communication module or a control device due to affordability or equipment preference. While the equipment may not be grid-responsive at installation, it can later be upgraded by adding an adapter to enable Wi-Fi and/or a CTA-2045 Universal Control Module (UCM)[61] to enable connectivity and communications. This approach advances PG&E's goals to scale efficient BE and to enable the energy system of tomorrow while recognizing that not all customers are willing and able to install grid-responsive equipment at the outset.

b. Integrate EE and BE With Load Flexibility Programs

PG&E intends to continue integrating EE and BE with load flexibility programs to enhance customer experience and increase system benefits. PG&E will focus on three approaches: (1) educating customers on load flexibility opportunities; (2) streamlining customer enrollment in load flexibility programs; and (3) piloting co-deployment of EE measures and other DERs in grid-constrained areas.

1) Educate Customers on Load Flexibility Opportunities

PG&E plans to educate customers about available load flexibility programs, electrification-friendly upgrades (e.g., insulation and shell measures), applicable rate plans, and the potential customer and grid benefits of load flexibility. PG&E's Virtual Energy Audit Program[62] is an example of an established customer education channel where PG&E residential customers with 12 months of smart meter data can receive a free, customized plan and coaching to reduce wasted energy in their home. The Virtual Energy Audit Program also provides electrification assessments for customers considering gas-to-electric appliance conversion. PG&E

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61 A control device that uses CTA-2045 to communicate with DR programs. Many new water heaters, including most heat pump water heaters, are built with a port (sometimes referred to as an "EcoPort") so a UCM can be installed.

62 Program ID: PGE_Res_001b.

proposes to leverage customer engagement channels like this to encourage adoption of EE and BE measures that enable load flexibility, while clearly communicating that participation in load flexibility offerings is voluntary and customer comfort and preferences remain paramount.

2) Streamline Enrollment

PG&E plans to identify opportunities to streamline enrollment in load flexibility offerings for customers participating in EE programs. As customer load flexibility offerings evolve with the current policy and market landscape, PG&E can enable load flexibility by integrating EE offerings into these efforts and delivering on a simplified customer journey via a streamlined enterprise load management experience. For example, PG&E intends to explore whether targeted incremental incentives can increase enrollment in DR or load flexibility programs for EE program participants (e.g., enrollment of other qualifying appliances in the Automated Response Technology (ART) program).[63, 64] PG&E also plans to explore the feasibility of automatically enrolling EE-incentivized equipment into qualifying DR or load flexibility programs where appropriate and consistent with program rules and customer choice.

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63 PG&E's ART Tariff (See Sheet 2, PROVIDER'S PORTFOLIO): https://www.pge.com/tariffs/assets/pdf/tariffbook/ELEC_SCHEDS_E-ART.pdf.

64 More information can be found at PG&E's ART webpage: https://www.pge.com/en/save-energy-and-money/energy-saving-programs/demand-response-programs/automated-response-technology.html.

3) Pilot Co-Deployment of EE Measures Along With Other DERs in Grid-Constrained Areas

PG&E proposes a Targeted Load Management Placeholder Pilot Program[65] to pursue targeted grid support by leveraging EE programs and enabling load flexibility in grid-constrained areas identified by PG&E system planning teams. Working in conjunction with other DER customer programs, the pilot could focus on areas with significant potential to mitigate the risk of overloading distribution assets and potentially reduce system upgrade costs. Measures could include EE measures that permanently reduce evening peak demand, coordinated with other DERs such as thermal energy storage and BTM batteries, while also supporting targeted customer enrollment in load flexibility programs (e.g., hourly flex pricing rate pilots).[66] This pilot is intended to assess how targeted interventions can advance customer affordability, enhance community resilience, and unlock value from coordinated EE and DERs. The pilot may also explore methodologies to value location-specific benefits to inform future opportunities for scaling targeted load flexibility-enabling grid support offerings.

c. Support Load Flexibility Standards

Adopting load flexibility standards can help lower overall system costs and accelerate decarbonization by shifting consumption to cleaner, lower-cost hours and reducing peak capacity needs. To scale

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65 Targeted Load Management Placeholder, Program ID: PGE_Com_010. PG&E defines load management as the use of signals and measures that modify the customer's load to provide grid services. This includes DR programs, including virtual power plants; dynamic rates; EE measures; vehicle-to-grid integration; and technology incentive programs, like the Self-Generation Incentive Program, that provide grid services like peak load shed, load shift, permanent load reduction, and strategic load growth, for serving generation, transmission, and distribution grid needs (see Opening Comments of PG&E (U 39 E) to the Order Instituting Rulemaking to Enhance DR in California, Attachment A, page A-1). PG&E's Targeted Load Management pilot program would conform to EE proceeding rules regarding allowable use of EE funds for load reduction, load shifting, and load growth interventions. The pilot may coordinate with other non-EE load management programs as appropriate.

66 Details about PG&E's hourly flex pricing pilot are available at: https://www.pge.com/en/account/rate-plans/hourly-flex-pricing.html.

load flexibility cost-effectively, common open communication and interoperability requirements are essential. Open standards can shorten customer and device enrollment timelines; reduce integration costs across aggregators and DER OEMs; enable vendor-agnostic orchestration across devices (e.g., smart thermostats, water heaters, EV chargers, and battery storage); reduce the risk of stranded assets when vendors exit the market; and improve telemetry quality for measurement and verification (M&V).[67,68]

PG&E intends to advance load flexibility-enabling standards through its C&S segment by: (1) advocating for common communication standards and interoperability requirements and (2) shaping the development of Flexible Demand Appliance Standards (FDAS).

1) Advocate for Common Communication Standards and Interoperability Requirements

PG&E plans to advocate for communication standards and interoperability requirements for electrical equipment that support scalable load flexibility. Open, widely adopted protocols can enable vendor-agnostic integration of devices and reduce engineering efforts that are proprietary to a particular end use or manufacturer. Common communication standards can shorten enrollment timelines, reduce program operating costs, and mitigate risk of equipment obsolescence as electrification technology evolves.[69] PG&E anticipates this could include harmonization efforts across end uses through industry standards processes (e.g., Air-Conditioning, Heating, and Refrigeration Institute (AHRI) standards, such as AHRI 1380 or AHRI 1390) to better align the protocols used by distributed energy resource management systems

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67 *Transforming Demand Response using OpenADR 3.0*, Lawrence Berkeley National Laboratory, (August 2024), pp. 7-8. Available at: https://calflexhub.lbl.gov/wp-content/uploads/sites/41/2024/08/Transforming-demand-response-using-OpenADR-3.0.pdf

68 *NIST Framework and Roadmap for Smart Grid Interoperability Standards, Release 4.0*, National Institute of Standards and Technology (NIST), (February 2021), p. 33. Available at: https://nvlpubs.nist.gov/nistpubs/SpecialPublications/NIST.SP.1108r4.pdf

69 *Ibid.*

(DERMS) platforms and related systems so a variety of end uses can be controlled as part of DR or load flexibility efforts.

PG&E believes that when multiple equipment types share common communication protocols (e.g., Matter standards),[70] it can streamline enrollment of additional customers and devices into load flexibility programs. Standardization can also improve operational performance by supporting more consistent dispatch signaling and higher-quality telemetry for M&V.

2) Shape the Development of FDAS

Authorized under Senate Bill 49, FDAS are intended to enable load flexibility by requiring appliances—where feasible and cost-effective—to be capable of scheduling, shifting, or curtailing operations with customer consent.[71] FDAS can help scale load flexibility by establishing baseline requirements for new equipment (e.g., default operating schedules and internet connectivity) so devices are load-flexibility enabled at installation and can more readily integrate with load management signals. PG&E plans to continue supporting FDAS development through its statewide C&S advocacy programs by conducting technical analysis and testing, developing proposals and gathering stakeholder input, and participating in CEC proceedings in coordination with other IOUs and stakeholders.

4. Portfolio Strategy 4: Advance Customer Affordability

Supporting customer rate affordability is at the center of PG&E's enterprise strategy.[72] PG&E's EE portfolio delivers a broad range of

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70 Matter is an example of a technical standard for smart home and Internet of Things devices.

71 More information on FDAS is available here: https://www.energy.ca.gov/proceedings/active-proceedings/flexible-demand-appliances

72 PG&E issued its *2024 R&D Strategy Report* in November 2024, restating its company-wide commitment to stabilizing average customer bills and reducing rates.

> "While our [True North Strategy] TNS encompasses a range of important goals, stabilizing bills for our customers and reducing rates is an urgent near-term priority."

benefits to customers and the energy system, including reduced system costs; lower energy bills for participating customers; improved availability of high-efficiency products; financial incentives to defray upfront costs of EE projects; and education and training for customers and their contractors. PG&E is committed to delivering EE programs in a strategic and responsible manner, prioritizing cost-effective investments, carefully managing program costs, and remaining mindful of rate and bill impacts. This includes PG&E's continued focus on reducing its EE portfolio revenue requirement in its budget filings, while fulfilling its compliance obligations and supporting California's decarbonization and policy goals. In addition to these ongoing commitments, in the next portfolio cycle, PG&E proposes to advance customer affordability via its EE portfolio by: (a) better understanding the impact of EE and BE on electric and gas rates for all customers; (b) focusing on efficient BE to potentially drive down electric rates; and (c) advocating for REN budget cost control policy.

a. Better Understand the Impact of EE and BE on Electric and Gas Rates for All Customers

As part of its commitment to responsible EE portfolio management, PG&E is seeking to improve its understanding of how EE and BE activities affect electric and gas rates over time. PG&E is exploring the use of emerging analytical methods to better understand the complex dynamics of bill and rate impacts resulting from EE and BE investments. While such methodologies are nascent in the California context and not approved for formal proceeding use at this time, PG&E views them as important learning mechanisms that can inform future portfolio decision making. PG&E is exploring how new affordability analyses can quantitatively benchmark different portfolio scenarios with the goal of driving downward rate pressure for all customers while balancing other portfolio objectives.

2024 R&D Strategy Report, PG&E, (November 4, 2024), pp. 11, 12-13. Available at: https://www.pge.com/assets/pge/docs/about/pge-systems/pge-rd-strategy-report-2024.pdf.

b. Focus on Efficient BE and Its Ability to Potentially Drive Down Rates

While the rate impacts of EE and BE are being studied, PG&E's goal of efficient BE is intended to prioritize energy affordability for all ratepayers through its focus on minimizing peak demand on the grid and program costs for BTM subsidies and FTM system costs.[73] This focus on efficient electrification is intended to mitigate grid infrastructure costs and support more favorable electric rate outcomes over time. PG&E believes efficient BE may have the potential to drive down electric rates long term through increased electric revenue relative to increased system costs, and seeks to better understand and quantify this possibility through its affordability analyses.

c. Advocate for REN Budget Cost Control Policy

PG&E recognizes the important role that RENs play in advancing EE through localized delivery models, partnerships, and innovation. At the same time, PG&E is increasingly concerned about the cumulative affordability impacts associated with cost recovery of REN portfolio elements that are not subject to the same cost-effectiveness requirements or budgetary guardrails that apply to IOU or CCA-administered EE portfolios. As an IOU, PG&E is required to maintain a cost-effective RA segment portfolio and is subject to limitations on portfolio segment budgets that are not subject to cost-effectiveness requirements (e.g., equity and MS segments). These same budget limitations apply to Apply-to-Administer CCAs, and Elect-to-Administer CCAs are subject to total portfolio budget caps. RENs operate under a different framework, and their budgets have grown steadily across portfolio cycles in absence of any defined funding

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73 The three key elements of efficient BE include: (1) installation of high-performance electric equipment with an emphasis on peak efficiency; (2) treating buildings as integrated systems while electrifying and considering envelope improvements, commissioning and controls optimization, and right-sizing of equipment; (3) incorporation of load flexibility to enable shifting of demand away from peak periods to off-peak periods to minimize panel upgrades, FTM costs (including distribution system upgrade costs), and generation costs.

ceiling or explicit policy mechanisms that would limit, discourage, or otherwise constrain budget growth.

In light of ongoing affordability pressures faced by customers, PG&E believes it is appropriate to reassess how REN funding is structured to support long-term rate affordability and sustainability of portfolio administration. PG&E therefore requests the Commission undertake a stakeholder process to establish funding guardrails for RENs that align with Commission policy goals and reflect portfolio performance expectations. This approach is intended create space for the thoughtful examination of how RENs can continue to function as PAs in a manner that is innovative, equitable, and affordable in the long term. In the interim, until the Commission adopts a REN cost control policy, PG&E proposes a moratorium on the approval of new RENs. See Chapter 11, Section B.1 for more details on this policy proposal.

F. Portfolio Strategy Prompt Mapping

The table below presents PG&E's strategies proposed in this chapter mapped to corresponding strategy prompts requested in the CPUC's EE Application Template.[74]

[74] Energy Division staff released the Application template (narrative template and workbook template) on September 29, 2025, with updates to the template on November 20, 2025, and February 4, 2026.

TABLE 3-4
STRATEGY PROMPT MAPPING

Line No.	CPUC Template Strategy Prompt #	CPUC Template Strategy Prompts* (below) vs. PG&E Strategies (right)	1: Maintain a Strong Foundation of Cost-effective TSB Delivery	2: Prepare the Market for BE to Scale	3: Enable Load Flexibility	4: Advance Customer Affordability
1	2	Optimize TSB achievement and cost-effectiveness	✓			
2	5	Use of meter-based savings measurement	✓			
3	11	Overcome sector and segment specific challenges	✓			
4	3	Advance building decarbonization activities		✓		
5	9	Increase WE&T		✓		
6	12	Promote responsible refrigerant management		✓		
7	4	Focus electric savings at peak times w/ high avoided cost	✓		✓	
8	8	Pursue integrated demand-side management			✓	
9	13	Spur innovation	✓	✓	✓	
10	1	Advance affordability and mitigate overall rate impacts				✓
11	6	Promote & deploy exempt measures in the equity segment		✓		
12	7	Increase progress on ESJ Action Plan goals		✓		
13	10	Develop joint demographic data reporting		✓		
14	14	Incorporate community-based program design		✓		

(a) Please refer to the CPUC Energy Division Application narrative template for full strategy prompts; these labels are condensed versions of each relevant numbered strategy.

PACIFIC GAS AND ELECTRIC COMPANY

CHAPTER 4

FORECAST METHODOLOGY

PACIFIC GAS AND ELECTRIC COMPANY
CHAPTER 4
FORECAST METHODOLOGY

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PACIFIC GAS AND ELECTRIC COMPANY
CHAPTER 4
FORECAST METHODOLOGY

A. Introduction

1. Scope and Purpose

This chapter presents Pacific Gas and Electric Company's (PG&E) Energy Efficiency (EE) business plan budget for 2028-2035. PG&E describes its detailed forecast methodology for the 4-year portfolio cycle, 2028-2031; and includes a zero-based budgeting approach[1] that identifies forecasted expenses by cost category and functional group category before including them in the forecast. Additionally, PG&E also describes its simplified forecast methodology for the second four-year portion of the business plan, 2032-2035. PG&E provides a breakdown of forecasted expenditures by cost category and the associated forecasted benefits via performance metrics and quantitative contributions toward portfolio goals.

PG&E's EE portfolio provides services and benefits to customers through EE programs, education and training, and support for building codes and appliance standards. The budget forecast supports third-party implemented programs directly contracted with PG&E, third-party implemented programs contracted through other California Investor-Owned Utilities (IOU),[2] and PG&E-implemented programs.

The California Public Utilities Commission (CPUC or Commission) directed the IOUs to ensure that their EE portfolios allocate at least 60 percent of their portfolio budgets to third-party implemented programs by December 31, 2022.[3] The CPUC also directed the IOUs to allocate at least 25 percent of their portfolio budgets to statewide programs and later updated this requirement to 20 percent and 10 percent for Southern

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1 Per D.21-05-031, p. 34, "zero-based" means that "all expenses must be justified for each year of the new 4-year period, after analyzing each function within the budget for its needs and costs."

2 See Chapter 5, Section E for statewide programs and the assigned lead program administrator.

3 D.18-01-004, Ordering Paragraph (OP) 1, p. 61.

California Gas (SoCalGas).[4] To achieve these required allocations, PG&E's budget forecast includes cost forecasts based on three sources: (1) third-party implementers who provided the initial forecasts for their contracted programs; (2) lead IOUs who provided budget forecasts for their respective statewide programs, exclusive of their portfolio administrator (PA) costs;[5] and (3) internal PG&E resources who developed the budget forecasts for PG&E-implemented programs, for prospective new programs, and for PA costs. The sections below provide more detail for each of these categories.

2. Summary of Request

PG&E requests that the Commission approve its four-year total budget cap request for 2028-2031 of approximately $909.7 million (see Table 4-5 and Table 4-6 below). The details provided in this chapter pertain only to PG&E's EE portfolio.[6]

PG&E's annual budget request for each year between 2028-2031 closely aligns with its 2027 portfolio budget forecast. PG&E strives to support affordability for its customers by managing the costs to deliver an EE portfolio that forecasts to achieve key CPUC-directed metrics and support PG&E's portfolio strategies described in Chapter 3. PG&E assumes many of its third-party implemented programs may be at their full program performance levels in 2028-2031, so the forecast reflects steady state program operations.

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4 D.18-05-041, OP 23, p. 187, indicates that "the 25 percent requirement for statewide funding articulated in D.16-08-019 shall be calculated as a proportion of the utility program administrator's total portfolio budget, including evaluation, measurement, and verification (EM&V) funding, but excluding funding allocated to other program administrators for other (non-statewide) programs." The 25 percent requirement for statewide funding was updated in D.23-06-055, Conclusion of Law (COL) 4, p. 111, which indicates that "the required minimum statewide funding contribution for the IOUs should be reduced to 20 percent of their total portfolio funding for 2024-2027, and 10 percent for SoCalGas." Energy Division staff confirmed by email on November 25, 2025 that the updated percentages continue to apply for this Application.

5 Statewide programs forecast information as submitted into the California Energy Data and Reporting System (CEDARS) on February 13, 2026.

6 PG&E's four-year budget forecast excludes budget requested on behalf of Regional Energy Networks (REN) and Community Choice Aggregators (CCA) approved for PA status as of February 19, 2026 within PG&E's service area.

3. Support for the Request

PG&E's forecasted budget request assumes that PG&E will achieve the CPUC-directed EE metrics including: Total System Benefit (TSB) goal; resource acquisition portfolio segment cost effectiveness threshold; portfolio segmentation budget limitations; statewide program budget allocation requirement; and outsourcing compliance requirements.

4. Organization of the Remainder of This Chapter

The remainder of this chapter is organized as follows:

- Section B: Forecast Methodology;
- Section C: Forecasts by Cost Category;
- Section D: Program Modifications from 2027 Portfolio; and
- Section E: Distributing Portfolio Administration and Program Implementation Costs.

B. Forecast Methodology

PG&E's 2028-2031 forecast includes benefit and cost forecasts based on three sources: (1) third-party implementers who provided the initial forecasts for their contracted programs; (2) lead IOUs who provided budget forecasts for their respective statewide programs, exclusive of their PA costs; and (3) internal PG&E resources who developed the budget forecasts for PG&E-implemented programs, for prospective new programs, and for PA costs. PG&E's 2032-2035 forecast is based on trends in the *2025 EE Potential and Goals Study* and a simplified extrapolation of the 2031 forecast that maintains compliance requirements.

1. Forecasts Provided by Third-party Implementers

As directed in Decision (D.) 16-08-019 and reaffirmed in D.18-01-004 and D.18-05-041, PG&E forecasts at least 60 percent of its total portfolio budget will be allocated to programs that meet the third-party definition[7] for 2028-2031. The contracts for these third-party programs were competitively solicited prior to the filing of this application, and most were approved

[7] Third-party definition: "To be designated as 'third-party,' the program must be proposed, designed, implemented, and delivered by non-utility personnel under contract to a utility program administrator." D.16-08-019, OP 10, p. 111; D.18-01-004, OP 1, p. 61; D.18-05-041, OP 4, pp. 182-183.

through the advice letter (AL) process.[8] Therefore, per D.21-05-031, these program implementation costs are considered "per se reasonable" and do not require PG&E to justify them using a zero-based approach.[9]

PG&E requested program forecasts from its contracted vendors for third-party implemented programs (excluding Codes and Standards (C&S) statewide advocacy programs as discussed below). PG&E asked third-party implementers whose programs deliver savings and TSB to generate their forecasts using the CPUC's Cost Effectiveness Tool (CET). For programs that do not deliver savings or TSB (e.g., workforce education and training (WE&T) programs), the vendors provided budget-only forecasts for contract costs.

The benefits and costs included in PG&E's forecast extend beyond the current contract termination dates for the current vendors. The inclusion of a program forecast does not necessarily mean that the program will be implemented by the current vendor; PG&E does not guarantee that its current vendor contracts will be extended. PG&E plans to evaluate vendor performance to determine whether an extension is appropriate. See Chapter 5, Section D for PG&E's approach for assessing vendor performance. Table 4-1 below includes programs that include costs partially based on forecasts provided by third-party implementers. More information about these programs is provided in Chapter 6.

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8 Per D.18-01-004, OP 2, p. 61, Tier 2 ALs are required for each third-party contract that is valued at $5 million or more and/or with a term of longer than 3 years. PG&E's forecast includes programs that qualify as "third-party" that do not meet this threshold. Therefore, the solicitation procurement review group and independent evaluators reviewed the contracts, but PG&E did not file ALs for those contracts.

9 D.21-05-031, COL 21, p. 77.

TABLE 4-1
THIRD-PARTY IMPLEMENTED PROGRAMS

Line No.	Program ID	Program Name	SW or Local
1	PGE_Ag_001	Agricultural Efficiency Program	Local
2	PGE_Com_003	Commercial Efficiency Program	Local
3	PGE_Com_004	High Tech and Bio Tech Efficiency Program	Local
4	PGE_Com_005	Healthcare Efficiency Program	Local
5	PGE_Com_007	Commercial Behavioral Program	Local
6	PGE_Com_009	Commercial Strategic Energy Management	Local
7	PGE_Com_SmallBiz	Micro and Small Business Program	Local
8	PGE_Ind_001a	Industrial Strategic Energy Management (SEM) – Food Processing	Local
9	PGE_Ind_001b	Industrial SEM – Manufacturing	Local
10	PGE_Ind_003	Manufacturing and Food Processing Efficiency Program	Local
11	PGE_Pub_009	Government and K-12 Comprehensive Program	Local
12	PGE_Pub_011[(a)]	California Analysis Tool for Locational Energy Assessment (CATALENA)	Local
13	PGE_Res_001b	Virtual Energy Audit Program	Local
14	PGE_Res_002a	Universal Audit Tool Program	Local
15	PGE_Res_002d	Residential Behavioral Program	Local
16	PGE_Res_002e[(b)]	Online Marketplace Program	Local
17	PGE_Res_004a	Residential Zonal Electrification Equity Program Implementer A	Local
18	PGE_Res_004b	Residential Zonal Electrification Equity Program Implementer B	Local
19	PGE_Res_005	Residential Electrification Equity Program	Local
20	PGE21056	Code Readiness	Local
21	SW_CSA_Appl	State Appliance Standards Advocacy	SW
22	SW_CSA_Bldg	State Building Codes Advocacy	SW
23	SW_CSA_Natl	National C&S Advocacy	SW
24	SW_IP_Gov	Institutional Partnerships: DGS and DoC	SW
25	SW_NC_NonRes_Ag_electric	SW New Construction Non-Res Ag – All Electric	SW
26	SW_NC_NonRes_Ag_mixed	SW New Construction Non-Res Ag – Mixed Fuel	SW
27	SW_NC_NonRes_Com_electric	SW New Construction Non-Res Com – All Electric	SW
28	SW_NC_NonRes_Com_mixed	SW New Construction Non-Res Com – Mixed Fuel	SW
29	SW_NC_NonRes_Ind_electric	SW New Construction Non-Res Ind – All Electric	SW
30	SW_NC_NonRes_Ind_mixed	SW New Construction Non-Res Ind – Mixed Fuel	SW

TABLE 4-1
THIRD-PARTY IMPLEMENTED PROGRAMS
(CONTINUED)

Line No.	Program ID	Program Name	SW or Local
31	SW_NC_NonRes_Pub_electric	SW New Construction Non-Res Pub – All Electric	SW
32	SW_NC_NonRes_Pub_mixed	SW New Construction Non-Res Pub – Mixed Fuel	SW
33	SW_NC_NonRes_Res_electric	SW New Construction Non-Res Res – All Electric	SW
34	SW_NC_NonRes_Res_mixed	SW New Construction Non-Res Res – Mixed Fuel	SW
35	SW_NC_Res_electric	SW New Construction Residential – All Electric	SW
36	SW_WET_CC	WET Career Connections	SW
37	SW_WET_Work	WET Career and Workforce Readiness	SW

(a) D.18-05-041, p. 189, OP 32 directs the IOUs to fund Energy Atlas, a building energy consumption tool, now referred to as CATALENA. Southern California Edison Company (SCE), the lead IOU overseeing the deployment of this statewide tool, created a program in CEDARS to report expenditures. PG&E also created a program ID and program in CEDARS to track program expenditures. Although this tool will be implemented by a third-party vendor, PG&E is excluding forecasted expenditures for CATALENA in PG&E's outsourcing requirement calculation because it is unclear at this time whether this activity meets the definition of third-party in D.16-08-019, p. 111, OP 10.

(b) This program is implemented by a third-party vendor but does not qualify for PG&E's outsourcing requirement.

PG&E reviewed the forecasts provided by third-party implementers and optimized the programs against others in the EE portfolio for TSB, resource acquisition segment cost effectiveness, budgets required to deliver TSB and cost effectiveness, and adherence to the 30 percent budget cap for market support and equity segments. PG&E adjusted program CET input files to reflect the optimization selections across the portfolio.

PG&E's forecast of benefits and costs for C&S programs includes three statewide advocacy programs—for which PG&E is the lead Program Administrator (PA)—and five local programs. PG&E prepared the CET forecast files for the statewide C&S advocacy programs. The statewide C&S advocacy CET forecast applies the CPUC's C&S energy-savings calculation method and uses input data from CPUC C&S evaluation results for evaluated state standards, C&S Enhancement reports for unevaluated Title 20 (appliance) and Title 24 (building) standards, and federal rulemaking documents for unevaluated federal appliance standards. The forecast methodology for the PG&E-implemented C&S programs is discussed in Section B.3 below.

2. Statewide Program Forecasts Provided by Other IOUs

PG&E's portfolio budget request includes PG&E's proportional share for statewide programs. D.18-05-041 directed that lead program administrators for each statewide program shall have sole responsibility for the program.[10] Each lead program administrator provided the non-lead program administrators' CET forecast files at the statewide program level, and the current proportional shared contribution percentages were applied to the CET input files to appropriately allocate the measure level-inputs and program costs to PG&E's portfolio.

The proportional shared contributions used in PG&E's 2028-2031 forecast are based on the combined load share percentages from D.23-06-055, Table 1, p. 6, for all statewide programs, except C&S. The load share percentages for statewide C&S programs are calculated based on D.25-08-034, OP 2, p. 27. However, PG&E requests that the IOUs, in coordination with the Energy Division, revisit the inputs for the contribution percentage calculations prior to the planned 2027 True Up AL (TUAL) covering 2028-2031. The most current data should inform the shared funding among the IOUs for the 2028-2031 period.

Lead program administrators for statewide programs are responsible for providing the program forecast and the CET inputs for their respective statewide programs directly to the CPUC via CEDARS.[11] The CEDARS statewide filing module allocates a portion of statewide programs' CET outputs (e.g., budget, avoided cost benefits, Total Resource Cost (TRC) test costs, TSB, and energy savings) to each IOU based upon their respective proportional shared contribution percentage. Therefore, this budget authorization request includes PG&E's proportional share of the statewide program budgets, along with the associated TSB contributions, avoided cost benefits, and costs. Table 4-2 below includes the statewide programs led by other Program Administrators.

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10 D.18-05-041, OP 18, pp. 185-186.

11 PG&E did not provide input on the forecasts for statewide programs led by other IOUs.

TABLE 4-2
STATEWIDE PROGRAMS LED BY OTHER PAS

Line No.	Statewide Program ID	Statewide Program Name	Lead Program Administrator
1	SW_ETP_Elec	Emerging Technologies Programs – Electric	SCE
2	SW_IP_Colleges	Institutional Partnerships – Colleges	SCE
3	SW_HVAC_QIQM	SW Heating, Ventilation, and Air Conditioning (HVAC) QI/QM Program	SDG&E
4	SW_FS	Food Service	SoCalGas
5	SW_MCWH	Midstream Commercial Water Heating	SoCalGas
6	SW_ETP_Gas	Emerging Technologies Programs - Gas	SoCalGas
7	SW_HESC	SW Home Energy Score California	Bay Area Regional Energy Network

Note: PG&E did not provide input to the budgets for statewide programs led by other program administrators.

3. PG&E Forecasts

PG&E developed the program forecasts for PG&E-implemented programs, for prospective new programs, and for PA costs.

a. PG&E-Implemented Programs

PG&E's forecast budget request for 2028-2031 includes costs for programs implemented by PG&E or through contracted vendors on behalf of PG&E. This includes approximately $81.3 million[12] for 12 programs, including WE&T and C&S programs. It also includes programs that PG&E intends to maintain in its portfolio to complete customer projects that third-party implementers are unable to complete. PG&E does not expect a large number of customers to leverage PG&E-implemented programs compared to the third-party implemented programs.

PG&E's budget request includes a forecast for the On-Bill Financing (OBF) Alternative Pathway Program.[13] Unlike rebates, OBF uses a revolving loan pool; as OBF funds are repaid, they are reissued in the

[12] This amount includes PG&E costs in support of RENs and CCAs, reported in CEDARS as Program ID "PGE_OtherPA_Admin."

[13] OBF Alternative Pathway, Program ID: PGE_OBFAP.

form of new loans to new projects. This enables the delivery of TSB without requiring significant increases to the cost recovery request. PG&E is not requesting to add funds to the OBF loan pool in the 2028-2031 cost recovery request and will utilize existing funds in OBF's revolving loan pool. Please see Chapter 6, Section B.6.b for further details.

Four of PG&E's regional C&S programs are implemented by PG&E or vendors contracted on PG&E's behalf, while Code Readiness[14] is a third-party qualifying program. The forecasted annual budgets for PG&E's local C&S programs for 2028-2031 are consistent with the annual budgets filed in PG&E's 2026-2027 Mid-Cycle Advice Letter (MCAL). The 2028-2031 forecast is based on historical spend and estimated costs to support the California Energy Commission (CEC)'s C&S efforts for improving code compliance, supporting local jurisdictions achieve their reach codes goals, supporting state agencies' decarbonization policies, and coordination with the various codes and standards stakeholders. PG&E describes its C&S programs in Chapter 6, Section C.5.

Table 4-3 below includes the PG&E-implemented programs included in this forecast.

14 Program ID: PGE21056.

TABLE 4-3
PG&E-IMPLEMENTED PROGRAMS

Line No.	Program ID	Program Name
1	PGE21011	Commercial Calculated Incentives
2	PGE21012	Commercial Deemed Incentives
3	PGE21021	Industrial Calculated Incentives
4	PGE21022	Industrial Deemed Incentives
5	PGE21031	Agricultural Calculated Incentives
6	PGE21032	Agricultural Deemed Incentives
7	PGE21053[(a)]	Compliance Improvement
8	PGE21054	Reach Codes
9	PGE21055	Planning and Coordination
10	PGE21071	WE&T Integrated Energy Education and Training
11	PGE_OBFAP	OBF Alternative Pathway
12	PGE_CS_Decarb	C&S Decarbonization Support

(a) This program is partially implemented by third-party qualifying vendors, but does not fully qualify for PG&E's outsourcing requirement.

b. Placeholder Forecasts for Prospective Programs

PG&E's portfolio forecast includes placeholder budgets for seven prospective programs which PG&E plans to solicit, contract, and/or implement by 2028. As a PA, it is PG&E's responsibility to determine EE portfolio "needs"[15] and can conduct third-party solicitations to procure programs that are proposed, designed, implemented, and delivered by third parties to address those needs. In this application, PG&E has identified needs across several key strategic areas including *accelerating efficient electrification, enabling load flexibility, and energy affordability*. PG&E intends to procure programs serving these needs.

PG&E developed the forecasts for all placeholder programs. For the market support program placeholder programs, PG&E only forecasted costs and did not include a forecast of benefits. It is too early to determine whether the programs that would be procured would be able to deliver TSB or if delivery of TSB would be included in the

[15] D.16-08-019, p. 71.

program design. At the time of this application, PG&E is in an active solicitation for the new Statewide HVAC All Electric Non-Residential program, for which PG&E staff generated an estimated forecast based on the expected measure mix and potential seen in the *2025 Potential & Goals Study*. For the remainder of the prospective programs listed in Table 4-4, PG&E plans to solicit, contract, and/or implement them by 2028-2031.

Table 4-4 below lists the placeholders for prospective new programs included in this forecast.

TABLE 4-4
PLACEHOLDERS FOR PROSPECTIVE NEW PROGRAMS

Line No.	Program ID	Placeholder Program Name	Portfolio Segment
1	SW_HVAC_AE_NonRes	SW HVAC All Electric Non-Residential	Resource Acquisition
2	PGE_Res_008	Electrification Contractor Support Placeholder	Market Support
3	PGE_Res_009	Targeted Electrification Placeholder	Market Support
4	PGE_Res_010	Electrification Customer Experience Support Placeholder	Market Support
5	PGE_Res_011	Heat Pump Adoption Program Placeholder	Resource Acquisition
6	PGE_CC_001	Innovation-Enabling Market Support Program Placeholder	Market Support
7	PGE_Com_010	Targeted Load Management Placeholder	Market Support

c. Portfolio Administrator Costs

PG&E PA costs include portfolio administration costs and program implementation costs.[16] Section E below provides details into the methodology for distributing the costs between the two categories. PG&E developed the PA costs through a zero-based budget approach. Forecasts for internal teams whose work is expected to continue at relatively the same levels over the portfolio plan period are based on their spending levels and/or number of full-time employees at the time of

[16] Portfolio administration costs and program implementation costs were defined in the Natural Resources Defense Council Motion (April 24, 2020), Attachment A, California Energy Efficiency Coordinating Committee (CAEECC) Proposal at p. 8, and adopted in D.21-05-031, p. 77, COL 18.

this application. Forecasts for internal teams whose work is expected to change or vary over the portfolio plan period are developed based on their forecast levels of activities and support for 2028-2031. PG&E's forecasted PA costs for 2028-2031 closely align with its 2026-2027 MCAL forecast levels adjusted for 3.75 percent forecast annual labor escalation.

C. Forecasts by Cost Category

This section provides PG&E's forecasted EE portfolio expenditures by cost category for 2028-2031 and by four program types: (1) local third-party implemented programs in PG&E's service area; (2) PG&E-led statewide programs; (3) statewide programs administered by other PAs; and (4) PG&E-implemented programs. Table 4-5 below summarizes the forecasts by cost category and Table 4-6 summarizes PG&E's budget forecast by program type. For PG&E's 2032-2035 business plan forecast, see Chapter 2, Section G.

TABLE 4-5
SUMMARY OF COST FORECAST BY COST CATEGORY

Line No.	Cost Category	2028	2029	2030	2031	Cumulative
1	Administrative Costs	$23,475,208	$23,961,599	$24,118,571	$24,026,774	$95,582,152
2	Marketing and Outreach Costs	14,283,918	14,313,469	14,222,801	14,019,826	56,840,014
3	Direct Implementation Non-Incentives (DINI)	138,567,196	139,773,772	139,121,607	138,408,863	555,871,437
4	Incentives	40,900,011	40,244,870	40,426,760	42,371,180	163,942,821
5	EM&V (PA & CPUC)	9,051,097	9,095,571	9,078,739	9,117,777	36,343,184
6	Energy Division Portfolio Oversight	285,900	285,900	285,900	285,900	1,143,600
7	Loan Pool	–	–	–	–	–
8	Total Portfolio Budget (includes PA Costs and EM&V + Loan Pool)	$226,563,330	$227,675,180	$227,254,379	$228,230,319	$909,723,209

TABLE 4-6
BUDGET FORECASTS BY PROGRAM TYPE

Line No.	Program Type	2028	2029	2030	2031	Cumulative
1	Local Third-party Implemented Programs	$120,439,501	$120,203,760	$118,815,758	$119,148,391	$478,607,410
2	PG&E-led Statewide Programs	26,049,183	26,445,008	26,649,350	26,525,749	105,669,290
3	Other IOU-led Statewide Programs	26,477,880	26,901,749	27,191,186	27,405,738	107,976,553
4	PG&E-Implemented Programs	24,527,211	24,634,617	24,734,755	24,843,326	98,739,909
5	Portfolio Support PA Costs	19,732,558	20,108,575	20,498,692	20,903,438	81,243,263
6	Energy Division Portfolio Oversight	285,900	285,900	285,900	285,900	1,143,600
7	EM&V (PA & CPUC)	9,051,097	9,095,571	9,078,739	9,117,777	36,343,184
8	Loan Pool	–	–	–	–	–
9	Total Portfolio Budget (includes PA Costs and EM&V + Loan Pool)	$226,563,330	$227,675,180	$227,254,379	$228,230,319	$909,723,209

1. Forecasted Performance Metrics

This section provides a summary of the forecasted performance metrics that the forecasted expenditures support. This includes PG&E's forecast of TSB (Table 4-7) and TRC ratio (Table 4-8) at the segment level.

TABLE 4-7
TSB BY SEGMENT (EXCLUDING C&S)

Line No.	Segment	2028	2029	2030	2031	Cumulative
1	Resource Acquisition	$249,299,365	$263,595,346	$276,623,599	$284,026,543	$1,073,544,854
2	Market Support	20,542,360	22,951,807	25,257,932	28,402,517	97,154,616
3	Equity	–	–	–	–	–
4	Portfolio Total	$269,841,725	$286,547,154	$301,881,531	$312,429,060	$1,170,699,471
5	Goal	$245,982,070	$277,204,793	$220,970,017	$261,360,492	$1,005,517,372

TABLE 4-8
TRC RATIO BY SEGMENT

Line No.	Segment	2028	2029	2030	2031	Cumulative
1	Resource Acquisition	1.81	1.86	1.91	1.97	1.89
2	Market Support	0.29	0.33	0.39	0.44	0.36
3	Equity	0.00	0.00	0.00	0.00	0.00
4	EM&V	0.00	0.00	0.00	0.00	0.00
5	*Portfolio without C&S*	**1.16**	**1.21**	**1.28**	**1.32**	**1.24**
6	C&S	1.60	1.63	1.75	1.84	1.70
7	Portfolio with C&S	1.48	1.51	1.60	1.67	1.56

D. Program Modifications From 2027 Portfolio

This section provides descriptions of proposed program modifications from the 2027 portfolio filed in PG&E's 2026-2027 MCAL. This includes program budget changes of 40 percent or greater, new programs proposed as part of this application, programs that PG&E intends to discontinue prior to the start of the portfolio plan period, and no portfolio segmentation category changes.

Table 4-9 shows program budget changes greater than 40 percent from 2027.

TABLE 4-9
PROGRAM BUDGET CHANGES GREATER THAN 40 PERCENT FROM 2027

Line No.	Program ID	Program Name	2027	2028
1	PGE_Com_009	Strategic Energy Management – Commercial	$2,042,989	$3,065,037
2	PGE_Res_004a	Residential Zonal Electrification Equity Program Implementer A	$2,626,385	$3,749,907
3	SW_CSA_Appl	State Appliance Standards Advocacy	$1,256,880	$1,812,096
4	SW_HVAC_AE_NonRes	SW HVAC All Electric Non-Residential	$855,000	$2,208,750
5	SW_IP_Colleges	Institutional Partnerships, UC/CSU/CCC	$472,430	$1,353,808
6	SW_MCWH	Midstream Comm Water Heating	$5,556,000	$7,778,400
7	PGE21012	Commercial Deemed Incentives	$560,519	$45,024
8	PGE21021	Industrial Calculated Incentives	$3,358,978	$31,636
9	PGE_LoanPool	OBF Loan Pool	$5,000,000	–

Table 4-10 shows new programs not included in PG&E's 2026-2027 MCAL.

TABLE 4-10
NEW PROGRAMS FOR 2028 AND BEYOND

Line No.	Program ID	Placeholder Program Name	Segment	Sector	High Level Program Description/Purpose
1	PGE_Res_008	Electrification Contractor Support Placeholder	Market Support	Residential	See Chapter 6, Section B
2	PGE_Res_009	Targeted Electrification Placeholder	Market Support	Residential	See Chapter 6, Section B
3	PGE_Res_010	Electrification Customer Experience Support Placeholder	Market Support	Residential	See Chapter 6, Section B
4	PGE_Res_011	Heat Pump Adoption Program Placeholder	Resource	Residential	See Chapter 6, Section B
5	PGE_Com_010	Targeted Load Management Placeholder	Market Support	Commercial	See Chapter 6, Section B
6	PGE_CC_001	Innovation-Enabling Market Support Program Placeholder	Market Support	Cross-Cutting	See Chapter 6, Section B

Table 4-11 lists programs which PG&E plans to discontinue by the end of 2027. These programs are not included in this application.

TABLE 4-11
PROGRAMS PLANNED FOR DISCONTINUATION BY THE END OF 2027

Line No.	Program ID	Program Name
1	PGE_Com_006[a]	Summer Reliability Platform Admin Placeholder
2	PGE_Pub_001	Central Coast Leaders in Energy Action Program
3	PGE_Pub_002	Marin Local Government Partnership
4	PGE_Pub_003	Redwood Local Government Partnership
5	PGE_Pub_004	Central California Local Government Partnership
6	PGE_Pub_005	San Mateo Local Government Partnership
7	PGE_Pub_007	Sierra Local Government Partnership
8	PGE_Pub_008	Sonoma Local Government Partnership
9	PGE_Pub_010	Wastewater Process Efficiency Program
10	PGE21014	Commercial Energy Advisor
11	PGE21024	Industrial Energy Advisor
12	PGE21034	Agricultural Energy Advisor
13	PGE_Res_006[a]	Residential Customer Energy Orchestration
14	PGE_Res_007	WatterSaver Phase 2
15	PGE_Com_008	Multi-DER Placeholder
16	SW_PLA_AE[b]	Plug Load and Appliance All Electric
17	SW_WP[b]	Water/wastewater pumping
18	SW_PLA[b]	Plug Load and Appliance
19	SW_HVAC_Up_Com[b]	SW HVAC Upstream Commercial
20	SW_HVAC_Up_Res[b]	SW HVAC Upstream Residential

(a) PG&E is currently evaluating program/pilot performance to determine long-term viability in the portfolio.
(b) See SW lead PA for details.

TABLE 4-12
CLOSED PROGRAMS FROM THE 2024-2027 CYCLE

Line No.	Program Name	Segment	Sector	Unspent Budget of the Closed Program	Total EE budget from the 2024-2027 cycle	Rationale for Program Closure	Underperformance and Remediation (If applicable, elaborate on what led to underperformance and why. Describe remediation efforts that were undertaken, results of those efforts, and over which timeframe.)
1	Summer Reliability Platform Admin Placeholder[(a)]	Resource	Commercial	N/A[(b)]	$21,477,023	PG&E is currently evaluating program/pilot performance to determine long-term viability in the portfolio.	Underperformance in TSB compared to contracted targets by over 50 percent, primarily due to lower volume of cost-effective projects available. Lower performance has been observed since Q1 2025. Since Q4 2025, Implementer is currently on a program performance improvement plan, focusing on bringing in more cost-effective projects, which include targeting higher quality measures.
2	Central Coast Leaders in Energy Action Program	Market Support	Public	N/A[(b)]	$2,066,547	Reevaluating how PG&E can leverage community partnerships in support of electrification and energy efficiency.	N/A
3	Marin Local Government Partnership	Market Support	Public	N/A[(b)]	$987,072	Reevaluating how PG&E can leverage community partnerships in support of electrification and energy efficiency.	N/A
4	Redwood Local Government Partnership	Market Support	Public	N/A[(b)]	$1,828,231	Reevaluating how PG&E can leverage community partnerships in support of electrification and energy efficiency.	N/A

TABLE 4-12
CLOSED PROGRAMS FROM THE 2024-2027 CYCLE
(CONTINUED)

Line No.	Program Name	Segment	Sector	Unspent Budget of the Closed Program	Total EE budget from the 2024-2027 cycle	Rationale for Program Closure	Underperformance and Remediation (If applicable, elaborate on what led to underperformance and why. Describe remediation efforts that were undertaken, results of those efforts, and over which timeframe.)
5	Central California Local Government Partnership	Market Support	Public	N/A[(b)]	$3,915,981	Reevaluating how PG&E can leverage community partnerships in support of electrification and energy efficiency.	N/A
6	San Mateo Local Government Partnership	Market Support	Public	N/A[(b)]	$2,862,104	Reevaluating how PG&E can leverage community partnerships in support of electrification and energy efficiency.	N/A
7	Sierra Local Government Partnership	Market Support	Public	N/A[(b)]	$2,481,252	Reevaluating how PG&E can leverage community partnerships in support of electrification and energy efficiency.	N/A
8	Sonoma Local Government Partnership	Market Support	Public	N/A[(b)]	$2,190,232	Reevaluating how PG&E can leverage community partnerships in support of electrification and energy efficiency.	N/A

TABLE 4-12
CLOSED PROGRAMS FROM THE 2024-2027 CYCLE
(CONTINUED)

Line No.	Program Name	Segment	Sector	Unspent Budget of the Closed Program	Total EE budget from the 2024-2027 cycle	Rationale for Program Closure	Underperformance and Remediation (If applicable, elaborate on what led to underperformance and why. Describe remediation efforts that were undertaken, results of those efforts, and over which timeframe.)
9	Wastewater Process Efficiency Program	Resource	Public	N/A[(b)]	$4,208,955	Closing due to overlap with Statewide Water/wastewater pumping Program and low cost-effectiveness.	N/A
10	Commercial Energy Advisor	Resource	Commercial	N/A[(b)]	$3,920,847	Discontinued nonresidential customer audit tool due to very low customer usage and low customer satisfaction using the tool.	The tool did not deliver any TSB. Remediation efforts were not pursued since there is no current path for generating claimable TSB.
11	Industrial Energy Advisor	Resource	Industrial	N/A[(b)]	$516,252	Discontinued nonresidential customer audit tool due to very low customer usage and low customer satisfaction using the tool.	The tool did not deliver any TSB. Remediation efforts were not pursued since there is no current path for generating claimable TSB.

TABLE 4-12
CLOSED PROGRAMS FROM THE 2024-2027 CYCLE
(CONTINUED)

Line No.	Program Name	Segment	Sector	Unspent Budget of the Closed Program	Total EE budget from the 2024-2027 cycle	Rationale for Program Closure	Underperformance and Remediation (If applicable, elaborate on what led to underperformance and why. Describe remediation efforts that were undertaken, results of those efforts, and over which timeframe.)
12	Agricultural Energy Advisor	Resource	Agricultural	N/A[b]	$646,518	Discontinued nonresidential customer audit tool due to very low customer usage and low customer satisfaction using the tool.	The tool did not deliver any TSB. Remediation efforts were not pursued since there is no current path for generating claimable TSB.
13	Residential Customer Energy Orchestration[a]	Market Support	Residential	N/A[b]	$2,268,364	PG&E is currently evaluating program/pilot performance to determine long-term viability in the portfolio.	N/A
14	WatterSaver Phase 2	Market Support	Residential	N/A[b]	$2,356,932	No regulatory approval for funding beyond 2027.	N/A
15	Multi-DER Placeholder	Market Support	Commercial	$625,000	$625,000	Currently, no program exists. PG&E has decided to not pursue program.	N/A

TABLE 4-12
CLOSED PROGRAMS FROM THE 2024-2027 CYCLE
(CONTINUED)

Line No.	Program Name	Segment	Sector	Unspent Budget of the Closed Program	Total EE budget from the 2024-2027 cycle	Rationale for Program Closure	Underperformance and Remediation (If applicable, elaborate on what led to underperformance and why. Describe remediation efforts that were undertaken, results of those efforts, and over which timeframe.)
16	Plug Load and Appliance All Electric	Resource	Residential	See SW lead PA	$5,742,000	See SW lead PA for details	See SW lead PA for details
17	Water/wastewater pumping	Resource	Public	See SW lead PA	$3,817,979	See SW lead PA for details	See SW lead PA for details
18	Plug Load and Appliance	Resource	Residential	See SW lead PA	$12,138,154	See SW lead PA for details	See SW lead PA for details
19	SW HVAC Upstream Commercial	Resource	Commercial	See SW lead PA	$6,542,123	See SW lead PA for details	See SW lead PA for details
20	SW HVAC Upstream Residential	Resource	Residential	See SW lead PA	$6,938,708	See SW lead PA for details	See SW lead PA for details

(a) PG&E is currently evaluating program/pilot performance to determine long-term viability in the portfolio.
(b) Program is still active, and its unspent funds cannot yet be determined.

PG&E is not proposing any changes to portfolio segment assignments.

E. Distributing Portfolio Administration and Program Implementation Costs

This section describes PG&E's methodology for distributing PA costs between portfolio administration costs and program implementation costs. Explanations, tables, and figures are included to provide clarity and transparency into PG&E's methodology.

PG&E forecasts its EE portfolio budget and costs by internal PG&E team which includes any contracts, incentives, and other non-labor costs they manage or oversee. Based on the types of work performed or cost incurred, each internal team is either assigned to a single cost category or split into multiple cost categories as defined by the EE Policy Manual.[17]

Each PG&E internal team is also mapped to a functional group. A portion of the non-labor costs managed by teams within the "Program Management" functional group are broken out into the following five components:

- Third-party Implementer Contracts;[18]
- Local/Government Partnerships Contracts;
- Program Implementation;
- Incentives--(PA Implemented and Other Contracts Program Implementation) Programs; and
- Incentives--Third-party Program.[19]

Showing costs by these functional group categories, including the additional five non-labor components, is required by the Energy Division. PG&E provides these additional details in Exhibit 3, Attachment B, Appendix Table 9.[20]

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17 The five cost categories are: (1) utility administrative costs, (2) third-party/government partnership administrative costs, (3) marketing and outreach costs, (4) DINI costs, and (5) EM&V costs.
Energy Efficiency Policy Manual, Version 6, (April 2020), See Appendix C: Cost Categories and Related Cap and Targets. Available at: https://www.cpuc.ca.gov/-/media/cpuc-website/files/legacyfiles/e/6442465683-eepolicymanualrevised-march-20-2020-b.pdf.

18 As defined per D.16-08-019, OP 10, p. 111.

19 *Ibid*.

20 D.18-05-041, OP 44, p. 192.

Each PG&E internal team and the costs they manage or oversee are further categorized as "Portfolio Administration" or "Program Implementation Costs" following the definitions adopted in D.21-05-031:[21]

> **Program Implementation Costs**: All costs associated with delivering a program. With the use of 3rd party implementers, this is very straightforward; all costs associated with contracts for efficiency programs is program implementation. Should the PA [program administrator] be in the role of implementation, the PA should clearly identify all costs associated with that program. This should NOT be some level of "rule of thumb" allocations. PA employee time (including account reps) should be booked directly to a specific program being implemented in a manner that can be audited for accuracy. The PA could propose methods for tracking things like traditional "overhead" (such as rent, or IT [information technology] services) in a manner that appropriately links to employee charged time.
>
> **Portfolio Administration** (i.e., Overhead): Everything else not in Program Implementation. Costs for things like managing a solicitation, negotiating a contract, and reviewing/paying invoices all are part of Administration (this should not be put into the "implementation" bucket).

To categorize costs into portfolio administration and program implementation, PG&E first differentiates between "PA Costs" and "Non-PA Costs," as shown in Table 4-13. All costs identified in Table 4-13 as "Non-PA Costs" are categorized by PG&E as Program Implementation costs per the definition.[22] Table 4-13 excludes OBF Loan Pool.

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21 D.21-05-031, Section 5.2.3, pp. 32-33.

22 *Ibid*.

TABLE 4-13
PA COSTS AND NON-PA COSTS BY FUNCTIONAL GROUP

Line No.	Cost Element	Functional Group	PA Costs or Non-PA Costs[(a)]
1	Labor	Policy, Strategy, and Regulatory Reporting Compliance	PA Costs
2		Program Management	PA Costs
3		Engineering Services	PA Costs
4		Customer Application/Rebate/Incentive Processing	PA Costs
5		Customer Project Inspections	PA Costs
6		Portfolio Analytics	PA Costs
7		EM&V	*N/A – EM&V*
8		ED Portfolio Oversight	*N/A – Portfolio Oversight*
9		ME&O (Local)	PA Costs
10		Account Management / Sales	PA Costs
11		IT	PA Costs
12		Call Center	PA Costs
13	Non-Labor	Third-party Implementer Contracts (as defined per D.16-08-019, OP 10)	*Non-PA Costs*
14		Local/Government Partnerships Contracts	*Non-PA Costs*
15		Other Contracts	*See categories below*
16		Program Implementation	*Non-PA Costs*
17		Policy, Strategy, and Regulatory Reporting Compliance	PA Costs
18		Program Management	PA Costs
19		Engineering Services	PA Costs
20		Customer Application/Rebate/Incentive Processing	PA Costs
21		Customer Project Inspections	PA Costs
22		Portfolio Analytics	PA Costs
23		EM&V	*N/A – EM&V*
24		ED Portfolio Oversight	*N/A – Portfolio Oversight*
25		ME&O (Local)	PA Costs
26		Account Management / Sales	PA Costs
27		IT	PA Costs
28		Call Center	PA Costs
29		Facilities	PA Costs
30		Incentives – (PA-Implemented and Other Contracts Program Implementation) Programs	*Non-PA Costs*
31		Incentives – Third-party Program (as defined per D.1608019, OP 10)	*Non-PA Costs*
32	Other	Other (collected through GRC)	*N/A – Not EE funds*

(a) Program Implementation Costs category includes: (1) a portion of PG&E's PA Costs (i.e., program support costs) and (2) Non-PA costs that include program contracts and incentives (implementer contracts, local C&S and WE&T contracts, other-IOU-led SW contracts, and other program implementation contracts).

All costs identified in Table 4-13 as PA Costs are split between Program Support and Portfolio Support:

- **Program Support** includes PA costs for all activities that directly support individual programs and can be booked directly to a specific program or follows a program-performance-based allocation (e.g., TSB). This portion of PG&E's PA costs is what PG&E interprets as "Program Implementation Costs" in the CAEECC categorization.
- **Portfolio Support** includes PA costs for all activities that support the entire EE portfolio. These are allocated to segment level program IDs, and costs allocated to the segments (C&S, Resource Acquisition, Market Support, and Equity) proportionally based on their segment budgets without the portfolio support costs. This portion of PG&E's PA costs is what PG&E interprets as "Portfolio Administration" in the CAEECC categorization.

Portfolio support PA costs are, by definition, costs that cannot be directly associated with individual programs. A streamlined allocation methodology was developed to help PAs account for portfolio support PA costs that cannot be directly attributed to individual programs. This approach was formalized through a joint proposal submitted by IOUs and non-IOU PAs to the CPUC in December 2022 titled "Portfolio Administration Cost Allocation Methodology FINAL.pdf." Current CEDARS reporting standards report portfolio support PA costs at the segment level in individual CEDARS program IDs. Further details are described in later paragraphs.

Figure 4-1 illustrates the split and overlap between PA costs and Non-PA costs, as well as the split and overlap between "Portfolio Support" and "Program Support" PA costs using a Venn diagram. The non-overlapping section of the blue circle is categorized as "Portfolio Administration" of the CAEECC Proposal, and the full orange circle (which includes both program support PA costs and Non-PA costs) is categorized as "Program Implementation Costs" of the CAEECC Proposal.

FIGURE 4-1
RELATIONSHIP BETWEEN CAEECC PROPOSAL COSTS AND PROGRAM VS PORTFOLIO SUPPORT COSTS

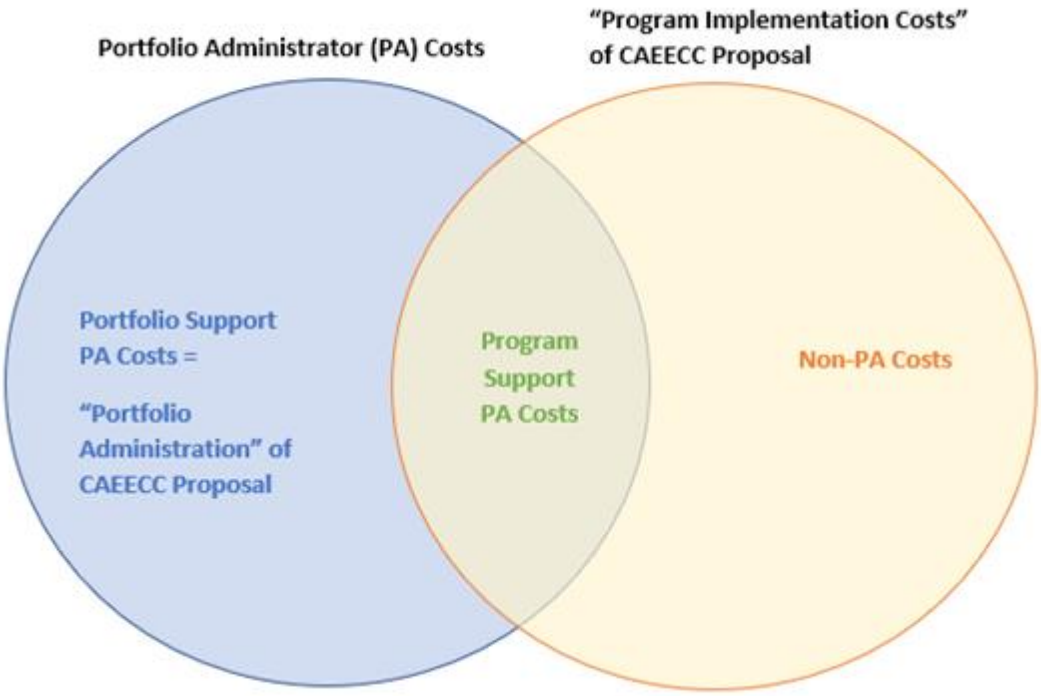


Table 4-14 below shows which functional group categories and which types of activities are categorized by PG&E as "Portfolio Administration" or "Program Implementation Cost."

TABLE 4-14
SUMMARY OF CAEECC PROPOSAL CATEGORIES BY FUNCTIONAL GROUP, DESCRIPTIONS OF PA COSTS' ACTIVITIES, AND COST CATEGORY

Line No.	Functional Group Category	Description of Activities (which make up "PA Costs" in Table 4-13 and Figure 4-1)	Cost Category[(a)]	Portfolio Administration or Program Implementation Cost
1	Policy, Strategy, and Regulatory Reporting Compliance	Includes policy shaping and analysis, regulatory and legislative compliance, performance and financial reporting, audits, legal review of contract-related agreements, and engagement with Energy Division staff and other stakeholders	A	Portfolio Administration
		Includes portfolio strategy and optimization, portfolio-level performance management and analysis and forecasts	A	Portfolio Administration
2	Program Management	Includes procurement of new local and statewide customer programs and other customer-facing support tools	A	Portfolio Administration
		Includes audit support, purchase requisitions, accruals, goods receipts, and sourcing	A	Portfolio Administration
		Includes vendor relationship and contract management, regular meeting coordination, managing program-level budgets and TSB goals, tracking measure code changes, project approvals, marketing coordination, data management and program transitions, completing program-specific regulatory requirements (e.g., implementation plans, metrics, audits, data requests)	Mostly DINI	Program Implementation
3	Engineering Services	Includes project technical and policy reviews, direct program support, program data quality reviews, and Applied Technology Services	DINI	Program Implementation
		Includes measure package development and review, support to EE data systems (California Electronic Technical Reference Manual, Energy Insight, and reporting systems), SW and CPUC collaboration, stakeholder communication and training	DINI	Portfolio Administration
4	Customer Application/Rebate/ Incentive Processing	Includes application management and rebate and incentive processing	DINI	Program Implementation
5	Customer Project Inspections	Includes inspection verification of programs and products	DINI	Program Implementation
6	Portfolio Analytics	Includes analytics support	A	Portfolio Administration

TABLE 4-14
SUMMARY OF CAEECC PROPOSAL CATEGORIES BY FUNCTIONAL GROUP, DESCRIPTIONS OF PA COSTS' ACTIVITIES, AND COST CATEGORY
(CONTINUED)

Line No.	Functional Group Category	Description of Activities (which make up "PA Costs" in Table 4-13 and Figure 4-1)	Cost Category[(a)]	Portfolio Administration or Program Implementation Cost
7	ME&O (Local)	Includes: marketing campaigns and collateral; reviewing co-branding materials; customer research for specific programs, policies, and projects; and maintaining customer database and conducting data analysis	M	Program Implementation
8	Account Management/Sales	Includes responding to customer questions / complaints	DINI	Portfolio Administration
9	IT	Includes IT support for specific programs	DINI	Program Implementation
		Includes IT operations and maintenance (O&M), projects, enhancements, and applications	A	Portfolio Administration
10	Call Center	Call center staff fielding EE program questions	DINI	Portfolio Administration

(a) These are Cost Categories as defined in the EE Policy Manual Version 6, Appendix C. A = Utility Administrative Costs, M = Marketing and Outreach Costs, and DINI = Direct Implementation Non-Incentive Costs.

PG&E also includes cost categories (A, M, and DINI) from the EE Policy Manual in Table 4-14 to illustrate that the terms Utility Administrative Costs and Portfolio Administration are not equivalent, nor are the terms DINI and Program Implementation

Given that there are similar sounding terms "Administra*tive,*" "Administra*tion,*" "Administra*tor,*" PG&E shares the diagram in Figure 4-2 and Table 4-15 to illustrate the relationship among the utility administrative costs definition from the EE Policy Manual, the data on PA costs in CEDARS, and the CAEECC proposal categories. PA costs are a combination of portfolio administra*tion* costs and program implementation costs.

FIGURE 4-2
PROGRAM COSTS BY TYPE WITH COST CATEGORIES



Figure 4-2 excludes EM&V and OBF Loan Pool contributions. The concentric circles do not indicate overlap in categories, as opposed to Figure 4-1 where overlap in circles do indicate overlap in categories. The diagram is best viewed as a pie, with each circle representing different ingredients making up the pie (e.g., crust and filling) and each quadrant representing a slice of the pie that includes each ingredient.

TABLE 4-15
SUMMARY OF ADMINISTRATIVE, ADMINISTRATION, ADMINISTRATOR DEFINITIONS AND CONTEXTS

Line No.	Context	Term Name	Includes	Corresponding Figure 4-2 Diagram Components
1	Caps and Targets	Utility Administrative Costs	Administrative portion of PA Costs	A + B[(a)]
2	CAEECC Proposal	Portfolio Administration Costs	All PA costs that support the overall portfolio (as opposed to individual programs)	A + D + G
3		Program Implementation Costs	All PA costs that directly support programs + Non-PA Costs	(B + E + H) + (C + I + F + J)
4	CEDARS	Admin (CET Input)	PA Costs and Administration portion of Non-PA Costs	A + B + C
5		TRC No Admin (CET Output)	All PA costs and Non-PA Costs, except incentives	All components - J
6		Admin (under CET dashboard program summary)	Administrative and Marketing portions of PA Costs + Non-PA Costs	(A + B + C) + (D + E + F)

(a) Excludes administrative costs for target-exempt non-resource programs (breakout not shown in diagram).

As introduced in the December 2022 report "Portfolio Administration Cost Allocation Methodology FINAL.pdf," a new cost allocation methodology was developed to streamline how PAs account for portfolio support PA costs that cannot be directly attributed to individual programs. The following outlines how this methodology is implemented within the CEDARS system.

Under the new approach, PAs enter the full value of applicable costs into CEDARS, categorized according to the Policy Manual Cost Categories (as outlined in ProgramCost.csv), allowing the system to handle the allocation. This standardized method ensures consistency across all PAs, as it is enforced by the system itself. The methodology excludes programs marked with "exclude from budget = true" in the CEDARS program table and allocates costs only at the Segment Level. Specifically, allocations are made to the Resource Acquisition, Market Support, Equity, and C&S segments, while the EM&V segment does not receive any portfolio cost allocations. These costs are assigned the sector label "portfolio support PA costs" to ensure visibility in CEDARS dashboards without affecting other sectors.

For budget filings, segment allocations are based on each segment's share of the total portfolio budget (excluding EM&V and portfolio support PA costs), as

illustrated in Figure 4-3. For quarterly and annual claims filings, allocations are determined by each segment's share of total expenditures (again excluding EM&V and portfolio support PA costs), as shown in Figure 4-4.

FIGURE 4-3
BUDGET ALLOCATION EXAMPLE

	Budget Amount
Total Portfolio Support PA Costs	$ 23,257,857

Segment	Budget Amount	% of Portfolio Total (excl. EM&V & Portfolio Support PA Costs)[1]	Allocation Amount[2]
Codes & Standards	$ 33,105,417	13.2%	$ 3,065,315
Resource Acquisition	$ 143,555,248	57.2%	$ 13,292,147
Equity	$ 12,110,152	4.8%	$ 1,121,310
Market Support	$ 62,414,150	24.8%	$ 5,779,085
Portfolio Total (excl. EM&V)	**$ 251,184,967**	**100.0%**	**$ 23,257,857**
EM&V	$ 10,466,040	<- this is 4% of the portfolio total	
Portfolio Total	**$ 261,651,007**		

Notes:
1) % of Portfolio Total (excl. EM&V & Portfolio Support PA Costs) is the budget amount for the segment, divided by the Portfolio Total (excl. EM&V & Portfolio Support PA Costs) value
2) The Allocation Amount is the Total Portfolio Support PA Costs multiplied by the % of Portfolio Total (excl. EM&V & Portfolio Support PA Costs)

FIGURE 4-4
CLAIMS ALLOCATION EXAMPLE

	Expenditure Amount
Total Portfolio Support PA Costs	$ 22,257,857

Segment	Expenditure Amount	% of Portfolio Total (excl. EM&V & Portfolio Support PA Costs)[1]	Allocation Amount[2]
Codes & Standards	$ 31,105,417	12.4%	$ 2,767,298
Resource Acquisition	$ 145,555,248	58.2%	$ 12,949,343
Equity	$ 13,110,152	5.2%	$ 1,166,346
Market Support	$ 60,415,460	24.1%	$ 5,374,870
Portfolio Total (excl. EM&V)	**$ 250,186,277**	**100.0%**	**$ 22,257,857**
EM&V	$ 9,875,412	<-This is actual EM&V expenditures	
Portfolio Total	**$ 260,061,689**		

Notes:
1) % of Portfolio Total (excl. EM&V & Portfolio Support PA Costs) is the expenditure amount for the segment, divided by the Portfolio Total (excl. EM&V & Portfolio Support PA Costs) value
2) The Allocation Amount is the Total Portfolio Support PA Costs multiplied by the % of Portfolio Total (excl. EM&V & Portfolio Support PA Costs)

PG&E separated program support and portfolio support PA costs by program cost CET input field. Table 4-16 below has the mapping for CET input field with program support and portfolio support, by cost category.

TABLE 4-16
PA COST MAPPING TO CET INPUTS

Line No.	CET Program Cost Input Field Name	PA Cost Type	Cost Category
1	AdminCostsOther	Portfolio PA Cost	Administrative
2	MarketingOutreach	Portfolio PA Cost	Marketing
3	DIInstallation	Portfolio PA Cost	DINI
4	DIRebateAndInspection	Program PA Cost	Administrative
5	DIHardwareAndMaterials	Program PA Cost	Marketing
6	UserInputIncentive	Program PA Cost	DINI

PACIFIC GAS AND ELECTRIC COMPANY

CHAPTER 5

PORTFOLIO MANAGEMENT

PACIFIC GAS AND ELECTRIC COMPANY
CHAPTER 5
PORTFOLIO MANAGEMENT

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CHAPTER 5
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PACIFIC GAS AND ELECTRIC COMPANY
CHAPTER 5
PORTFOLIO MANAGEMENT

A. Introduction

Pacific Gas and Electric Company (PG&E) recognizes the importance of the role it plays in responsibly utilizing ratepayer funds to deliver Energy Efficiency (EE) benefits and to help the state meet its climate goals while simultaneously focusing on affordability. This chapter describes PG&E's approach to portfolio management to deliver on California Public Utilities Commission (CPUC or Commission) goals while adhering to outsourcing and segmentation regulatory requirements. It also provides a portfolio-level logic model to illustrate PG&E's 2028-2035 business plan.

The remainder of this chapter is organized as follows:

- Section B: Overview of 4-Year and 8-Year Plans;
- Section C: Strategies to Optimize the Portfolio and Manage Risk;
- Section D: Third-Party Programs;
- Section E: Statewide Programs; and
- Section F: Statewide Assessment.

B. Overview of 4-Year and 8-Year Plans

1. Logic Model

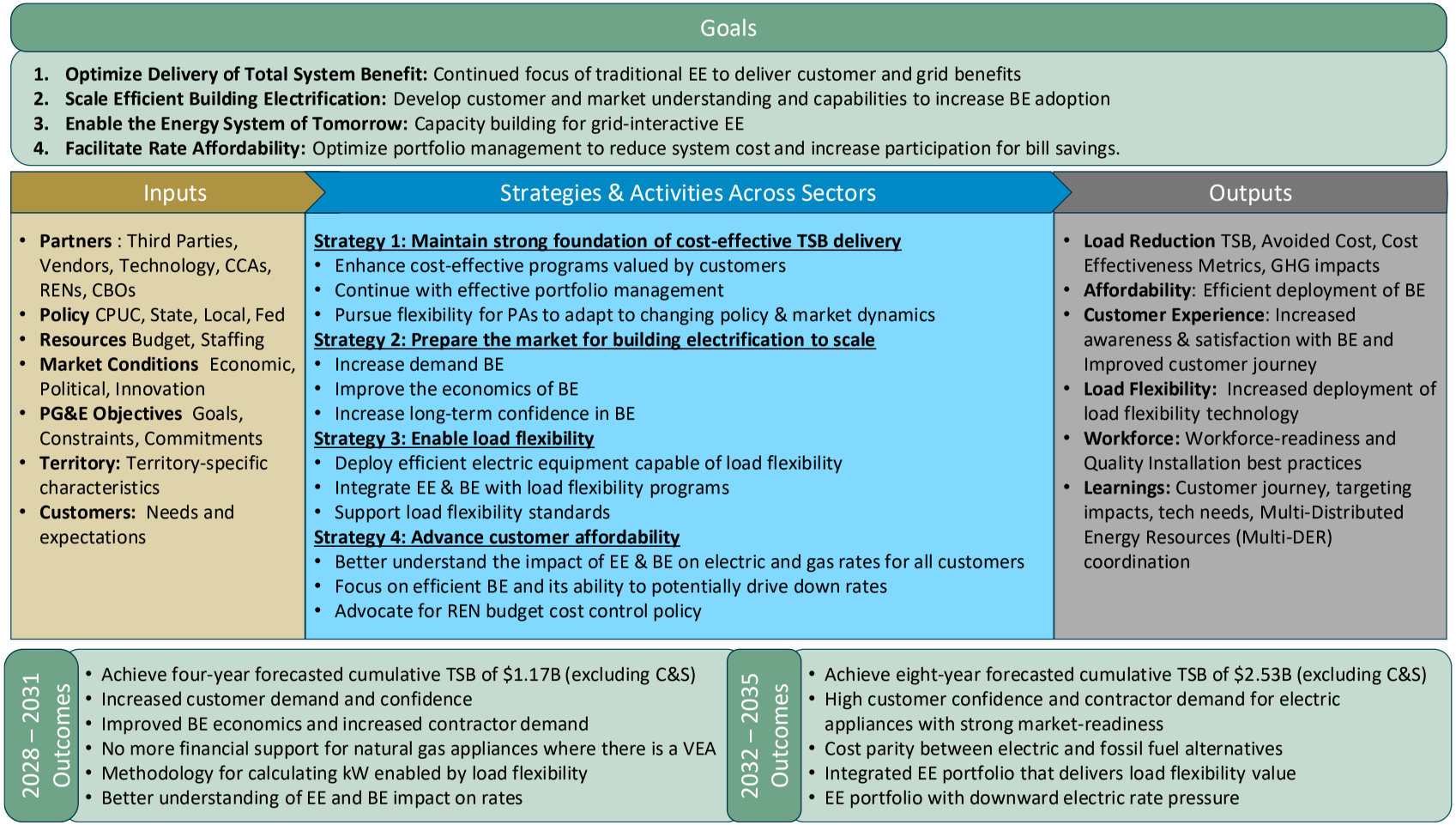
This section illustrates PG&E's portfolio logic model for the four-year and eight-year portfolio and business plans, as presented in Figure 5-1 below. The model depicts the structured progression from foundational inputs to coordinated portfolio strategies, measurable outputs, and phased outcomes across the business plan period. Core inputs (including partners, policy context, available resources, market conditions, PG&E objectives, territory characteristics, and customer needs) inform the design and prioritization of four cross-cutting portfolio strategies. Each strategy is supported by a defined set of representative activities that guide implementation.

Although many activities are delivered uniquely by customer sector (see Chapter 6 for sector specific details), the model is organized around four portfolio strategies to reflect how investments are deployed and managed at

the portfolio level. Implementation of these strategies produces outputs such as load reduction, improved affordability, enhanced customer experience, increased load flexibility, workforce development, and ongoing portfolio learnings. These outputs collectively advance the four portfolio objectives.

Outcomes are expressed across two sequential planning periods within the eight-year business plan. The first four years represent the portfolio plan period (2028-2031), during which the portfolio emphasizes capability development, foundational deployment, and market enablement, particularly to support building electrification (BE) and load flexibility objectives. The subsequent four years represent the latter portion of the business plan (2032-2035), during which successful approaches are expanded, optimized, and integrated more broadly. While these phase designations reflect the progression of electrification and load flexibility strategies, a substantial share of portfolio activity across both periods consists of traditional energy efficiency investments designed to deliver total system benefit (TSB), advance affordability, and support long-term portfolio performance. Together, these time horizons illustrate how near-term actions position the portfolio for sustained and scaled impact over the full business plan period.

FIGURE 5-1
PG&E PORTFOLIO LOGIC MODEL



(PG&E-1)

C. Strategies to Optimize Portfolio and Manage Risk

This section describes PG&E's approach for portfolio management to deliver on CPUC goals while adhering to regulatory requirements for outsourcing (third-party programs) and portfolio segmentation. The first sub-section identifies PG&E's approach for using goals and metrics to optimize the delivery of the portfolio based on portfolio segmentation and third-party program performance management. The second sub-section details PG&E's approach to managing market risks and program performance.

1. Using Goals and Metrics for Optimizing Portfolio Performance

PG&E is expected to achieve its TSB goals and cost-effectiveness requirements across the four-year portfolio cycle. The TSB goal and cost-effectiveness requirements form the basis for setting portfolio and program-level targets. PG&E develops a forecast of portfolio performance by aggregating each program's projected TSB inputs and resulting cost-effectiveness. This forecast is updated monthly to continuously identify where portfolio adjustments may be needed to meet portfolio TSB targets and budget requirements. PG&E also considers customer satisfaction as a key indicator of program success and is a component of the monthly forecasting; as such, customer satisfaction metrics are embedded as KPIs in PG&E's third-party program contracts.

PG&E focuses performance management of its resource acquisition (RA) segment programs on TSB and Total Resource Cost (TRC) net benefits (TRC costs minus TRC benefits) given the primary purpose of RA segment programs is to deliver cost-effective short term avoided cost benefits. Similarly, market support (MS) and equity segment programs track indicators that align with their intended outcomes. These indicators are often activity or market indicators rather than immediate resource savings. For instance, key indicators of success for PG&E's first equity segment offering, the Micro and Small Business Program,[1] focus on the number of small businesses served within disadvantaged communities and

[1] Micro and Small Business Program, Program ID: PGE_Com_SmallBiz.

hard-to-reach communities, as well as the annual bill savings achieved at each site.

a. Optimization Based on Portfolio Segmentation

As outlined in Decision (D.) 23-65-055,[2] Portfolio Administrators (PAs) are directed to segment their portfolios into four separate categories: (1) resource acquisition, (2) MS, (3) equity, and (4) codes and standards. The majority of PG&E's EE portfolio budget is distributed to the RA segment as it serves as a foundational component to its EE portfolio. PG&E's ability to maintain strong cost-effective delivery of avoided cost benefits through RA segment programs enables it to balance its RA segment and the broader portfolio with programs that may not be cost-effective, either because they are not intended to deliver cost-effective avoided cost benefits (such as MS or equity segment programs) or have high costs relative to the avoided cost benefits. As the Commission highlighted in D.21-05-031, there is a need to "balance the competing demands for energy efficiency funds to achieve the multitude of goals" [3] for EE portfolios, and as outlined in Chapter 6, Section C, PG&E leverages portfolio segmentation in accordance with CPUC policies to enable the pursuit of its four portfolio goals.

b. Optimization Based on Third-Party Program Performance Management

PG&E manages its portfolio pursuant to D.21-05-031, which directs PAs to achieve their TSB goals and cost-effectiveness requirements across the 4-year portfolio cycle. To achieve its cumulative TSB goals, PG&E sets annual TSB performance targets for RA segment third-party implementation contracts to hold vendors accountable for their performance and contributions towards four-year goals. PG&E tracks and manages Key Performance Indicators (KPIs) throughout the portfolio planning cycle, and across all customer sectors. These KPIs are integrated into performance management processes to motivate

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2 D.23-06-055, p. 56.

3 D.21-05-031, p. 20.

third-party programs to remain on target and within budget. PG&E's requirement for third-party contractors to provide monthly budget and TSB forecasting updates to PG&E program staff enables portfolio decisions to be made with the most recent data, and exemplifies its commitment to this performance management process. These monthly forecasting updates serve as real-time performance indicators that enable PG&E to manage annual portfolio targets and quickly implement mid-course corrections if needed.

Additionally, throughout the lifespan of a third-party program, PG&E works with its program implementers to establish appropriate performance metrics, determine performance targets, and set a schedule for Quarterly Business Reviews (QBRs). During the QBRs, program staff and implementers review program performance metrics, such as TSB attainment, cost-effectiveness, customer satisfaction, and safety requirement targets, as well as future-looking pipelines of forecasted program participation. PG&E also institutes review procedures to assess the quality of program implementers' required documentation, regulatory compliance, and their accuracy and timeliness in the context of mandatory program reporting.

2. Approach to Managing Risk

Portfolio administration activities involve risks, such as procurement risk, market risk, and program implementation risk, which require a dedicated approach to mitigating impacts. The following subsection describes PG&E's current approach to managing these risks, including PG&E's performance management and remediation process, and program closures and consolidation, which PG&E plans to continue these effective portfolio management tactics throughout the portfolio plan cycle.

a. Managing Procurement Risk

PG&E requires monthly expenditure and/or TSB forecasts for every program to monitor performance relative to the needs of the portfolio, including budget and TSB.

The needs of PG&E's portfolio are evolving. To mitigate the risk of a lengthy procurement process hampering PG&E's ability to quickly

respond once these needs are identified, which can take between one and two years, PG&E retains contractual flexibility to adjust program budgets and goals to respond to changing market, regulatory, or sector conditions. This approach to risk management involves PG&E regularly tracking and evaluating program performance and potential against TSB and overall portfolio goals. PG&E intends to reduce the procurement timeline as a reflection of its commitment to continuous improvement in the procurement process. Specific areas for improvement are discussed below in Section D.3.b "Reduced Time from RFP Through Contracting."

b. Managing Market Risk

PG&E recognizes that changes in the market, regulatory requirements, technology innovation, and other unforeseen factors may all affect the environment in which the 2028-2035 EE Portfolio is implemented. PG&E has demonstrated success implementing these risk management strategies by reallocating budgets from programs that do not meet contractual requirements and customer and market needs to areas in the portfolio with stronger performance and greater upside potential. This successful risk management strategy is slated to continue during the 2028-2035 period.

c. Managing Risk of Program Performance and Remediation

To better manage performance risk, PG&E's performance management and remediation process includes performance monitoring, partner engagement, remediation planning, and identifying the need for program consolidation or closure. PG&E reviews its program implementers' quarterly and annual TSB delivery and cost-effectiveness performance targets during QBRs. If programs do not meet quarterly and/or annual targets, PG&E requires program implementers to create remediation plans. Although remediation plan terms may vary depending upon specific contractual obligations, these plans must address implementer deliverables, identify performance target thresholds, and provide a timeline for completion. Moreover, remediation plans may include: (1) enhanced forecasting requirements

that provide more detail on forthcoming projects to address the shortfall, and (2) setting interim milestones based on committed projects. Failure to complete the agreed remediation plan can result in program ramp-down and closure.

d. Program Closures and Remediation Strategies

As discussed above in Section C.2.c*,* PG&E's ongoing monitoring of quarterly and annual performance targets with program implementers verifies that their programs deliver on TSB, cost-effectiveness, and other requirements. If program performance fails to align with quarterly and/or annual targets, program implementers must create remediation plans and timelines to address deliverable and target shortfalls. In unique situations where a program implementer is unable to achieve the remediation plan targets, PG&E may take corrective actions as needed, up to and including program closure or consolidation. In some instances, consolidation can be an effective step to enhance overall efficiencies, reduce administrative costs, improve customer experience, minimize redundancies, and/or eliminate potential overlap within PG&E's service area while determining if a solicitation is warranted.

D. Third-Party Programs

This section provides a summary of PG&E's approach to managing and supporting its third-party programs across four subsections: (1) PG&E's Responsibility as a PA in Relation to its Third-Party Implementers; (2) Risk Distribution; (3) PG&E's Solicitation Strategy; and (4) Solicitation Schedule 2028-2035.

1. PG&E's Responsibility as a PA in Relation to Third-party Implementers

PG&E is responsible for designing and managing a portfolio that meets the needs of its customers, while also fulfilling the CPUC TSB goals, cost-effectiveness, segmentation, and third-party outsourcing requirements, while operating within the approved portfolio budget.

Third-party implementers are responsible for proposing, designing, and implementing, and delivering programs that successfully meet the needs of the broader market and align with PG&E's portfolio objectives. Table 5-1

details how roles and responsibilities are divided between PG&E and third-party implementers.

As directed by D.16-08-019 and reaffirmed in D.18-01-004 and D.18-05-041,[4] PG&E has allocated at least 60 percent of its total portfolio budget to programs that meet the updated third-party definition[5] for 2028-2035. Accordingly, PG&E has constructed its portfolio with four components it considers key as a PA: (1) building a portfolio that is responsive to market needs; (2) optimizing and managing the portfolio; (3) providing oversight and quality control to ensure that the portfolio delivers on its proposed outcomes; and (4) measurement and reporting.

TABLE 5-1
THIRD-PARTY IMPLEMENTER ROLES AND RESPONSIBILITIES

Line No.	Responsibility	Portfolio Administrator	Third-Party Implementers
1	Identification of Market and Customer Need	X	
2	Portfolio Design	X	
3	Program Proposal, Design, Implementation, Delivery		X
4	Conduct Solicitations	X	
5	Contract Management	X	
6	Portfolio Management & Optimization	X	
7	Program Management & Optimization		X
8	Maintain accurate and timely program data	X	X
9	Program Oversight	X	
10	Measurement & Reporting	X	

PG&E is invested in the success of its third-party implementers and supports them by sharing PG&E's broader resources and access to information including marketing, market research, customer insights, and data collected through program delivery across multiple segments and sectors. As part of each QBR engagement, PG&E works with implementers

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4 D.16-08-019, Ordering Paragraph (OP) 10, p. 111; D.18-01-004, OP 1, p. 61; and D.18-05-041, OP 4, p. 182-183.

5 Definition for third-party programs: "To be designated as 'third party,' the program must be proposed, designed, implemented, and delivered by non-utility personnel under contract to a utility program administrator." D.16-08-019, OP 10 at p. 111.

to identify what resources are best suited to support the specific third-party program's success.

To further structure the procurement process in support of third-parties and pursuant to D.23-02-002, PG&E has: (1) adopted a single stage solicitation process in most cases; (2) allowed for modifiable contract language for performance assurances; (3) included specific contract language requirements in solicitations; (4) transitioned contracts from first-year energy savings to TSB metrics; and (5) implemented the CPUC-directed confidentiality matrix. PG&E also solicits stakeholder feedback to further refine the solicitation and contracting process, as discussed below in Section D.3.c.

2. Risk Distribution Between PG&E and Third-party Implementers

Areas of risk that can result in underperformance in third-party programs include: (1) market risk, and (2) program implementation risk which independently or collectively contribute to (3) portfolio administration risk. The following section describes how the risk of underperformance is distributed between PG&E and third-party implementers.

a. Market Risk Distribution

PG&E and third-party implementers share risks from changes in market conditions, including supply chain disruptions, and inflation, as well as other fiscal and monetary economic drivers. Market risks may also include changes in EE policy, such as revisions to ex-ante rules or baseline definitions. While market risks are typically outside of the control of PG&E and third-party implementers, PG&E's EE program contracts provide the opportunity for annual realignment or re-evaluation of program goals to adapt to these evolving market conditions and adjust contracts and program parameters.

b. Program Implementation Risk Distribution

PG&E and program implementers share risks associated with program implementation; encompassing both the safe execution of program activities, as well as the risk of underperformance of programs during implementation. Underperformance due to program implementation can have a negative impact on the overall portfolio

accomplishments creating a risk for PG&E, and requiring actions to rebalance the portfolio and maintain TSB targets.

To achieve PG&E's highest priority of public and contractor safety, program implementers are required to execute programs in compliance with all applicable safety and health rules, laws, standards, and procedures. This contractual obligation is included in all PG&E third-party contracts.

Implementation risks related to underperforming programs include lower than anticipated customer participation in a program, projects delivering TSB below what was forecasted, and inefficient program management practices that undermine cost-effectiveness. Managing implementation risk is a primary responsibility of program implementers as they are strategically positioned to address these areas within their programs.

PG&E's standard contract structure for programs that deliver resource savings includes performance payment terms linked to TSB delivery, program cost-effectiveness, and KPIs. Where applicable, contractual performance terms allow for varying levels of compensation over the life of the program, allowing for ramp-up and steady state operational periods. During the contracting process, PG&E and the implementer mutually agree on program budgets and performance terms.

To manage implementation risks, PG&E staff and third-party implementer program managers engage in: (1) weekly program management meetings; (2) monthly portfolio reviews to review the previous month's performance against monthly goals and end of year forecasts; (3) QBRs for cost-effectiveness and TSB performance;[6] and (4) annual realignment discussions. During the QBRs, should there be areas where implementers may be falling short of expectations, PG&E staff and the implementer can discuss efforts to better ensure the program meets its targets for the next quarter or according to a

[6] Based on the previous quarter's claim summary in California Energy Data and Reporting System.

mutually-agreed-upon timetable. Repeated underperformance may lead to a remediation plan, as discussed in the prior section. Overall, this process of ongoing engagement allows PG&E to monitor performance and provide corrective intervention when necessary to facilitate continuous improvement.

If the remediation plans prove unsuccessful, PG&E retains the option to close the program. As an example, PG&E closed the Petroleum and Chemical Efficiency Program[7] for new enrollments in 2025 due to sector challenges such as prolonged project development timelines and narrow implementation windows that led to lower than expected savings and project completion. Portfolio funds reserved for this program were instead shifted to other programs to deliver cost-effective TSB to the portfolio.

c. Portfolio Administration Risk Distribution

To mitigate the risk of administering a portfolio of programs that must collectively balance TSB delivery, cost-effectiveness, and portfolio segmentation requirements, PG&E routinely monitors performance at both the program and portfolio levels. By design, PG&E's contracts provide the flexibility to adjust programs based upon observed performance or portfolio needs (e.g., increasing or decreasing a program's goals, targets, and/or budgets). PG&E also incorporates contract terms that appropriately distribute risks between PG&E and its third-party implementers by providing implementers financial incentives to assist PG&E in meeting its TSB goal and cost-effectiveness targets.

3. Solicitation Strategy

PG&E's solicitation strategy is a critical component to portfolio administration and risk mitigation. PG&E uses solicitations to provide the portfolio with new opportunities for cost-effective approaches to achieve TSB goals and new customer or technology approaches that are aligned with the portfolio objectives. This approach provides a diversity of programs that allow for flexibility in portfolio management.[8] Pursuant to the CPUC's

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7 Petroleum and Chemical Efficiency Program, Program ID: PGE_Ind_002.

8 D.18-05-041, OP 4, p. 182-183.

requirement to outsource at least 60 percent of its portfolio budget,[9] PG&E conducts third-party solicitations for the territory-specific and statewide programs for which PG&E serves as the assigned lead PA.[10]

PG&E looks forward to continued and ongoing collaboration and engagement with the Procurement Review Group (PRG), along with its pool of Independent Evaluators (IEs). Moreover, PG&E supports efforts to refresh PRG and IE membership periodically to promote new opportunities for participation and encourage fresh perspectives, while retaining knowledgeable technical experts.

This subsection describes: (a) strategies for designing the scope and schedule of solicitations, (b) planned improvements to solicitation best practices, (c) plans to continue seeking stakeholder input, (d) approaches to supplier diversity, and (5) the solicitation schedule for 2028-2035.

a. Strategies for Designing Scope and Schedule of Solicitations

PG&E has evolved its strategy from issuing broad Requests for Abstracts (RFAs) and Requests for Proposals (RFPs) in a two-stage process to single-stage, targeted RFPs. PG&E plans to continue this strategy of targeted solicitations that can address evolving portfolio needs. PG&E's Solicitations Project Management Office (PMO) collaborates with the program delivery teams to design the appropriate scope for each solicitation to align with portfolio needs, objectives and strategies. This process involves identifying the appropriate customer sector, program segment, and key program objectives for each solicitation.

b. Planned Improvements to Solicitation Best Practices

PG&E appreciates and encourages feedback from stakeholders regarding its solicitation process. Since 2018, feedback on PG&E's third-party solicitation process has come through several primary

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9 D.18-01-004, OP 1, p. 61.

10 The Commission identified lead PAs for statewide programs in D.18-05-041, at p. 91-92, Table 3. Subsequently, SDG&E filed AL 4494-E/3332-G on August 19, 2024 to transition the SW HVAC program to PG&E, which was approved by the CPUC on November 6, 2024. Link: SDGE_ELEC_Advice-4494-E_Approved

sources, including the PRG, public workshops,[11] and semi-annual IE reports that assess the third-party solicitation processes. Additionally, PG&E's Solicitations PMO gathers feedback from program managers throughout the solicitation process. Feedback is also gathered from bidders during the post-solicitation bidder debrief sessions.

PG&E has identified three areas of improvement: (1) reducing time from RFP through contracting; (2) fostering innovation; and (3) sharing learnings to scale programs.

1) Reducing Time from RFP through Contracting

PG&E has seen benefits to the solicitation timeline by moving away from the two-stage solicitation process. For the 2028-2035 program cycle, PG&E plans to focus on reducing the time required from RFP through contracting. PG&E intends to look for opportunities to reduce the time between RFP solicitation and contracting completion, specifically for re-bid or RA segment programs in well-understood markets. Novel program opportunities and pilots may require additional time to effectively define program targets and KPIs. Additionally, PG&E provides materials to help third parties strengthen and streamline development of their proposals. Historically, these have educated third-parties on the technical aspects of program implementation, such as the use of the Cost Effectiveness Tool (CET), TSB, and the Normalized Metered Energy Consumption (NMEC) platform.

2) Fostering Innovation

Testing and experimentation is necessary to drive innovation and continued development of effective programs and identification of new measures. Third-party implementers who pursue unproven or speculative implementation strategies, technology advancements, or delivery approaches may see increased financial risk in performance-based contracts that prioritize and reward

[11] Examples include the CPUC Public Workshop on the Energy Efficiency Third-Party Solicitation Process held on July 24 and 25, 2020; R.13-11-005 Third-Party Solicitations Stakeholder Forum held on January 29, 2021, July 11, 2022, March 16, 2023, February 29, 2024, and March 6, 2025.

implementers for cost-effective delivery against targets. Chapter 11, Section C.2, describes a proposal that would establish a new innovation-enabling MS program budget, under which portfolio RA programs can test new ideas and measures by assigning budget specifically for the purpose of exploring innovative ideas, allowing more flexibility in program delivery and reducing the financial risk of innovative implementation strategies that may not be cost effective at the outset.

3) Sharing Learnings to Scale Programs

During the 2024-2027 program cycle, PG&E issued two solicitations for new equity electrification pilot programs to inform future, scalable equity, and electrification programs. These serve as a sample model for how PG&E anticipates continuing the solicitation process through 2035 to foster innovation and opportunities to establish additional pilots to capture learnings that can lead to cost-effective and scalable program models that address some of California's most important energy-related challenges.

c. Plans to Continue Seeking Stakeholder Input

Since stakeholder engagement begins well before the solicitation process, PG&E intends to continue stakeholder engagement both within and outside of the solicitation process. The annual third-party stakeholder workshop hosted by Energy Division[12] represents a valuable opportunity to engage with a broader stakeholder group outside of the solicitation process. PG&E plans to continue to share, listen, engage, and leverage stakeholder feedback to optimize the solicitation strategies in the 2028-2035 portfolio. See Chapter 8 Stakeholder Engagement for PG&E's broader stakeholder outreach efforts that contributed to the development of this application.

d. Approaches to Supplier Diversity

PG&E is committed to an inclusive supply chain of small, diverse, and local suppliers, including women, minority, and veteran-owned

12 D.18-01-004, p. 49, Finding of Fact (FOF) 14, Conclusion of Law (COL) 26.

business enterprises and other groups historically underrepresented in EE programs, such as disabled, and lesbian, gay, bisexual, and transgender persons. PG&E's 2028-2035 solicitation strategy for increasing opportunities for small, diverse, and local suppliers involves expanding upon its pre-established practices discussed in the *PG&E Supplier Diversity 2024 Annual Report and 2025 Plan*[13] with the following strategies:

- Continue outreach by communicating upcoming contracting opportunities through PG&E's Supply Chain Responsibility's external website;
- Continue encouraging existing suppliers to develop suppliers and seek a mix of suppliers to support business objectives; and
- Continue to design solicitation materials that encourage new supplier participation.

e. Solicitation Schedule 2028-2035

PG&E manages fluctuations in annual budgets and activities for each program and segment, applying the necessary controls to ensure compliance with the CPUC's minimum outsourcing requirement of 60 percent. Solicitations for the 2028-2035 cycle will be issued to align with identified needs of the portfolio.

PG&E includes a schedule of placeholder programs in Chapter 4, Section B.3.b. PG&E may conduct third-party solicitations in advance for the programs with placeholder IDs to prepare for the launch of new programs in the 2028-2031 cycle. PG&E's forecast includes budgets for each of these programs, however, portfolio needs may change prior to and during the solicitation process. As a result, a detailed solicitation schedule is premature to provide at this time.

E. Statewide Programs

This section provides information on statewide programs administered by PG&E. The section includes four subsections: (1) Statewide Program

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[13] *PG&E Supplier Diversity 2024 Annual Report and 2025 Plan,* PG&E, (March 1, 2025). Available at: https://www.cpuc.ca.gov/-/media/cpuc-website/divisions/news-and-outreach/documents/bco/go-156-procurement-plans/2024/pge-2024annual_2025plan-finrev-update.pdf.

Summary; (2) Statewide Funding Allocations; (3) Proposed Changes for Designated Lead PA; and (4) Program Coordination Needs.

1. Statewide Program Summary

PG&E currently administers eleven statewide programs and is transitioning administration of the Statewide Heating, Ventilation, and Air Conditioning (HVAC) Program[14] from San Diego Gas & Electric Company (SDG&E) to PG&E.[15] See Table 5-2 below for a summary of PG&E-led statewide programs.

TABLE 5-2
PG&E-LED STATEWIDE PROGRAM SUMMARY

Line No.	Statewide Program ID	Program Name
1	PGE_SW_NC_NonRes_electric	New Construction Non Residential Res – All Electric
2	PGE_SW_NC_NonRes_mixed	New Construction Non Residential – Mixed Fuel
3	PGE_SW_NC_Res_electric	New Construction Residential – All Electric
4	PGE_SW_NC_NonRes_Res_mixed	SW New Construction NonRes Res – Mixed Fuel
5	PGE_SW_HVAC_AE_NonRes	HVAC All Electric Non-Residential Placeholder
6	PGE_SW_CSA_Appl	Codes and Standards – State Appliance Standards Advocacy
7	PGE_SW_CSA_Bldg	Codes and Standards – State Building Codes Advocacy
8	PGE_SW_CSA_Natl	Codes and Standards – National Codes & Standards Advocacy
9	PGE_SW_IP_Gov	Institutional Partnerships – Government
10	PGE_SW_WET_CC	Workforce Education and Training – Career Connections
11	PGE_SW_WET_Work	Workforce Education and Training – Career and Workforce Readiness

At the time of this prepared testimony, the CPUC had commissioned program evaluations for three Codes and Standards (C&S) programs, including Statewide Compliance Improvement, State and Federal Appliance and Equipment Standards Advocacy, and State Building Codes Advocacy. When these evaluation studies are completed, PG&E intends to review the

[14] PG&E's proposed new SW HVAC All Electric Non-Residential, Program ID: PGE_SW_HVAC_AE_NonRes.

[15] Advice Letter 4494-E/3332-G, SDG&E, (Nov 2024). Available at: https://tariffsprd.sdge.com/view/filing/?utilId=SDGE&bookId=ELEC&flngKey=7273&flngId=4494-E&flngStatusCd=Approved.

results and incorporate relevant recommendations into future C&S programs as applicable. For the statewide HVAC All Electric Non-Residential program, which is currently in the active solicitation phase as of the filing of this application, PG&E intends to make available to the selected program implementer the *Impact and Process Evaluation Report for the Comfortably California Statewide Third-Party Program, Program Year 2021*.[16] The report would be reviewed to determine whether any recommendations could be relevant or informative for program implementation. For the 2028-2035 application period, PG&E may consider conducting a process evaluation/evaluability study for the Workforce Education & Training Career and Workforce Readiness 2.0 statewide programs to support its preparedness for ex post evaluation, if commissioned by the CPUC.

Program evaluations currently verify past program performance and activities to report ex ante savings adjustments (impact evaluation) or program improvement opportunities (process evaluation). When receiving results from an impact or process evaluation, PG&E begins by assessing the validity of reported results based on any changes that have been made to the program before the evaluation was completed. In coordination with the implementer of the program being evaluated, PG&E determines if the evaluation recommendations can be incorporated into the program logic in a manner that produces a positive impact on overall program performance and success. If the evaluation results cannot be immediately incorporated into the program, or if the program is not deemed cost-effective, PG&E coordinates with the other PAs to discuss the next best course of action in alignment with portfolio requirements.

a. Future Statewide Program Objectives

PG&E does not propose any new statewide programs for the 2028-2031 Portfolio Plan period.

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16 *Comfortably California HVAC Statewide Third-Party Program Evaluation, Program Year 2021* (January 11, 2024). California Measurement Advisory Council (CALMAC) Study ID CPU0358. Available at: PY_2021_Statewide_Third_Party_Programs_Evaluation_-_Comfortably_California_HVAC_FINAL.pdf

2. Statewide Funding Allocations

The current statewide funding load shares were determined in D.23-06-055, Table 1. Since the PA funding caps that underpin this calculation may change with the 2028-2035 applications, PG&E recommends recalculating both the budget shares and resulting budget cap changes using the same process as described in Section 2.1 of D.23-06-055[17] and adopted in Conclusion of Law (CoL) 1, with Investor-Owned Utilities (IOUs) updating their reflected budget shares in their 2027 True-Up Advice Letter (TUAL) budget filings.

TABLE 5-3
D.23.06-055 STATEWIDE BUDGET SHARES

Line No.	IOU	Electric Budget Share	Gas Budget Share
1	PG&E	28.71%	42.59%
2	SDG&E	9.10%	13.20%
3	Southern California Edison Company (SCE)	62.19%	–
4	Southern California Gas Company (SCG)	–	44.21%

3. Proposed Changes for Designated Lead PA

PG&E does not propose any changes in designated lead PAs for statewide administration of programs, nor does it propose to convert any regional programs to statewide programs.

4. Program Coordination Needs

As discussed in Chapter 7, Section C.2 the IOUs formed an informal governance structure and meeting schedule to enable coordination across the statewide programs. The governance structure includes the Statewide Energy Efficiency Team (SWEET), and corresponding program teams. PG&E supports this governance structure and attends regular meetings with the lead-PAs to coordinate statewide program administration. For example, this coordination allows for identification of potential conflicts between midstream and downstream programs to mitigate against dual-program participation.

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17 D.23.06-055 COL 3 states: "The statewide funding allocation should be revisited during each four-year portfolio application proceeding."

F. Statewide Assessment

PG&E generally supports the proposed joint statewide (SW) assessment framework (SW framework) for reviewing relevant programs. Pursuant to OP 2 of D.23-06-055,[18] this SW framework was refined by the PAs through an all-PA working group effort in the latter part of 2025 and early 2026,[19] and it is included in Attachment A to this chapter.

The SW framework consists of guiding principles, objectives, and guidelines along with "gating" sections consisting of targeted questions to help determine the viability for undertaking modifications to programs in the context of a SW assessment.[20] As part of the working group process, several policy and procedural issues were identified, including cases that did not achieve full consensus and warrant further development and/or merits CPUC input. While these policy and procedural issues are noted in the proposed SW framework, PG&E shares below its perspective on policy and procedural matters that it believes are important.

First, the lead PA of any SW program should have the unilateral ability to determine whether that SW program is single or dual fuel.[21] This is paramount not only in the context of a single fuel PA (i.e., SCE only provides electric service; SCG only provides natural gas service), but also to support the state's decarbonization through enabling BE.

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18 "The portfolio administrators (PAs) must coordinate among themselves and propose a statewide program portfolio assessment process to review and recommend changes to the portfolio of statewide programs. This proposed assessment process shall be included in the PAs' portfolio applications to be filed in 2026 or may be filed as a motion in Rulemaking 13-11-005 or its successor, if the proposal is ready before the next portfolio application filing." D.23-06-055, OP 2, p. 119.

19 The IOU PAs developed a straw framework, which was shared with the Regional Energy Networks (RENs)/Community Choice Aggregators (CCAs) for further development as part of an all PA working group (WG) process facilitated by PG&E. This working group met weekly (virtually) to discuss elements of the proposal and to make refinements. Weekly meetings were held early November 2025 through the end of January 2026. Energy Division staff joined the WG meeting on December 22, 2025.

20 The rationale for SW programs was expressed in D.16-08-019, FOF 16, p. 97: "Statewide programs offer the opportunity for more streamlined customer interface and economies of scale for energy efficiency programs."

21 "The lead statewide administrator, once established and approved by the Commission, should be the final decisionmaker with respect to the statewide program…" D.16-08-019, COL 43, p. 103.

Second, the responsibility for the assessment to determine whether a program should be converted to a SW model resides with the PA recommending the change; although, that effort may be undertaken by the PA itself or through an agent (i.e., an independent consultant). The SW framework would enable a PA to submit its proposal as part of the regulatory process (e.g., Application, Mid-Cycle Advice Letter (MCAL), TUAL, etc.) and thereafter file an implementing Advice Letter (AL). In all cases, stakeholders would have the opportunity to address the proposal through testimony or AL response or protest. Ultimately, since any proposal to convert a local/regional program to a SW program would be approved by the CPUC and informed by stakeholders, the proposal would be objectively assessed.

Other policy and procedural level issues arose during the working group process, which PG&E believes requires further clarification by the CPUC. The two key issues include: (1) whether the statewide assessment, OP 2 was intended to enable an existing SW program to be converted to one or several local/regional programs, and (2) the proper regulatory forum for advancing a SW assessment under OP 2.

PG&E's interpretation of OP 2 and the decision language[22] allows for the assessment of an existing SW program; with the ability to make modifications to that program, including potential closure, as well as the ability for a local/regional program to be assessed for expansion to a SW offering. However, it is not clear based on the language of D.23-06-055 whether the CPUC had intended to enable the SW assessment process to convert a statewide program from a statewide offering to one or several local/regional programs implemented by PAs.

In regards to timing of when the statewide assessment can be undertaken, while the EE Application is a regulatory pathway for a PA to advance a statewide proposal using the assessment, the working group process revealed PA interest in having the ability to propose new programs more frequently than the current four-year cycle. To this end, the TUAL and MCAL along with a separate, but not-yet-developed process might also serve as an additional pathway. PAs did discuss that, in TUAL and MCAL filings, budgets can be reallocated and

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22 D.23-06-055, pp. 11-12.

reapplied within the portfolio, but only as a result of an application can budget caps be authorized.

PACIFIC GAS AND ELECTRIC COMPANY

CHAPTER 5

ATTACHMENT A

OP 2 STATEWIDE ASSESSMENT FRAMEWORK

Statewide Energy Efficiency Program Assessment Criteria

D.23-06-055 OP2 Statewide Assessment Framework

February 12, 2026

Overview Of PA Coordination Through a Working Group Process

PG&E led a working group of participating PAs to refine an IOU developed proposal for evaluating EE programs pursuant to OP 2 of D.23-06-055.[1] The original draft of the IOU proposal began development in the summer of 2025 by a small IOU only working group (WG). The IOU WG's goal was to prepare a guiding framework for further development by the broader PA group (RENs, IOUs and CCA). This effort resulted in a draft proposal that was circulated with all PAs for the October 16, 2025 monthly all-PA call. Subsequently, on November 5, 2025, there was a kick-off meeting to jump start an all PA WG to refine the proposal.[2] Non-IOU PAs were not included prior to November and were given a draft proposal developed by the IOU PAs.[3] The WG's goal was to further refine the IOU developed proposal and to identify issues that the Commission would potentially need to address as part of this process. PAs were given the opportunity to provide feedback during the meetings and in redline/comment form on the draft proposal.[4] While there were a number of useful edits and questions raised in the document not all PAs agreed to the

[1] The portfolio administrators (PAs) must coordinate among themselves and propose a statewide program portfolio assessment process to review and recommend changes to the portfolio of statewide programs. This proposed assessment process shall be included in the PAs' portfolio applications to be filed in 2026 or may be filed as a motion in Rulemaking 13-11-005 or its successor, if the proposal is ready before the next portfolio application filing.

[2] The WG met from November 2025 through January 2026 on a close-to-weekly basis. However, certain PAs could not participate at this frequency due to workload and bandwidth of staff.

[3] The intent by the IOUs was to develop a starting point framework from which all PAs could use in order to address this complicated topic. The IOU developed straw proposal was intended to reduce the amount of time that it would take to develop a full proposal from scratch amongst the 12 PAs. Although, individual PAs were not precluded from developing their own proposal for submission as part of their Business Plan Application.

[4] The original 10/15/2025 draft proposal received edits and comments, which were consolidated into a 12/31/2025 draft for further consideration. Not all PAs agreed to sign on to the developed draft with most providing a qualified support as reflected in the survey results (See Appendix B). An updated version of the document was released on 1/16/2026 for review and a survey for completion by PAs. Subsequently, another draft was released on 1/27/2026 before it was finalized by the end of January 2026.

proposed first draft; however, the WG discussions that ensued were useful in identifying areas needing additional development and/or formal Commission input.[5]

Supporting Information

In order to help stakeholders advance the OP 2 effort beyond this framework, the proposal includes supporting information in Appendices A and B. Specifically, Appendix A identifies issues that merit additional development and/or warrant formal input by the Commission; Appendix B includes results of a survey gauging general sentiment about the proposal along with PA specific feedback.

GUIDING PRINCIPLES - The following Guiding Principles represent the shared commitments of PAs in the delivery of statewide-administered energy efficiency programs.

1. Support the State's energy efficiency policy goals. Orient portfolio design around State and Regulatory objectives and act in the best interests of all customers.
2. Do no harm. Make decisions that preserve our collective ability to meet energy savings goals, achieve TSB goals, achieve cost-effectiveness for the resource acquisition segment [IOUs only], and minimize impacts to existing local and downstream programs.
3. Advocate for all PAs. Recognize that the whole is greater than the sum of its parts. Be willing to collaborate with other PAs in planning and decision-making efforts.
4. Assume best intentions. In an environment of shared goals and shared directives, be humble in the approach and ambitious for the broader group's success.
5. Be good listeners. Take responsibility for the environment by which decisions are made such that all participants have the opportunity to participate.
6. Take a stand for customers. Take into consideration the customer experience and strive for simplicity, clarity, and ease.
7. Wisely pursue change. Demonstrate open-mindedness to changes in design, delivery and administration

Programs should support customer fuel diversity,[6] affordability and strategic decarbonization in a way that reflects the diversity of California's energy landscape. To support customer demand, statewide program pathways should be diverse with multiple paths considered or incentivized.

[5] Commission staff joined the December 22, 2025 WG meeting, which provided an opportunity for ED staff to hear about PA concerns. ED's participation was intended to be informal with no expectation of official Commission guidance.

[6] There is a diversity of perspectives on whether the offering of dual fuel programs should be discretionary or required.

STATEWIDE EE PROGRAM ADMINISTRATOR RESPONSIBILITIES – The following responsibilities are directed by D.18-05-041, and are the responsibility of any PA leading a SW program.

- Program vision development, design/delivery, and intervention strategies[7])
- Procurement, contract administration, and co-funding management from partner PAs.
- Implementer oversight:
    - The lead PA would have sole responsibility for implementer management, rewards, and any necessary corrective action
    - Lead PA would review implementer performance and program performance on a quarterly basis
- Meeting savings goals and customer satisfaction levels
- Metrics development
- Reporting
- Fiscal oversight

OBJECTIVE

To provide a comprehensive, structured, and transparent framework for assessing Statewide energy efficiency programs across all portfolio administrators. This framework ensures that each program is evaluated for statewide suitability, delivery efficiency, strategic alignment, equity, and market impact. The assessment process supports informed decisions on whether programs should be maintained, redesigned, localized, sunset, transferred, or integrated, and guides the selection of lead administrators, all in alignment with California's energy policy goals and stakeholder interests.

Program outcomes of the framework include:

- Continue as-is
- Redesign or expand
- Localize
- Sunset[8]

[7] SW program leads may coordinate with other PAs to address matters that may not be resolved through ongoing SW coordination efforts under the "SWEET" (Statewide Energy Efficiency Team) process. The SWEET, represented by SW PA leads, meets bi-weekly to address ongoing matters associated with SW program administration.

[8] Consistent with D. 21-05-031, OP 12, an assigned lead PA for a Statewide program can sunset a SW Program by means of a Tier 2 Advice Letter. Likewise, "a Tier 2 advice letter is also required when an existing program is being elevated from a local or regional program to a proposed statewide program or when the lead administrator for a statewide program is proposed to change." Furthermore, D.23-06-055, dicta at p. 10 states: "Meanwhile, during 2024-2027, the composition of the statewide portfolio need not remain static.

- Reassign to another PA (IOUs, RENs, and CCAs)
    - Selection of Lead PA
- Elevate to Statewide
    - Selection of Lead PA (IOUs, RENs, and CCAs)

GUIDELINES FOR ASSESSMENT

- **Customer Affordability**: Identify EE programs that help customers achieve measurable energy and demand reductions that translate into lower utility bills.
- **Ratepayer Affordability**[9]: Identify EE programs that deliver measurable value to ratepayers, with a focus on maximizing energy savings, benefits per dollar spent, and bill relief.
- **Efficient Program Delivery**: Focus on optimizing resource acquisition and/or customer benefits as appropriate based on program segmentation, and minimizing *redundant* [10] programs.
- **Equity**: Design programs to deliver to disadvantaged, underserved, and hard-to-reach communities (collectively referred to in this document as "equity criteria").[11]
- **Transparency**: Use standardized, data-driven methodologies across all PAs, including customer data sharing to support claimable EE results.
- **Timing**: Assessment should be completed in time for results to be incorporated into Application, TUAL, or MCAL cycles.[12]

PAs may request program closure or downsizing where a statewide resource acquisition program has declining prospects through the filing of a Tier 2 advice letter. In addition, existing programs may also be modified by updating an implementation plan."

[9] The initial draft proposal advanced "Affordability" as an over-arching assessment factor. However, at the tail end of the WG effort, one PA distinguished affordability between *customer* and *ratepayer*. While this distinction was not fully vetted by the WG, a PA did express concern about using "ratepayer affordability" due to the complexities involved. On the other hand, this same PA indicated that "customer affordability" is more easily determined as it can be isolated/attributed to a single program. This issue warrants further examination.

[10] The Working Group discussion revealed certain PAs had concerns about "relitigating" aspects of OP 32 from D.23-06-055, which commissioned a study "to provide information on substantively similar programs, and steps they have taken and will take to mitigate or minimize ratepayer risk of program overlap and duplication." There is currently the Joint Coordination Memo (JCM) process that is intended to look at the overlap/duplication issue. However, it's recognized there may be some level of strategic overlap that is acceptable based on a program's profile.

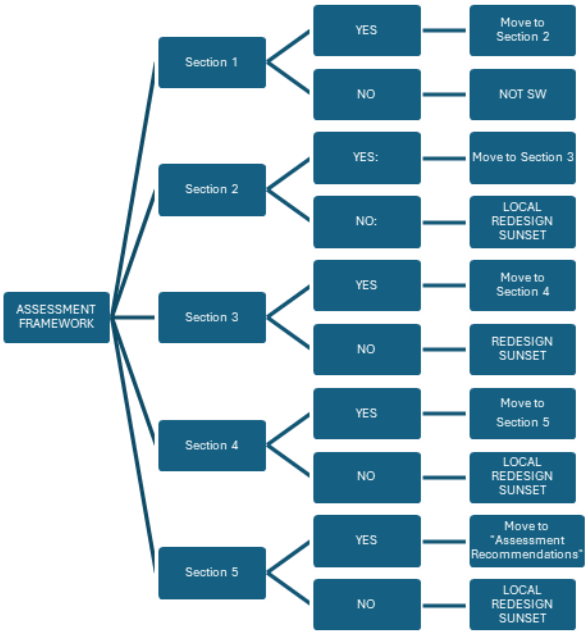
[11] *Equity Criteria*: The use of the term disadvantaged is in the context of Disadvantaged Communities (or DACs) as identified by the California Environmental Protection Agency pursuant to Health and Safety Code Section 39711. With respect to the use of the terms underserved and hard-to-reach, these are defined by CPUC Decision 23-06-055, COL 31, for underserved; and COL 33 for hard-to-reach. It should be noted that COL 32 provides flexibility to include additional groups within the underserved population based on the mechanism set forth by COL 32.

[12] There is lack of consensus as to the appropriate forum and timing of these assessments. While the ability to undertake more frequently is preferable, the potential need for incremental funding and full regulatory vetting would generally point to the Application funding cycle as the best pathway. However, PAs appear to

STATEWIDE ASSESSMENT FRAMEWORK

This framework supports a right-sized, effectively delivered, and efficiently administered statewide EE portfolio that aligns with today's EE policy direction, market dynamics, and EE strategic priorities such as customer energy savings, cost-effectiveness, decarbonization, equity, and flexible delivery. It's built on a series of gatekeeping questions split into sections (i.e., Sections 1-5) that aids the reviewer[13] in undertaking the assessment of the program in question. These questions are intended to be guides rather than absolute requirements in supporting the assessment process.

Figure 1. Overall Decision-Making Framework



support the ability to undertaking assessments more frequently, potentially as part of the TUAL and MCAL or as part of a separate dedicated filing process (e.g., a Tier 3 submission).

[13] Informally, the Energy Division clarified that the undertaking of assessments would generally be PA driven and should be fair, unbiased, and consensus-driven.

Section 1. Statewide Program Gatekeeping Questions (New and Existing Programs)

The assessment of statewide or regional programs will begin with the following baseline questions based on its segmentation:[14]

Criteria	Yes/No
For Resource Acquisition Programs	
Does the program ensure inclusion of all critical resources (gas and electric) necessary to maintain reliability, affordability, and customer choice during the transition? [See FN 6]	
Is the program truly mass-market[15] and uniform for both gas and electric across territories (e.g., smart thermostats)? [See FN 6]	
Does it use a non-site-specific delivery model including both fuels (e.g., original definition of midstream)? [See FN 6]	
Is the PA delivering program able to reasonably manage cross-utility risk without territorial control or data sharing challenges and barriers?	
Does the program solve an identified, statewide problem that cannot be effectively addressed by local or regional means?	
Does implementing statewide delivery significantly improve cost-effectiveness or enhance customer access compared to a local or regional delivery model?	
For Market Support[16] Programs	
Is the program's primary objective to support the statewide market rather than deliver immediate resource savings?	
Does the program target a statewide market failure or gap that cannot be addressed effectively by resource acquisition programs? (e.g., lack of supply chain readiness, emerging tech adoption, training/workforce?)	
Are there measurable market transformation indicators (market share, cost declines, codes/standards advancement) that can be tracked and are consistent throughout the state?	
Is there detailed evidence that statewide delivery would accelerate or amplify measurable market effects compared to local delivery?	

[14] While Section 1 is limited to the Resource Acquisition, Market Support and Equity segments, this framework can be applied to Codes and Standards (C&S) along with Workforce, Education and Training (WE&T). Since future refinements to this framework are anticipated these additional segments could be developed at that time.

[15] Mass Market refers to broad market segments, like residential homes and small businesses, which share similar purchasing patterns and are targeted for energy-saving programs through accessible measures like rebates, simple installation processes, and standardized information.

[16] Decision 21-05-031 at p.14 defines Market Support as "Programs with a primary objective of supporting the long-term success of the energy efficiency market by educating customers, training contractors, building partnerships, or moving beneficial technologies towards greater cost-effectiveness."

For Equity[17] Programs	
Is the program's primary objective to improve access, affordability, or resilience for meeting the needs of equity criteria populations (DAC, Hard-to-Reach, Underserved) statewide, rather than delivering energy savings or cost-effective benefits?	
Is the program reaching the intended equity criteria target populations?	
Are incentives and program processes aligned with accessibility and ease of participation for equity criteria target participants?	
Does the program address statewide barriers (financial or geographic) that limit participation by equity criteria communities?	
Is there a clear plan to engage trusted messengers (e.g., CBOs, tribal organizations, local governments) across the entire state?	
Is there detailed evidence that statewide delivery can create measurable improvements in equity criteria outcomes for the specific program, when compared to local-only delivery?	

If less than a majority[18] of answers are "No," the program should not be statewide.

IF more than a majority of questions were answered as YES, continue on to Section 2.

For NEW and EXISTING PROGRAMS which pass Section 1, CONTINUE

Section 2. Delivery Model and Risk Evaluation

Question	Consideration	Yes/No
Does the program use a midstream delivery model?	*Sales-only (midstream/upstream) vs. install-based (downstream/direct install)* Midstream= Yes Downstream= No Upstream= Yes	
Is the model still aligned with CPUC policy?	*E.g., does it still meet the intent of midstream?*	

[17] Decision 21-05-031 at p.14-15 defines Equity as "Programs with a primary purpose of providing energy efficiency to hard-to-reach or underserved customers and disadvantaged communities in advancement of the Commission's Environmental and Social Justice (ESJ) Action Plan; Improving access to energy efficiency for ESJ communities, as defined in the ESJ Action Plan, may provide corollary benefits such as increased comfort and safety, improved indoor air quality, and more affordable utility bills, consistent with Goals 1, 2, and 5 in the ESJ Action Plan.

[18] The threshold for "majority" should be established by the PAs and/or set by the Commission. In some cases a simple majority (i.e., greater than 50%) is sufficient and in other cases a "super-majority" might be appropriate (i.e., greater than 66.6%).

Is downstream data collection or quality verification **unnecessary** for this program?	*If yes, it may be feasible for statewide. Although, gathering downstream data for all participants is complex and burdensome in SW offerings.*	
Is the administrative burden on the lead PA proportionate to the value delivered?	*Legal, regulatory, QA/QC, EM&V risk, data sharing, etc.*	

If at least three (majority) of the answers are YES, continue onto Section 3.

If more than one of the answers are NO, consider LOCALIZATION, REDESIGN, or SUNSET program.

Section 3. Strategic Fit

Question	Yes/No
Does the program align with the (or latest) Business Plan (e.g., decarbonization, equity, electrification)?	
Does the program align with the CPUC's policy objectives as stated in decision language or Public Utilities Code statute?	
Does the program avoid overlapping with or negatively impacting existing local delivery options?	

If at least two (majority) of the answers are YES, continue to Recommendations.

If more than one of the answers are NO, consider LOCALIZATION, REDESIGN or SUNSET program.

Section 4. Performance and Accountability Assessment (EXISTING)

Metric	Assessment Notes	Yes/No/NA
Is the program achieving program goals and metrics? (TSB, GWh, MW)	Is it performing as expected?	
Is the program contributing to portfolio goals?	Is it advancing decarbonization, fuel substitution, etc.?	
Is the program cost-effective (applies only to RA)?	Is it successfully delivering cost effective savings, or failing the TRC tests?	
Is the program forecasting accurately?	Is the program accurately forecasting TSB, GWh, MW and budget?	
Is the program demonstrating clear signs of growth and scalability?	Is it scaling or stalling?	

Are there minimal barriers to participation or savings realization?	Market, tech, permitting, site-specific issues?	
Have past corrective actions, if any, been successful in correcting program performance?	Have the actions been successful in correcting program performance?	

If majority of the answers are YES, continue onto Section 4.

If majority of the answers are NO, consider REDESIGN, LOCALIZE, or SUNSET program.

Section 5. Market Support & Equity Assessment

Question	Yes/No
Market Support – Focus on supporting long-term success of the market, enabling market viability and innovation	
Does statewide administration reduce market confusion and create consistent signals to manufacturers, distributors and contractors?	
Are the risks of statewide delivery (e.g., uneven market maturity, inconsistent supply chains) outweighed by benefits of a statewide approach?	
Are there clear measurable indicators of long-term success of the energy efficiency market that can be tracked at a statewide level?	
Would statewide delivery meaningfully accelerate innovation or technology adoption compared to local implementation?	
Equity – Focuses on equity criteria population	
Would statewide delivery ensure consistent access and reduce inequities across service territories?	
Can program risks (such as differing local needs or reliance on CBOs) be managed affordably and effectively at a statewide scale?	
Are there equity specific outcomes that can be measured and reported consistently statewide?	
Has or will the program demonstrate the ability to overcome participation barriers at scale?	
Would statewide delivery expand reach and scale and benefits in a way local delivery could not?	

If majority of the answers are YES, continue onto Assessment Recommendations.

If majority of the answers are NO, consider REDESIGN, LOCALIZE, or SUNSET program

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ASSESSMENT RECOMMENDATIONS

Summary of the above scoring system, and assessment recommendation.

Suggested Program Reclassification Options

Recommendation	Description
If Section 1-5 result in YES	
Maintain or Launch Statewide	Only if program meets all core criteria and delivers value
If Section 1-5 results in NO Options below	
Redesign or Maintain as a local program	If program needs local tailoring, complexity makes it better as a local or regional offer
Sunset Program	If program is obsolete, low-performing, or creates administrative risk
Transfer to non-IOU PA or State Agency	Consider having non-IOU PAs (e.g., RENs, CCAs) or state agencies (e.g., CEC) run the program; IOU acts as fiscal agent only
Integrate into existing local programs	Fold into existing contracts/programs to improve customer experience and delivery efficiency

Compliance Check Before Final Recommendation	**Yes/No**
Will recommendations cause any IOU to fall below the 20% statewide funding requirement, exceed the 30% MS+E cap, jeopardize meeting the TSB goal or affect any other compliance requirement?	
If a CCA program is converted to SW, will CCA still maintain cost-effective portfolio requirement?	
CONSENSUS CHECK BEFORE SUBMITTING PROPOSAL	**Yes/No**
Was consensus reached among all PAs regarding the assessment results and proposed outcomes?	

Before proposing the assessment outcomes in the appropriate filing mechanism, the party conducting the assessment may conduct regional focus groups to gather community input across the state. These focus groups should include specific questions that guide feedback and inform the proposing PA if the SW proposal is still appropriate as designed, or redesign, localize or sunset. The results of this effort shall be reported when the party proposes the assessment outcomes in the filing process.

SELECTION/TRANSITION OF LEAD PA

Stakeholder Involvement

- Ensure a transparent and inclusive selection process by actively engaging stakeholders such as other IOUs, RENs, and CCAs.
- Solicit stakeholder feedback through options such as, but not limited to, public workshops, comment periods, or advisory panels.

Qualification Criteria:

Define clear, objective criteria for selecting the lead PA, including but not limited to:

- **Relevant Experience and Track Record:** Demonstrated history of successfully administering similar programs, including past performance metrics and lessons learned.
- **Market Expertise:** Understanding of the target market, including customer segments, supply chain dynamics, and regulatory requirements.
- **Training Infrastructure and Workforce Support:** Ability to provide training, technical assistance, and workforce development to support program delivery at scale, if needed.
- **Data Management and Reporting Capabilities:** Robust systems for data collection, analysis, and reporting, ensuring compliance with CPUC requirements and enabling transparent program evaluation and data sharing capabilities with other non-lead PAs.
- **Contract and Solicitation Resources:** Capacity to manage competitive solicitations, vendor contracts, and procurement processes efficiently and fairly.
- **Past Performance:** Evidence of meeting or exceeding program goals, maintaining compliance, and effectively managing budgets and timelines.
- **Interest and Commitment:** Clear expression of willingness and capacity to lead the statewide program, including resource allocation and organizational support.

NEW PROGRAM PA SELECTION PROCESS :

- Interested Lead PA successfully completes the assessment
- Interested Lead PA presents assessment results and proposed outcomes to all PAs[19] (*Engage in good faith effort to reach consensus among PAs)*
- Interested Lead PA proposes SW Program concept in an appropriate filing mechanism as determined by CPUC input.
- The CPUC approves or denies SW Program.

TRANSITIONING PROGRAMS PROCESS (transitioning programs):

- Current Lead PA coordinates with PAs to inform PAs of proposed transition
- Current Lead PA receives input and response to proposed transition
- Allow all PAs to submit proposals or statements of interest
- Current Lead PA engages in good faith effort to reach consensus among PAs
- Current Lead PA makes a recommendation via Tier 2 AL per D.21-06-055
- Current Lead PA announces the newly selected lead PA

[19] D.18-05-041 at pp. 80-81 provides guidance on lead PA coordination.

Appendix A
Issues Needing Further Development and/or Clarification by the Commission

1. Scope of OP 2: The full scope of OP 2 was unclear to all PAs. Specifically, whether the assessment was intended to include both upleveling (local/regional to statewide) and down-leveling (SW to local/regional) of programs. While the language of OP 2 addresses the evaluation of SW programs and the related dicta[20] is suggestive of upleveling, there is no language indicative of down-leveling. The bullet points below summarize the three discrete possibilities.

- SW only [language of OP 2]
- Local/regional to SW (uplevel) [language of dicta]
- SW to local/regional (down-level)

Action Item: Formal Commission input warranted.

2. Regulatory Process for Proposing a SW Program: While PAs seek maximum flexibility in undertaking the OP 2 assessment, there is lack of clarity about the appropriate venues for doing so. While there is general consensus that the Application cycle is an appropriate venue, some PAs believe the TUAL and the MCAL could also be vehicles for advancing OP 2. Moreover, there is consideration as to whether a separate dedicated process, such a unique Tier 3 filing, could also be a viable mechanism. The one potential impediment is that in certain cases incremental funding might be necessary, which is generally requested and approved as part of the periodic EE Application. In the case of a regional or local program being converted to SW, PAs would need the appropriate venue to rebalance their remaining portfolio and address any implementation issues (see #4 below).

Action Item: Formal Commission input warranted.

3. Applicability of dual fuel or single fuel: There is a diversity of perspectives on whether the offering of dual fuel programs should be *discretionary* or *required*.

Action Item: Formal Commission input warranted.

[20] *In comments on the proposed decision, numerous parties, including Oracle as one of the implementers, opposed the conversion of these two programs to statewide administration, arguing that they have unique characteristics at the individual IOU level and are not appropriate for statewide implementation. In light of these comments, we will defer on converting these programs to statewide at this time. Once a statewide assessment process has been proposed and approved, then we will use the process to evaluate whether these programs should be converted to statewide during the next portfolio application cycle.*

4. Attribution: It is understood that moving a local/regional program to a SW program would preclude program benefit attribution for non-IOU PAs, which presents a challenge for maintaining a cost-effective portfolio and performance at a PA level. Several solutions are available to the Commission including, but not necessarily limited to the following:

- Equal attribution of Statewide Program TSB benefits and costs to all PAs.
- Cost-effectiveness/performance adjustment or relief to impacted non-IOU PA(s).

Action Item: As many EE policies are impacted by potential changes in attribution, cost-effectiveness or program delivery model, the Commission should scope further discussion in R.25-04-010 (EE proceeding) – or the upcoming consolidated Business Plan Application proceeding - to ensure that any solutions are holistic and informed by the public record.

5. Responsibility for Undertaking the Assessment: The PAs generally agree that the assessment process is PA led, which is consistent with the informal perspective shared by Energy Division during the December 22, 2025 working group call. There were no objections to the idea that a PA could engage a third-party entity to facilitate or even to undertake such an assessment.

Action Item: Request Commission to affirm the assumption that the assessment process is PA driven rather than by the CPUC.

Appendix B
PA Survey
Updated 2/12/2026

Each PAs was asked to complete a survey with the four questions shown below. Based on the results, all of the respondents selected a "Qualified Support" for the proposal. Certain PAs also provided responses to questions three and/or four. Each PA's survey response is included in this Appendix B.

1. Which Program Administrator (PA) do you represent?

Enter the full name of your PA (please provide one survey response per PA).

2. Do you support the statewide assessment proposal for evaluating programs?

*Select one option that best represents your position (please **bold** and underline your selection).*

- *Yes*
- *Qualified Support*
- *No*

3. If you selected "Qualified Support" or "No," briefly explain your reasoning.

Your explanation will help stakeholders understand your perspective.

4. Do you have any additional comments or suggestions regarding the proposal?

Optional: Share any other thoughts or recommendations.

NREN

1. Which Program Administrator (PA) do you represent?

Enter the full name of your PA (please provide one survey response per PA).

Northern Rural Regional Energy Network (NREN)

2. Do you support the statewide assessment proposal for evaluating programs?

Select one option that best represents your position (please **bold** and underline your selection).

- Yes
- **Qualified Support**
- No

3. If you selected "Qualified Support" or "No," briefly explain your reasoning.

Your explanation will help stakeholders understand your perspective.

NREN appreciates the time and effort from the PAs during this process to create a statewide portfolio assessment process. At this time, NREN would like additional clarity of certain assessment questions, and would like to review the new clean version closely.

Overall, NREN understands the assessment process and agrees with the guiding principles, but would like to reiterate the gap-filling purposes of RENs that should be kept in mind when an assessment of a regional or local program is taking place.

Additionally, NREN would like to note that not all PAs were represented throughout the entire process of developing this proposal, which may indicate unequitable representation of PAs.

4. Do you have any additional comments or suggestions regarding the proposal?

Optional: Share any other thoughts or recommendations.

It is noteworthy that Joint Cooperation Memos (JCMs) already exist to limit program overlap and ensure PA coordination, and that regional programs all differ from each other as they are unique to each region. These JCMs and other means of coordination should be taken into account when conducting an assessment.

BayREN

1. Which Program Administrator (PA) do you represent?

Enter the full name of your PA (please provide one survey response per PA).

BayREN

2. Do you support the statewide assessment proposal for evaluating programs?

Select one option that best represents your position (please **bold** and underline your selection).

Qualified Support

3. If you selected "Qualified Support" or "No," briefly explain your reasoning.

Your explanation will help stakeholders understand your perspective.

BayREN appreciates the participation of the PAs and the collaborative effort to produce a statewide portfolio assessment proposal. BayREN offers qualified support for the proposal and will provide more reasoning for our qualified support in our business plan application. BayREN would like more time to evaluate the proposal to determine if it agrees with what has been drafted.

4. Do you have any additional comments or suggestions regarding the proposal?

Optional: Share any other thoughts or recommendations.

3C-REN

1. Which Program Administrator (PA) do you represent?

Tri-County Regional Energy Network (3C-REN)

2. Do you support the statewide assessment proposal for evaluating programs?

Select one option that best represents your position (please **bold** and underline your selection).

- Yes
- **Qualified Support**
- No

3. If you selected "Qualified Support" or "No," briefly explain your reasoning.

Your explanation will help stakeholders understand your perspective.

3C-REN offers qualified support for the statewide assessment proposal and will provide more reasoning for our qualified support in our business plan application after having more time to review a clean copy. Some items we will use the additional time to review include:

- Proposed Scope (Upleveling v. Down-leveling)
  - 3C-REN leans toward relying on the explicit decision language, which focuses on the evaluation of existing statewide programs. If the Commission ultimately relies on the dicta to support upleveling, it is important that this approach be balanced with a fair and equal pathway for down-leveling where appropriate.
- REN programs operating in tandem with statewide programs
  - 3C-REN wants to ensure that even if a statewide program passes the assessment matrix and does not require localization, this should not preclude the continued delivery of localized programs where they improve equitable access.

4. Do you have any additional comments or suggestions regarding the proposal?

Optional: Share any other thoughts or recommendations.

SoCalREN

1. Which Program Administrator (PA) do you represent?

Enter the full name of your PA (please provide one survey response per PA).

Southern California Regional Energy Network (SoCalREN)

2. Do you support the statewide assessment proposal for evaluating programs?

Select one option that best represents your position (please **bold** and underline your selection).

- Yes
- **Qualified Support**
- No

3. If you selected "Qualified Support" or "No," briefly explain your reasoning.

Your explanation will help stakeholders understand your perspective.

The SoCalREN believes there should be an assessment regarding the efficacy of the current statewide programs. It would benefit the state to understand are statewide program performing proportionally across the state or are their communities or pockets of regions not being reached. Are rate payer dollars being effectively utilized for mid-stream and up-stream models or is there too little oversight to understand where SW ratepayer dollars are actually being realized into impact. These are just a few questions and much more could be identified.

The SoCalREN does support some portions of the proposal for instance the gate assessment process for considering a PA's proposal for a program to be delivered statewide. However, their lacks certain nuances that must be considered. For instance in the assessment for considering a program be delivered SW there should exist a requirement that the PA engage communities in some form across the state to acquire input. Many communities are often disenfranchised by statewide programs due their standardization. In addition, SW proposals should only be considered in Applications which require Commission approval.

SoCalREN intends to file an alternate proposal that captures some of the Joint PAs work and builds off of it.

4. Do you have any additional comments or suggestions regarding the proposal?

Optional: Share any other thoughts or recommendations.

None at this time.

MCE

1. Which Program Administrator (PA) do you represent?

MCE

2. Do you support the statewide assessment proposal for evaluating programs?

Select one option that best represents your position (please **bold** and underline your selection).

- Yes
- **Qualified Support**
- No

3. If you selected "Qualified Support" or "No," briefly explain your reasoning.

MCE does not agree with the threshold criteria for each set of scoring questions and notes that there are logical errors in the proposed thresholds. For some sets of criteria a "majority" may not be sufficient, and a program should pass all screening criteria to be considered for statewide implementation. There should be further discussion to refine the threshold criteria for each section.

Other comments will be provided in MCE's testimony.

4. Do you have any additional comments or suggestions regarding the proposal?

Optional: Share any other thoughts or recommendations.

SDREN

1. Which Program Administrator (PA) do you represent?

Enter the full name of your PA (please provide one survey response per PA).

San Diego Regional Energy Network

2. Do you support the statewide assessment proposal for evaluating programs?

Select one option that best represents your position (please **bold** and underline your selection).

- Yes
- **Qualified Support**
- No

3. If you selected "Qualified Support" or "No," briefly explain your reasoning.

Your explanation will help stakeholders understand your perspective.

- SDREN supports the proposal if it is not used to relitigate currently authorized programs.
- SDREN supports the proposal if it is conducted by an independent third party.
- SDREN supports the proposal if the "ratepayer affordability" language under "Guidelines for Assessment" is removed. There are many bill components that impact ratepayer affordability (e.g., generation, transmission, and distribution) so assessing singular programs using this as a guideline is infeasible. The "customer affordability" language under the "Guidelines for Assessment" section is more easily determined and can be isolated/attributed to single programs. Therefore, SDREN supports the "customer affordability" language and recommends "ratepayer affordability" be removed. Additionally, this language was added last-minute and was not discussed with the full PA group prior to including.

4. Do you have any additional comments or suggestions regarding the proposal?

Optional: Share any other thoughts or recommendations.

I-REN

1. Which Program Administrator (PA) do you represent?

Enter the full name of your PA (please provide one survey response per PA).

Inland Regional Energy Network (I-REN)

2. Do you support the statewide assessment proposal for evaluating programs?

Select one option that best represents your position (please bold and underline your selection).

- Yes
- **Qualified Support**
- No

3. If you selected "Qualified Support" or "No," briefly explain your reasoning.

Your explanation will help stakeholders understand your perspective.

At the time of this survey I-REN offers "qualified support" rather than full support or non-support of the proposal and will provide additional detail in our forthcoming business plan application. I-REN appreciates the framework's reiteration of the guiding principles of good-faith PA consensus and coordination. While this point is identified in the overview, it is worth highlighting in these comments that the development of this proposal only included REN and CCA PAs a few months after IOUs initiated the effort exclusively. Nevertheless, I-REN participated in this effort in good faith and will continue to identify refinements to the framework to promote equity among PAs between now and the business plan application submittal.

4. Do you have any additional comments or suggestions regarding the proposal?

Optional: Share any other thoughts or recommendations.

I-REN would like to thank all PAs involved in this effort for their contributions, and restate the importance of local and regional efforts led by RENs to provide equity communities with critical support and market access.

CCR REN

1. Which Program Administrator (PA) do you represent?

Central California Rural Regional Energy Network (CCR REN)

2. Do you support the statewide assessment proposal for evaluating programs?

Select one option that best represents your position (please **bold** and underline your selection).

- Yes
- **Qualified Support**
- No

3. If you selected "Qualified Support" or "No," briefly explain your reasoning.

Your explanation will help stakeholders understand your perspective.

We have some small comments in the draft we would like to be considered.

4. Do you have any additional comments or suggestions regarding the proposal?

Optional: Share any other thoughts or recommendations.

Not at this time.

SDG&E

1. Which Program Administrator (PA) do you represent?

Enter the full name of your PA (please provide one survey response per PA).

SDG&E

2. Do you support the statewide assessment proposal for evaluating programs?

Select one option that best represents your position (please **bold** and underline your selection).

- Yes
- **Qualified Support**
- No

3. If you selected "Qualified Support" or "No," briefly explain your reasoning.

Your explanation will help stakeholders understand your perspective.

The requirement that PAs conduct regional focus groups to gather community input, as proposed by SCR, should be optional rather than mandatory, as regional focus groups may not be practical on a statewide basis.

The proposed transition of a statewide lead PA is also allowed to be requested within the Business Plan Applications per the Energy Division template, not only Tier 2 Advice Letter.

Already resolved in the draft: SDG&E supports majority versus 80% supermajority within the gating questions.

4. Do you have any additional comments or suggestions regarding the proposal?

Optional: Share any other thoughts or recommendations.

SCE

1. Which Program Administrator (PA) do you represent?

Southern California Edison

2. Do you support the statewide assessment proposal for evaluating programs?

Select one option that best represents your position (please **bold** and underline your selection).

- Yes
- **Qualified Support**
- No

3. If you selected "Qualified Support" or "No," briefly explain your reasoning.

Your explanation will help stakeholders understand your perspective.

SCE is generally supportive of the Statewide Assessment proposal; however, SCE emphasizes that this assessment should include regional programs and notes that the assessment should not be used as a basis for program closures, as an established process and procedure for closing programs already exists.

4. Do you have any additional comments or suggestions regarding the proposal?

Optional: Share any other thoughts or recommendations.

SoCalGas

1. Which Program Administrator (PA) do you represent?

Enter the full name of your PA (please provide one survey response per PA).

SoCalGas

2. Do you support the statewide assessment proposal for evaluating programs?

Select one option that best represents your position (please **bold** and underline your selection).

- Yes
- **Qualified Support**
- No

3. If you selected "Qualified Support" or "No," briefly explain your reasoning.

Your explanation will help stakeholders understand your perspective.

4. Do you have any additional comments or suggestions regarding the proposal?

Optional: Share any other thoughts or recommendations.

The proposal should heavily weigh the customer's best interest and provide the structure to allow utilities to adapt program designs for customer benefit.

PG&E

1. Which Program Administrator (PA) do you represent?

Enter the full name of your PA (please provide one survey response per PA).

PG&E

2. Do you support the statewide assessment proposal for evaluating programs?

Select one option that best represents your position (please bold and underline your selection).

- Yes
- **Qualified Support**
- No

3. If you selected "Qualified Support" or "No," briefly explain your reasoning.

Your explanation will help stakeholders understand your perspective.

There are unresolved issues that merit further development and/or formal CPUC input. These are noted in the body of the proposal (primarily as footnotes) and/or summarized in Appendix A.

PG&E's perspective continues to be that the lead-PA of any SW program should have the ability to make program specific decisions, specifically allowing the lead-PA to determine whether a SW program is single or dual fuel. PG&E provides additional context in its testimony.

PG&E requests stakeholders consider this perspective when reviewing the proposal.

4. Do you have any additional comments or suggestions regarding the proposal?

Optional: Share any other thoughts or recommendations.

PG&E volunteered to facilitate this all-PA process as it wasn't obvious if any other PA had interest in doing so. It is understood that efforts of this nature, which involve a dozen PAs is both challenging and time consuming. In hindsight this process would have been better suited to a professionally facilitated working group, which could have included formal workshops with Energy Division staff participation. Even so, PG&E appreciates ED staff joining one of our weekly meetings on December 22, 2025, in order to entertain PA questions and to share *unofficial* thoughts on OP 2. Also, PG&E appreciates the collaborative engagement by the PAs.

PG&E believes this proposal is a reasonable starting point for further development by the Commission and interested stakeholders. Further discussion and context on the unresolved items is located in PG&E's testimony.

PACIFIC GAS AND ELECTRIC COMPANY

CHAPTER 6

SEGMENTATION AND SECTOR STRATEGY

PACIFIC GAS AND ELECTRIC COMPANY
CHAPTER 6
SEGMENTATION AND SECTOR STRATEGY

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PACIFIC GAS AND ELECTRIC COMPANY
CHAPTER 6
SEGMENTATION AND SECTOR STRATEGY

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PACIFIC GAS AND ELECTRIC COMPANY
CHAPTER 6
SEGMENTATION AND SECTOR STRATEGY

A. Introduction

This chapter describes Pacific Gas and Electric Company's (PG&E) objectives and strategies by sector. It also provides an overview of how PG&E's strategies align with the California Public Utilities Commission (CPUC or Commission) required portfolio segmentation described in Decision (D.) 21-05-031 and clarified in D.23-06-055, which directed Energy Efficiency (EE) Program Administrators (PA) to segment their portfolios into four portfolio segment categories: (1) resource acquisition (RA), (2) market support (MS), (3) equity, and (4) codes and standards (C&S). The chapter is organized as follows:

- Section B: Portfolio Sector Strategy; and
- Section C: Portfolio Segmentation Strategy (RA, MS, Equity, C&S).

B. Portfolio Sector Strategy

PG&E plans to use its experience and insights in each sector, to achieve its portfolio goals which include: (1) optimizing delivery of Total System Benefit (TSB), (2) scaling efficient Building Electrification (BE), (3) enabling the energy system of tomorrow, and (4) facilitating rate affordability (see Chapter 3 for more details on PG&E's portfolio goals). While each sector is described in more detail later in this chapter, at a high level; PG&E plans to make use of the following unique opportunities that each sector provides.

- Residential:[1] The diversity of building types within the residential sector creates an opportunity for PG&E to expand programs to empower customers to better manage their household energy consumption. The next four years also present an opportunity for PG&E to support strategic, customer-driven electrification by reducing friction for customers and trade allies to make cost-effective electrification installations as easy as

[1] Note that Residential sector section of this chapter includes discussions of PG&E's planned New Construction (NC) activities because many of the NC programs serve residential customers and are marked as the primary sector in California Energy Data and Reporting System (CEDARS).

like-for-like replacements are now, and by nurturing novel efficient BE projects to support peak savings, reliability, and long-term affordability.

- Commercial:[2] For large commercial customers, PG&E plans to seek opportunities to apply the high-touch and long-customer-engagement approach of Strategic Energy Management (SEM) to drive deeper savings and to help them with projects involving Normalized Metered Energy Consumption (NMEC) data, strategic electrification, and tailored load flexibility strategies, such as controls-based strategies and behavioral/operational interventions. For small-to-medium business (SMB) customers who may not deliver significant project energy savings, PG&E intends to increase participation by providing more meaningful deemed measure packages and on-bill financing (OBF) options.
- Industrial: The broad range of business types, buildings, and systems represented in the industrial sector also presents an opportunity for PG&E to expand its SEM, NMEC, and load flexibility offerings to help customers better manage their energy use.
- Agricultural: PG&E sees an opportunity to incorporate more deemed measures and measure packages into its agricultural sector offerings. PG&E also plans to educate and support these customers with EE and Integrated Demand-Side Management (IDSM) opportunities, including load flexibility and demand response (DR), to help them lower bills, reduce grid demand, and promote the electrification of heat source equipment via heat pumps where viable.
- Public: Similar to the large commercial customers, many public sector customers lack the necessary engineering expertise and internal resources to properly analyze potential energy projects. This presents a similar opportunity to provide them with SEM, NMEC, and load flexibility support. Additionally, PG&E believes it can increase program participation in its public sector programs by better aligning its EE and BE offerings with the changing goals of state and local governments. For example, since many of these customers are shifting their focus from energy reductions towards

[2] Note that the Commercial sector section of this chapter includes discussions of PG&E's planned NC activities because many of the NC programs serve Commercial customers and are marked as the primary sector in CEDARS.

greenhouse gas (GHG) emissions reductions to meet their state-mandated decarbonization targets, PG&E sees an opportunity to work with public sector implementers to reframe performance targets from energy savings to GHG.

- Cross-Cutting: PG&E's cross-cutting sector supports all customer sectors through diverse offerings including Financing, Workforce Education and Training (WE&T), statewide Emerging Technologies Programs (ETP),[3] and C&S. Financing increases opportunities for customer participation by providing access to capital to proceed with energy projects. WE&T reaches new audiences to train individuals across the diverse electrification landscape and encourages third-party implementers to promote training opportunities across their contractor networks and program offerings. For C&S, PG&E advocates for and supports compliance with cost-effective building codes and appliance standards; supports hometowns in achieving their energy and GHG emissions reduction goals through local ordinances; and conducts enhanced data collection.

In this application, PG&E has identified needs across several key strategic areas including accelerating efficient electrification, enabling load flexibility, and driving downward pressure on rates. PG&E includes seven prospective programs which it plans to solicit, contract, and/or implement by 2028 (see Chapter 4, Section B.3.b for more details on placeholder forecasts for prospective programs). Descriptions of placeholder programs listed below and throughout PG&E's prepared testimony are intended to articulate concepts that PG&E could include in a potential solicitation or program but are not intended to prescribe specific program designs. These prospective programs include:

- Electrification Contractor Support Placeholder:[4] This placeholder program intends to explore tactics to support contractor readiness and increase contractors' motivation to promote electrification with customers. It may include developing planning tools for BE projects, exploring solutions to

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3 ETP is separated into two programs, the ETP and the Gas ETP, administered by Southern California Edison Company (SCE) and Southern California Gas Company (SoCalGas), respectively. Please see SCE and SoCalGas' respective Business Plan Applications for more details on ETP strategies.

4 Electrification Contractor Support Placeholder, Program ID: PGE_Res_008.

enable faster electrification installations, testing education and awareness approaches for BE technologies, and/or providing technical support for installation practices that can help safely mitigate the need for electric panel and/or service upgrading.

- Targeted Electrification Placeholder:[5] This placeholder program aims to explore different approaches to identify opportunities to influence the adoption of electric appliances. It may include targeting partial or whole home electrification, identification of fuel substitution opportunities prior to failure (e.g., accelerated replacementb), emergency replacement support, and targeting BE in areas with underutilized electric assets.
- Electrification Customer Experience Support Placeholder:[6] This placeholder program plans to introduce customer interventions aimed at creating positive pre-install, install, and post-install customer outcomes. It may include helping customers get the most out of their electrified appliances by helping them to easily assess usage patterns, rate schedules, and additional program participation opportunities (e.g., DR).
- Heat Pump Adoption Program Placeholder:[7] This placeholder program intends to support customer adoption of heat pumps by providing customer decision-making support and heat pump installation incentives to complement available state and federal funding sources.
- Targeted Load Management Placeholder:[8] This placeholder program aims to coordinate deployment of EE and other load management measures in grid constrained areas. PG&E anticipates the placeholder program to reduce peak demand in targeted areas with significant potential to defer costly grid investments while maintaining high reliability and customer satisfaction. It may also explore methodologies to value location-specific benefits to unlock future opportunities to scale targeted grid support offerings.

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5 Targeted Electrification Placeholder, Program ID: PGE_Res_009.

6 Electrification Customer Experience Support Placeholder, Program ID: PGE_Res_010.

7 Heat Pump Adoption Program Placeholder, Program ID: PGE_Res_011.

8 Targeted Load Management Placeholder, Program ID: PGE_Com_010.

- SW Heating, Ventilation, and Air Conditioning (HVAC) All Electric Non-Residential:[9] This proposed program aims to influence and increase installer-driven demand through innovative approaches to accelerate all-electric HVAC technology market adoption in the non-residential sector (prioritizing small/midsize buildings). PG&E expects the program to focus on installer engagement and non-residential market development, and to accelerate heat pump adoption in a way that is scalable, equitable, and aligned with California's broader decarbonization objectives.
- Innovation-Enabling MS Program Placeholder:[10] This placeholder program intends to encourage more innovation across PG&E's third-party implemented RA segment programs by providing implementers with more testing and learning opportunities. As described in Chapter 11, Section C.2, PG&E requests the Commission allow PG&E to submit a Tier 2 advice letter (AL) to establish an innovation-enabling, PG&E-led MS segment program that can allocate MS segment funds to RA segment programs specifically to pilot innovative interventions within the existing RA segment program design and implementation structures, without adversely impacting the cost-effectiveness of the RA segment program. See Chapter 11, Section C.2 for more details.

The forecasted budget and benefits distribution for each sector is based on current and expected market conditions during the portfolio period. The Commission adopted the EE TSB and energy savings goals for 2026-2037 in D.25-08-034. The CPUC adopted goals based on Scenario 2 from the *2025 Potential and Goals Study* (PGS),[11] which used a measure-level cost effectiveness screening of a 1.0 TRC ratio and assumed an effective date of 2030 for the Zero Emissions Space and Water Heater Standards as proposed in the California Air Resources Board's (CARB) 2022 State Strategy for the State

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9 SW HVAC All Electric Non-Residential, Program ID: SW_HVAC_AE_NonRes.

10 Innovation-Enabling Market Support Program Placeholder, Program ID: PGE_CC_001.

11 D.25-08-034, Ordering Paragraph (OP) 1, p. 27.

Implementation Plan (2022 State Implementation Plan).[12] PG&E may reallocate its forecast among the sectors to optimize for TSB, cost-effectiveness, and portfolio segmentation. Table 6-1 below, provides the current forecasted budget by year and by sector. Sectors included in Table 6-1 align with sectors as displayed in CEDARS.

[12] The 2027 PGS may reflect updates to scope and effective date of the CARB zero-emission space and water heater standards—which as of this filing have not yet been adopted—prior to the True-Up Advice Letter (TUAL) filings expected in September 2027.

TABLE 6-1
BUDGET DISTRIBUTION BY SECTOR

Line No.	Program Year	Residential	Commercial	Industrial	Agricultural	Public	Cross-Cutting	EM&V	Portfolio Support	Total Budget
1	2028	$64,345,391	$42,996,048	$18,994,996	$8,834,584	$11,543,162	$50,779,593	$9,051,097	$20,018,458	$226,563,330
2	2029	63,413,919	44,138,386	19,034,217	8,794,083	11,825,647	50,978,883	9,095,571	20,394,475	227,675,180
3	2030	62,476,434	44,125,182	18,936,332	8,684,468	11,994,420	51,174,212	9,078,739	20,784,592	227,254,379
4	2031	63,042,947	43,708,796	18,969,632	8,735,375	12,076,110	51,390,344	9,117,777	21,189,338	228,230,319
5	Sub Total (4-Year)	$253,278,692	$174,968,413	$75,935,176	$35,048,510	$47,439,339	$204,323,032	$36,343,184	$82,386,863	$909,723,209
6	2032	$61,780,507	$43,074,338	$18,589,763	$8,560,448	$11,834,285	$50,120,435	$8,935,193	$20,484,845	$223,665,713
7	2033	60,543,315	42,211,748	18,217,492	8,389,020	11,597,296	49,116,743	8,756,260	20,074,624	219,192,398
8	2034	59,330,868	41,366,411	17,852,666	8,221,020	11,365,047	48,133,125	8,580,906	19,672,607	214,808,550
9	2035	58,142,669	40,537,980	17,495,137	8,056,381	11,137,444	47,169,180	8,409,059	19,278,630	210,512,379
10	Sub Total (4-Year)	$239,797,358	$167,190,476	$72,155,058	$33,226,869	$45,934,072	$194,539,483	$34,681,418	$79,510,706	$868,179,041
11	Cumulative Total (8-Year)	$493,076,051	$342,158,889	$148,090,235	$68,275,379	$93,373,411	$398,862,515	$71,024,602	$161,897,569	$1,777,902,250

In the following sections, PG&E describes its proposed sector objectives and high-level strategies for the 4-year portfolio plan period covering 2028-2031. PG&E's customer sectors serve targeted customer types including residential, commercial, industrial, agricultural, and public. PG&E's cross-cutting sector is distinct in that it serves all portfolio customer types. Cross-cutting sub-sectors include Financing, WE&T, and C&S.

These sections generally align with and respond to the Portfolio Sector Strategy prompts in the CPUC EE Application Template created by the Energy Division.[13] However, they also include additional high-level information not requested in the application template on each sector's proposed strategies, programs and activities. The intent of this additional detail is to highlight PG&E's approach to achieving its ambitious portfolio and sector goals. For each sector PG&E provides the following information: [14]

- Key target populations;
- Objectives;
- Barriers; and
- High-level strategies, including details on the types of activities PG&E intends to conduct during the 4-year period.

1. Residential: Overview and Objectives

PG&E's residential sector serves a range of customer types which are differentiated by customer building type (e.g., single family, multifamily, mobile homes), and demographics (e.g., disadvantaged communities and income qualified).[15]

PG&E's residential sector objectives and strategies were developed to align with and support PG&E's overarching portfolio goals described in Chapter 3, Section B. Figure 6-1 illustrates the residential sector objectives and the sector strategies that will be implemented to achieve them. PG&E's

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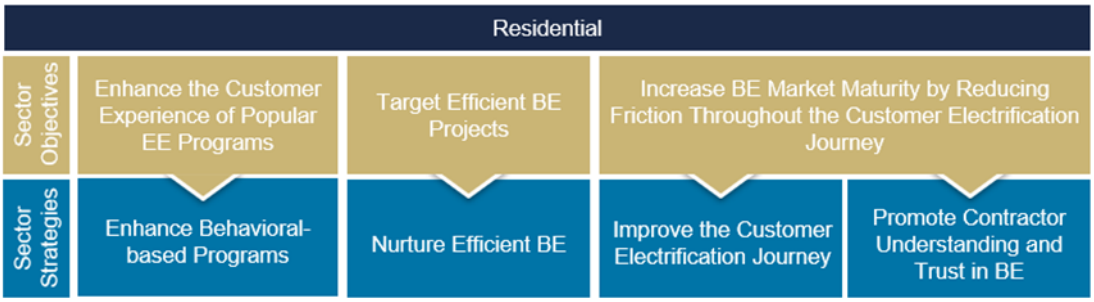
[13] *2028-2035 EE Business Plan Application Template*, CPUC, (posted September 29, 2025). Available at: https://www.cpuc.ca.gov/industries-and-topics/electrical-energy/demand-side-management/energy-efficiency/rolling-portfolio-program-guidance.

[14] Refer to Exhibit 2 Program Cards for more specific information on individual PG&E programs.

[15] PG&E currently has 5.6 million electric customer accounts and 4.6 million natural gas customer accounts.

residential sector has three objectives: (a) enhance the customer experience of popular[16] EE programs; (b) target efficient BE projects;[17] and (c) increase BE market maturity by reducing friction throughout the customer electrification journey.

FIGURE 6-1
RESIDENTIAL SECTOR GOALS, OBJECTIVES, AND STRATEGIES



a. Residential Customer Barriers

Barriers hindering customer adoption of EE in the residential sector include, but are not limited to, high upfront costs and customer difficulty understanding program offerings or their eligibility requirements. In addition to these barriers, electrification interventions face pain points that can result in friction during the customer decision journey. Common sources of friction may include, but are not limited to: retrofit costs, the risk of bill increases, poor customer understanding of BE appliances, lack of contractor trust or poor perception of BE appliances, lack of available product supply, project delays associated with permitting and service upgrade assessments, shortage of a trained electrification and decarbonization workforce, aging residential housing stock that may require costly electrical upgrades, and nominal interest in upgrading

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16 "Popular" is used to describe programs with demonstrated customer acceptance, indicated by either low opt-out rates or high customer satisfaction.

17 According to the *2019 Residential Appliance Saturation Survey*, an estimated 66 percent of households in PG&E's service area use natural gas for primary heating; 20 percent use electricity; 5 percent use propane, 3 percent use other fuels (the remaining 7 percent were non-responsive to the survey question regarding primary space heating fuel).

Subset of Volume 2 banners – 2019 Results for PG&E – 5 Excel workbooks, DNV, (2021). Available at: https://rass.dnv.com.

qualifying equipment before the end of its Effective Useful Life (EUL) resulting in like-for-like emergency replacements.[18] For the residential sector's all-electric NC interventions, additional challenges may include reluctance of builders to pay higher upfront capital costs for all-electric NC and complementary efficient envelope measures. Builders can also face challenges related to all-electric building from rising construction costs and interest rates.

b. Residential Strategies

PG&E's strategies for addressing the sector barriers and achieving its objectives within the residential sector include: (1) enhance behavioral-based programs, (2) nurture efficient BE, (3) improve the customer electrification journey, and (4) promote contractor understanding and trust in BE. The following subsections provide additional detail on each of these strategies.

1) Enhance Behavioral-Based Programs

PG&E's service area includes many residential building types, building vintages, and technologies that shape how customers use energy (see Chapter 2, Section D for more information). This building diversity creates an opportunity for PG&E to deliver tailored customer experiences that empower our residential customers to better manage their household energy consumption.

For instance, PG&E is preparing to enhance Home Energy Reports[19] to better support complex customer premises such as those with electric vehicles (EV), solar, load flexibility-enabled

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18 ACEEE's *Building Electrification: Programs and Best Practices* report notes that:

> Many system replacements occur only when existing equipment breaks or reaches the end of its useful life. This requires heat pump equipment to be in stock at supply centers for emergency replacement scenarios. Homeowners also need to be informed (by contractors and/or marketing and education efforts) so that they can plan for replacement well in advance of a system's failure. Otherwise, in an emergency, a like-for-like replacement will often result… These replacements should target equipment that is very old and nearing the end of its useful life, since replacing prior to that is often not economically feasible.

Building Electrification: Programs and Best Practices, ACEEE, (February 2022), p. 54. Available at: https://www.aceee.org/sites/default/files/pdfs/b2201.pdf.

19 Offering within the Residential Behavioral Program, Program ID: PGE_Res_002d.

technologies, and electrified homes. PG&E is also working toward providing personalized insights to these customers to motivate them to reduce their energy use and form energy saving habits.

PG&E is also evaluating ways to improve the usability and functionality of the Universal Audit Tool Program[20] platform. These improvements are intended to make it easier for customers to access customized resources and recommendations based on their building's unique characteristics and household usage patterns, equipping customers with the knowledge and motivation to take more energy-saving actions.

PG&E anticipates enhancing the accessibility and visibility of the Virtual Energy Audit Program (VEAP)[21] as the program evolves to support more customers with deeper insights and more comprehensive solutions to save energy in the home through future cycles. Planned updates may focus on improving the customer experience by offering more intuitive and personalized support that helps customers navigate informational, decision-making, and transactional barriers related to energy efficiency and electrification upgrades. As PG&E refines the program's design and delivery model, the emphasis will remain on providing clear, actionable insights that help customers identify opportunities to reduce energy waste, improve comfort, and manage energy bills. These enhancements are intended to ensure the program continues to deliver meaningful value for households with higher-than-expected energy use by providing clear, actionable recommendations regardless of the future implementation approach pursued.

These residential program enhancements reinforce PG&E's commitment to advancing CPUC-adopted EE goals and supporting PG&E's portfolio objectives. While certain enhancements are designed to optimize the delivery of TSB and cost-effectiveness, others focus on expanding offerings and delivering personalized

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20 Program ID: PGE_Res_002a.

21 VEAP, Program ID: PGE_Res_001b.

insights that improve customer engagement and drive meaningful bill savings. Together, these program enhancements advance reliable sources of energy savings and ensure the residential portfolio provides measurable benefits and tangible value to the households PG&E serves.

2) Nurture Efficient BE

Energy system conditions such as transmission and distribution system congestion, surplus solar generation, and load growth can complicate capacity planning, as well as increase the strategic importance of EE and efficient BE (see Chapter 2, Section C for more information). PG&E views the testing of targeted EE and efficient BE interventions as essential for preparing the market for electrification at scale by supporting load growth that is efficient, controllable, and in line with long term system planning. This includes piloting flexible, grid-interactive efficient technologies that can reduce capacity needs and defer costly grid upgrades, in addition to targeted interventions that can enable customers to maximize the benefits of electrification and contribute to broader decarbonization goals. See Chapter 3, Section E.4.a for more details on PG&E's portfolio-level strategies for testing ways to scale targeted electrification and mitigate rate impacts; PG&E is proposing a new residential placeholder pilot to test ways to flexibly scale targeted electrification.

The Targeted Electrification Placeholder Program intends to explore different approaches to identify opportunities to influence the adoption of electric appliances. This pilot may include targeting for partial or whole home electrification, identification of fuel substitution opportunities prior to failure (e.g., accelerated replacement), emergency replacement support, and targeting BE in areas with underutilized electric assets.

As part of a potential Targeted Electrification Placeholder pilot, PG&E also intends to leverage data across internal and external resources, in compliance with California privacy law, to identify BE opportunities. PG&E envisions the Targeted Electrification

Placeholder may explore different approaches to proactive replacement of failing or failed gas appliances with efficient electric appliances. One approach PG&E plans to test is disaggregating customer energy data to identify customers with failing gas appliances and supporting them, along with their contractors, through the replacement of their failing gas appliance with an efficient electric alternative. PG&E may explore contractor-focused opportunities to identify and replace qualifying gas appliances before the end of their EUL. This is a compelling opportunity to explore because, as recent studies have documented, customers would otherwise likely install like-for-like gas appliances based on contractor recommendations, lack of awareness/understanding, or delays associated with installing electric appliances.[22]

In addition to these new pilot program proposals, PG&E plans to continue identifying and supporting efficient electrification opportunities through its existing BE programs. For instance, PG&E intends to apply the insights and learnings generated through its Equity segment zonal electrification pilots (i.e., Residential Zonal Electrification Equity Program Implementer A,[23] and the Residential Electrification Equity Program)[24] to expand its zonal electrification programs through deep community engagement and local partnerships aimed at electrifying targeted sections of PG&E's gas system.

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22 Reporting published by CalNEXT identified that, of the estimated 721,000 water heaters replaced annually in California, 87 percent of the replacements are gas-fired water heaters and 13 percent are electric and typically like-for-like replacements. The reporting also identified that contractors are not likely to recommend heat pump water heater (HPWH) installations in emergency replacement scenarios unless they already have experience with the technology.

Emergency Replacement Heat Pump Water Heater Market Study, VEIC, (June 2024), pp. ii-v. Available at: https://calnext.com/wp-content/uploads/2024/07/ET23SWE0020_Emergency-Replacement-HPWH-Market-Study_Final-Report.pdf.

23 Program ID: PGE_Res_004a.

24 Program ID: PGE_Res_005.

3) Improve the Customer Electrification Journey

PG&E anticipates residential adoption of BE to increase over the business plan period due to growing customer awareness as well as the implementation of new building codes[25] and appliance standards, including the Bay Area Air District's (BAAD or the Air District) amendments to Rules 9-4 and 9-6 requiring commercial and residential furnaces and water heaters sold and manufactured throughout the nine Bay Area counties to meet zero Nitrogen Oxides (NOx) emissions standards.[26] See Chapter 2, Section C.5 for more info on load growth, and Chapter 6, Section C.5.a for PG&E strategies regarding appliance standards and building codes. As stated in Chapter 3, for BE to succeed at scale, customers must feel confident that electrification will be installed correctly, maintain or improve comfort, be economically viable, and fit effortlessly into their lives. The next four years represent a key window for preparing the market to support a strategic, customer-driven electrification transition.

To facilitate this increase in BE adoption, PG&E plans to assist customers in each stage of the electrification journey. PG&E's intent is to nurture BE market maturity by reducing friction throughout the BE customer journey. For existing homes, PG&E's ambition is to reduce friction to the point that fuel substitution is as easy as like-for-like replacements, enabling customers to electrify whenever they decide to replace their gas equipment. For the NC market, PG&E's aim is to support builders in building efficient, all-electric homes and promoting the benefits of these homes to buyers. PG&E is positioning its residential BE offerings to include

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25 The state of California is advancing BE through the 2025 Building Energy Efficiency Standards (Title 24, Part 6 or the Energy Code), which went into effect January 1, 2026. Title 24 encourages heat pumps for space heating and water heating in NC projects and requires electric readiness in newly constructed single family/multifamily buildings and commercial kitchens.

26 *Bay Area Air District, Regulation 9 Rule 6: Nitrogen Oxides Emissions from Natural Gas-Fired Water Heaters*, Bay Area Air District. Available at: https://www.baaqmd.gov/rules-and-compliance/rules/reg-9-rule-6-nitrogen-oxides-emissions-from-natural-gasfired-water-heaters?utm_source=chatgpt.com.

pre-installation awareness-building, education, and decision-making support; installation incentives; and post-installation customer assistance to optimize the customer experience with new electrified appliances. Specifically, PG&E plans to:

- Propose a new Heat Pump Adoption Program Placeholder[27] to support customer adoption of heat pumps. PG&E anticipates the pilot to provide support including (but not limited to) customer decision-making support and heat pump installation incentives that complement state and federal funding sources. This placeholder program ID is included in the residential sector, however, PG&E may explore expanding the program to support additional sectors at a later date via the 2027 TUAL.
- Propose a new Electrification Customer Experience Support Placeholder[28] to support all phases of the electrification customer experience. PG&E intends for the pilot to introduce customer interventions aimed at creating positive pre-install, install, and post-install customer outcomes. This pilot also could present an opportunity for PG&E to support customers in choosing what electrification interventions are right for them and helping them get the most out of their electrified appliances by providing easy access to usage patterns, rate schedules, and additional program participation opportunities (e.g., DR), while also prioritizing comfort in the home.
- Continue to prepare the residential NC sector to transition to all-electric construction through the Statewide New Construction Residential Program's[29] all-electric NC and whole home electrification alterations offerings. PG&E is the lead-PA for the statewide residential NC program and intends for the program to

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27 Heat Pump Adoption Program Placeholder, Program ID: PGE_Res_011.

28 Program ID: PGE_Res_010.

29 Program ID: SW_NC_Res_electric. The program advances new technologies, informs future building codes and standards, and accelerates market transformation through its all-in-one solution. The Program offers incentives for single family, duplex, townhome, multifamily low-rise, alterations, and accessory dwelling units.

continue to influence decisions and ease the transition to adopt all-electric NC practices by educating potential participants and stakeholders on the features of all-electric homes, enrolling projects, and emphasizing the installation of advanced EE measures. The program also facilitates future opportunities through non-incentivized, prerequisite measures that may ease future installation of high-impact DR technologies.

PG&E expects these programs to drive a more positive customer experience for customers that choose to electrify and reinforce a positive customer perception of electrification in the market.

4) Promote Contractor Understanding and Trust in BE

For BE to scale, a well-trained workforce is needed that understands BE technologies, can install them properly, and confidently recommends them to customers. Improving contractor trust in, and perceptions of, BE technologies is critical for contractors to support the transition to BE technologies. As contractor confidence in these technologies grows, the skilled BE workforce is expected to expand. Over time, this increased contractor supply could help drive demand for greater availability of efficient BE equipment across retail and distributor channels. PG&E plans to lay the groundwork for scaled deployment of efficient BE through a new contractor-centric placeholder pilot program.

PG&E is proposing an Electrification Contractor Support Placeholder pilot program[30] as it recognizes the important role that contractors play in influencing customer decisions and strategically promoting electrification technologies. An Electrification Contractor Support Placeholder pilot program could support contractors' readiness and increase their motivation to promote electrification with customers through tactics such as: developing planning tools for BE projects, exploring solutions to enable faster and more cost-effective electrification installations, testing education and

30 Program ID: PGE_Res_008.

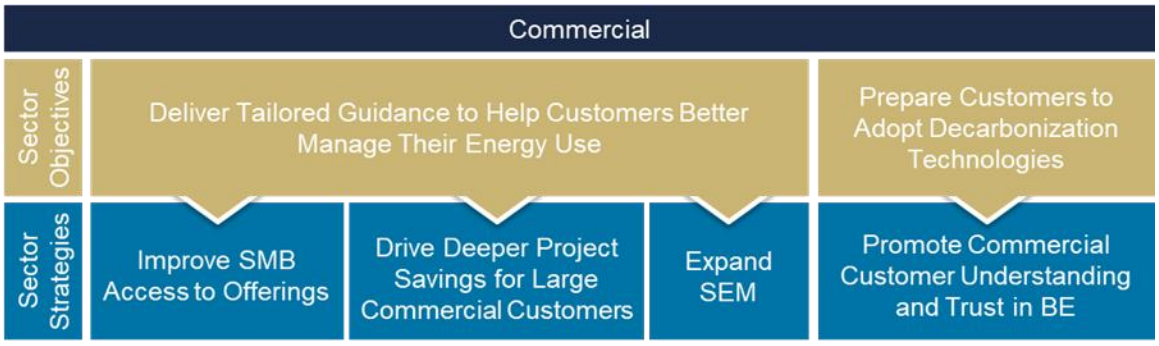
awareness approaches for BE technologies, and/or providing technical support for installation practices that can help safely mitigate the need for electric panel and/or service upgrading. This placeholder program is classified within the residential sector, however, PG&E may explore expanding the program to support additional sectors at a later date. PG&E envisions this program as a complement to other programs such as WE&T that are also facilitating a transition of the workforce to support electrification.

2. Commercial: Overview and Objectives

PG&E's commercial sector targets a range of customer types including micro businesses, SMB, grocery/hospitality, office, high-tech, biotech, and healthcare, among others.

PG&E's commercial sector objectives and strategies were developed to align with and support PG&E's overarching portfolio goals described in Chapter 3. Figure 6-2 illustrates the commercial sector objectives and the sector strategies that will be implemented to achieve them. PG&E's commercial sector has two objectives: (1) deliver tailored guidance to help customers better manage their energy use and (2) prepare customers to adopt decarbonization technologies.

FIGURE 6-2
COMMERCIAL SECTOR GOALS, OBJECTIVES, AND STRATEGIES



a. Commercial Customer Barriers

PG&E understands that the barriers to participation in EE programs and making EE investments for commercial customers include, but are not limited to: budget constraints, competing priorities for company

decision makers, lack of internal expertise needed to make EE decisions,[31] and split incentives between property owners and tenants. Commercial customers desire information on efficient equipment to make informed EE investment decisions, assistance with identifying opportunities to save energy, and financing offers to make EE upgrades.[32] Furthermore, commercial customers currently face multiple barriers to adopting electrification measures, including facing potentially higher energy bills, a shortage of workers trained in commercial-size heat pump equipment, low retail supply of commercial heat pumps, and upfront cost challenges that are particularly difficult for small businesses to overcome.[33] For the non-residential sector's all-electric NC interventions, additional challenges may include: more all-electric design requirements such as heat pumps, solar generation, and energy storage; market resistance to electrification of cooking equipment; concerns about whether heat pump water heaters can satisfy high hot water loads in restaurants; and limited availability of electric alternatives to gas equipment for certain sub-sectors.

b. Commercial Strategies

The commercial sector strategies to overcome sector barriers and support commercial objectives include: (1) improve SMB access to offerings, (2) drive deeper project savings for large commercial customers, (3) expand SEM, and (4) promote customer understanding and trust in BE. The following subsections provide additional detail on each of these strategies.

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31 *California Statewide Commercial and Industrial Customer Wants and Needs Study*, TRC, (April 8, 2021), pp. 31-33. Available at: https://pda.energydataweb.com/api/view/2499/California Statewide Wants and Needs Report FINAL DRAFT 4.8.21.pdf.

32 *Ibid.,* pp. 56-66.

33 *Decarbonizing the Commercial Building Sector,* Stanford Center for Carbon Storage and Stanford Carbon Removal Initiative, (May 2022), pp. 81-82. Available at: https://sccs.stanford.edu/sites/g/files/sbiybj17761/files/media/file/decarbonizing-the-commercial-buildings-sector.pdf.

1) Improve SMB Access to Offerings

PG&E has identified an opportunity to better serve SMB customers who are often too large to participate in the Micro and Small Business Program,[34] yet not large enough to deliver avoided cost benefits at levels that enable cost-effective targeting by RA segment programs. PG&E intends to proactively develop deemed measures and measure packages[35] for third-party implementer programs and drive greater participation in PG&E's OBF platform to reduce EE participation barriers for SMB customers. As an example, PG&E is in the process of developing measure packages including lifecycle refrigerant management for non-residential customers, efficient sliding glass doors for storefronts, and door weatherproofing for SMBs. PG&E expects this expansion of available measure packages to lower the barrier to entry for SMB customers to participate in EE and increase program participation. This is a valuable opportunity for PG&E to drive energy savings in an underserved customer class and encourage innovation in third-party programs, while increasing SMB participation.

2) Drive Deeper Project Savings for Large Commercial Customers

Many large customers in the commercial sector, such as biotech and high-tech companies, have unique energy demand and production needs that require technical engineering expertise. Due

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34 Micro and Small Business Program (Program ID: PGE_Com_SmallBiz) provides resonant marketing, outreach, and education that addresses the concerns of small customers, as well as providing direct install services and incentives for this traditionally underserved segment. The program focuses on customers with a demand of less than 50 kilowatt (kW) and located within a CalEnviroscreen Disadvantaged Community. Hard-to-Reach (HTR) customers who meet the demand requirements but are not located within a Disadvantaged Communities (DAC) community may also qualify for the program.

35 PG&E and the California Technical Forum (Cal TF) have recently put greater emphasis on proactive new measure development. For example, PG&E recently updated the refrigerated case door measure package (SWCR015). The measure package has been updated to revise requirements based on implementer feedback and expand eligibility with a slight reduction in energy savings. The Cal TF has developed and affirmed nine Custom Measure Guidance packages which streamline the process for these common custom measures. The streamlined process reduces the burden and is expected to increase participation by smaller customers and projects.

to the complexity of their operations, EE projects for this subset of commercial customers have long recruitment cycles and require active engagement by implementers to be successful. Accordingly, it is optimal to focus on retrofit projects with the potential to deliver deep savings to maximize return on time spent for customers and implementers who are executing an EE project. To holistically serve these customers and generate projects with deep savings opportunities, PG&E intends to expand its focus on providing the engineering expertise needed to develop projects using NMEC site-specific delivery principles. The NMEC site-specific approach is designed to drive deeper savings with controls-based strategies and behavioral/operational interventions.

Furthermore, PG&E is proposing a Targeted Load Management Placeholder.[36] This placeholder represents an opportunity to work with PG&E distribution and transmission system planners to deploy EE and other load management measures in grid-constrained areas. The pilot would aim to enable load flexibility in coordination with other Distributed Energy Resource (DER) customer programs to reduce peak demand in targeted areas with significant potential to defer costly grid investments while maintaining high reliability and customer satisfaction. Measures could include EE along with other DERs while supporting customer enrollment in DR offerings and dynamic rates. The pilot may also explore methodologies to value the location-specific benefits to unlock future opportunities to scale targeted load management grid support offerings.

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36 Targeted Load Management Placeholder, Program ID: PGE_Com_010. PG&E defines load management as the use of signals and measures that modify the customer's load to provide grid services. This includes DR programs, including Virtual Power Plants; dynamic rates; energy efficiency measures; Vehicle-to-Grid Integration; and technology incentive programs, like the Self-Generation Incentive Program, that provide grid services like peak load shed, load shift, permanent load reduction, and strategic load growth, for serving generation, transmission, and distribution grid needs (see Opening Comments of Pacific Gas and Electric Company (U 39 E) to the Order Instituting Rulemaking to Enhance DR in California, Attachment A, p. A-1). PG&E's Targeted Load Management pilot program would conform to EE proceeding rules regarding allowable use of EE funds for load reduction, load shifting, and load growth interventions. The pilot may coordinate with other non-EE load management programs as appropriate.

As part of these efforts, PG&E aims to support commercial customers with load flexibility offerings that reflect the unique facility and production needs of qualifying commercial customers. Opportunities could include providing incentives for load flexibility-enabled equipment and integrating EE with load flexibility programs. PG&E anticipates these efforts could increase the number of commercial customers served, mitigate coincident system peak demand, and support grid reliability by expanding the pool of flexible loads available to align with supply-side constraints and opportunities. See Chapter 3, Section E.3 for additional information on PG&E's plans to enable load flexibility.

3) Expand SEM

Many commercial customers do not have the internal resources or engineering expertise to properly analyze efficiency options within their energy projects.[37] PG&E has successfully implemented SEM to provide this type of analytic support within the industrial sector, working with 90 customers in 2024 to pursue deep energy savings at their facilities,[38] and has expanded this support to the commercial sector. Accordingly, PG&E will focus on commercial SEM opportunities that serve hospitality, office, grocery, hospital, warehouse, and other medium-to-large commercial customers. In addition, PG&E intends to serve private institutions within higher-education, while avoiding public institutions that are targeted

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37 The *California Statewide Commercial and Industrial Customer Wants and Needs Study* reported that 44 percent of SMB survey respondents agreed their organization did not have the expertise or support needed to make EE investments, and 36 percent of respondents were unsure.

California Statewide Commercial and Industrial Customer Wants and Needs Study, TRC, (April 8, 2021), p. 33. See Figure 2-19. Available at: https://pda.energydataweb.com/api/view/2499/California Statewide Wants and Needs Report FINAL DRAFT 4.8.21.pdf.

38 Industrial SEM programs saved approximately 58.2 gigawatt-hours and 16.8 million therms (net savings) in 2024.

PG&E 2024 Annual Report Spreadsheet, PG&E, (June 2, 2025). See *T-3 Program Data* tab. Available at: https://cedars.cpuc.ca.gov/documents/standalone/list/.

by the statewide higher education program.[39] Moreover, the commercial SEM offerings are designed to adhere to the same design guidelines as their industrial counterparts, thereby helping customers to develop their own energy management practices that persist beyond initial program engagement.

4) Promote Customer Understanding and Trust in BE

PG&E intends to assist commercial customers with planning for an electrified future by serving as a trusted source of electrification information. PG&E plans to provide up-front support to optimize commercial customers' decision-making process and to evaluate their prospective return on investment for electrification measures. PG&E envisions collaborating with third-party implementers to directly reach qualifying commercial customers and further develop the electrification project pipeline. By building longer-term relationships between customers and project developers, PG&E aims to establish a deeper understanding of customer goals and challenges, as well as to increase the likelihood of additional electrification projects being pursued.

Electrification options are currently limited for some specialized equipment types and commercial customer groups. This is often due to the scale and complexity of their operations, as well as the frequent lack of suitable electrification technologies for the end uses prevalent in these industries. In recognition of this, PG&E expects to seek emerging electrification technologies and industry partners willing to test new end-use solutions. PG&E desires to provide implementers with more testing and learning opportunities which should drive innovation in the nascent commercial electrification market. In support of this approach, PG&E is recommending that MS segment budgets be made available to implementers to pilot innovative technologies or interventions within their existing program design and implementation structures without adversely impacting

[39] This is a statewide program led by SCE and is referred to in CEDARS as "Institutional Partnerships-Colleges," Program ID: SW_IP_Colleges.

the cost-effectiveness of the RA segment program (see Chapter 11, Section C.2 for more details on this policy proposal).

While PG&E prefers whole-building electrification to an appliance-by-appliance electrification approach, many customers are not yet ready or able to eliminate their gas service. Statewide non-residential NC programs are expected to continue to focus on supporting mixed fuel, electric-ready commercial buildings. As energy codes progress, PG&E also plans for the statewide non-residential NC programs to play a key role in promoting emerging and advanced technologies to drive incremental efficiency beyond the new code baselines. Market-based activities can influence customers to design and construct projects that not only meet but exceed increasingly stringent energy codes. NC programs can assist design teams and provide incentives for high performance projects that support advanced technologies which exceed the California Energy Code or Industry Standard Practice (ISP). For example, the PG&E-led SW New Construction NonRes – All Electric program[40] is designed to incentivize all-electric NC projects that exceed the Energy Code, and tiered incentives are issued to participants based on the percent savings above ISP.

In the nine Bay Area counties under the jurisdiction of the BAAD, the amendments to Rules 9-6 and 9-4 are expected to go into effect starting in 2027 and 2029, respectively, with virtually all new water heaters, boilers, and furnaces manufactured and sold required to be zero-NOx compliant, effective January 1, 2031.[41] While the Air District is currently contemplating potential additional

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40 The SW New Construction NonRes – All Electric program has program IDs for every sector that it serves due to CEDARS reporting limitations; PG&E includes only the Commercial sector program ID here: SW_NC_NonRes_Com_electric.

41 See Chapter 2, Section C.6 for more details on the Air District's ZEAS.

amendments to the zero-NOx requirements,[42] commercial customers may be impacted as early as 2027, therefore during this 2028-2031 portfolio plan period, PG&E intends to support commercial customers and contractors in the transition to zero-NOx-compliant technologies. PG&E intends to take a multi-pronged approach including providing support for commercial contractors (via WE&T activities), providing incentives to facilitate the transition to zero-NOx technologies (via the upcoming non-residential all-electric PG&E-led statewide HVAC program, and other existing non-residential programs), and increasing education and awareness (via marketing and community-engagement efforts).

In the 2028-2031 Portfolio Plan period, PG&E expects these interventions to help prepare commercial customers to electrify where technologically and operationally feasible, thereby advancing California's decarbonization goals by moving beyond efficiency improvements toward the adoption of electric technologies.

3. Industrial: Overview and Objectives

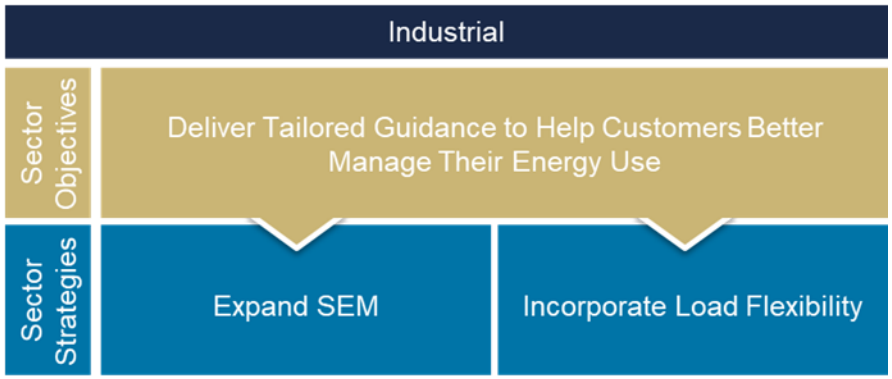
PG&E's industrial sector offerings target businesses and organizations that operate industrial facilities such as assembly plants, chemical industries, component fabrication, oil production, printing plants, plastic injection molding, lumber and paper mills, cement and quarries, metals and food processing, petroleum refineries, and water and wastewater treatment plants.

PG&E's industrial sector objectives and strategies were developed to align with and support PG&E's overarching portfolio goals described in Chapter 3. Figure 6-3 illustrates the industrial sector objective and sector strategies that PG&E intends to implement to achieve them. PG&E's industrial sector has one primary objective: to deliver tailored guidance to help customers better manage their energy use.

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[42] *Concepts for Rule 9-6 Amendments: Affordability and Availability Considerations for Zero NOx Small Water Heaters*, Bay Area Air District, (October 2025). Available at: https://www.baaqmd.gov/~/media/dotgov/files/rules/reg-9-rule-4-nitrogen-oxides-from-fan-type-residential-central-furnaces/2021-amendments/documents/rule-09_06-concepts-paper_final-v1-pdf.pdf?rev=9eac6fc7a84e4b259fd2017c838de68c&sc_lang=en.

FIGURE 6-3
INDUSTRIAL SECTOR GOALS, OBJECTIVES, AND STRATEGIES



a. Industrial Customer Barriers

The *2025 EE Potential and Goals Study* identified a decreasing trend in net potential energy impacts for industrial sector programs, and projected lower achievable TSB resulting from industrial EE relative to the 2023 study, primarily driven by a reduction in net energy savings for non-SEM measures.[43] The industrial sector is also constrained by barriers that can include high upfront costs, technological limitations, and operational or production requirements.[44] In addition to these EE program participation barriers, it has been difficult to increase traction for

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43 *2025 Energy Efficiency Potential and Goals Study- Final*, Guidehouse Inc., (June 23, 2025), pp. 77-78. Available at: https://www.cpuc.ca.gov/-/media/cpuc-website/divisions/energy-division/documents/energy-efficiency/2025-potential-goals-study/2025-group-e-potential--goals-study-final-report-20250717.pdf.

44 Section 2.4 of the 2021 *Industrial/Agricultural Market Saturation Study* identified common barriers to adopting EE measures across the industrial and agricultural subsectors assessed in the report. Common concerns identified by subsector experts, equipment vendors and end-users were disruption of production, high initial costs, and lack of knowledge regarding EE technologies. Section 3 of the report highlighted adoption barriers specific to each of the of the industrial and agricultural sub-sectors as well.

Industrial/Agricultural Market Saturation Study, Guidehouse Inc., (April 16, 2021). See Section 2.4, Section 3.1.2.4, Section 3.2.2.4, Section 3.3.2.4, Section 3.4.2.4, Section 3.5.2.4, and Section 3.6.2.4. Available at: https://www.cpuc.ca.gov/-/media/cpuc-website/divisions/energy-division/documents/energy-efficiency/2021-potential-goals-study/industrial-ag-market-saturation-study-final.pdf?sc_lang=en&hash=123825958BE1A39B21ED8E4592D8F665.

electrification[45] and load flexibility. Industrial customers are often reluctant to invest in electrification and load-flexible technologies due to operational complexity including, but not limited to, the difficulty of adjusting operational processes and schedules without risking productivity or revenue losses.[46]

b. Industrial Strategies

PG&E's core industrial sector strategies that support its Industrial Sector vision, include: (1) expand SEM and (2) incorporate load flexibility. The following subsections provide additional detail on each of these strategies.

1) Expand SEM

Industrial customers are often reluctant to adopt EE measures due to project complexity and timeline sensitivities. For example, one of the main barriers to EE measure adoption within the electronics manufacturing sub-sector identified in the *2021 PGS Industrial/Agricultural Market Saturation Study* was disruption to production.[47] PG&E has demonstrated success in overcoming these barriers through its industrial SEM programs. PG&E's SEM projects deliver cost-effective energy savings and high customer satisfaction by providing customers with the right EE solutions at the

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45 The Industrial sector is a large consumer of natural gas, with some end uses suitable for electrification. According to the California Natural Gas Consumption dashboard published by the California Energy Commission (CEC), statewide natural gas consumption data collected for PG&E's industrial sector accounted for 12.5 percent of statewide natural gas use in 2024.
Available at: https://www.energy.ca.gov/data-reports/energy-almanac/california-electricity-data/california-energy-consumption-dashboards-1.

46 *The California Demand Response Potential Study, Phase 4: Report on Shed and Shift Resources Through 2050*, LBNL, (May 1, 2024), p. 130. Available at: https://eta-publications.lbl.gov/sites/default/files/phase_4_dr_potential_study_final_2024-05-21.pdf.

47 *2021 Potential and Goals Study Attachment 2: Industrial/Agricultural Market Saturation Study*, Guidehouse Inc., (April 16, 2021). See Section 3.1.2.4. Available at: https://www.cpuc.ca.gov/-/media/cpuc-website/divisions/energy-division/documents/energy-efficiency/2021-potential-goals-study/industrial-ag-market-saturation-study-final.pdf?sc_lang=en&hash=123825958BE1A39B21ED8E4592D8F665.

right time.[48] This is often accomplished through long-term engagements that frequently result in a trusted advisor relationship with qualifying customers. PG&E intends to increase participation in the SEM program by recruiting more mid-sized industrial customers. PG&E also proposes to implement a new SEM graduate program focused on empowering tenured participants to pursue more advanced energy management strategies, strengthening the relationships that drive incremental EE projects while delivering more TSB.

2) Incorporate Load Flexibility

Industrial process loads offer valuable load flexibility opportunities as these loads are significant, present year-round, and can provide load shedding and load shifting potential as grid and seasonality needs evolve.[49]

Accordingly, PG&E plans to continue exploring opportunities to deploy efficient electric equipment that is either enabled with grid responsive capability (CTA 2045 UCM port, Wi-Fi, telemetry, etc.,) at the time of installation or upgradable by the customer after installation for industrial customers.[50]

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48 The *Strategic Energy Management (SEM) 2021-2022 Impact Evaluation* concluded that: "[t]he SEM program had a substantial influence on the installation of capital measures... [t]his indicates that SEM's immersive nature is successfully leading customers to install more capital projects than they would have without program participation."

Strategic Energy Management (SEM) 2021-2022 Impact Evaluation, DNV, (July 11, 2024), p. 10. Available at: https://www.calmac.org/%5C/publications/CPUC_Group_D_SEM_Impact_Report_Final_CALMAC.pdf.

49 Industrial process loads presented high load shedding and load shifting potential throughout LBNL's 2025-2050 DR potential study.

The California Demand Response Potential Study, Phase 4: Report on Shed and Shift Resources Through 2050, LBNL, (May 1, 2024), pp. 94-123. See Figure 33 and Figure 34. Available at: https://eta-publications.lbl.gov/sites/default/files/phase_4_dr_potential_study_final_2024-05-21.pdf.

50 While the EE programs might deploy the load flexibility capable equipment, the actual flexibility would occur outside of the EE portfolio in accordance with PG&E's load flexibility programs/rates and their stipulations, which provide the signal, orchestration, and settlement.

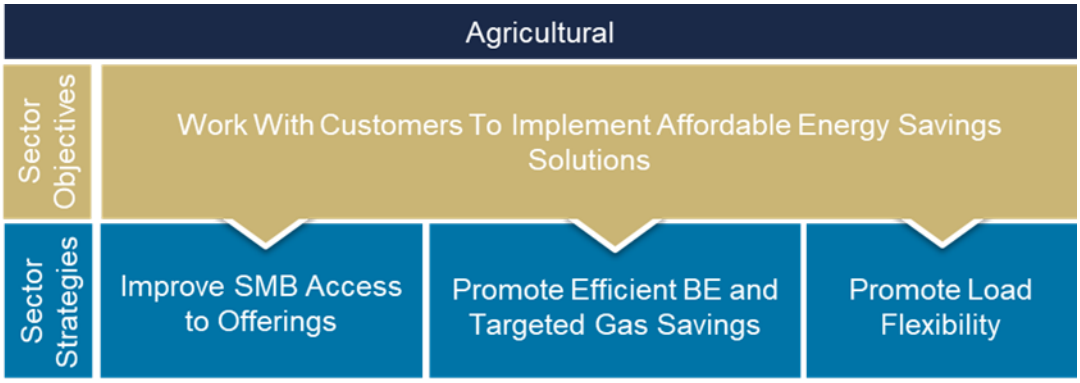
By pursuing the incorporation of load flexibility-enabled and upgradable technologies into industrial sector offerings, PG&E aspires to effectively balance local electric supply and demand, while increasing overall grid reliability and stability. Furthermore, it represents an opportunity for PG&E to gather performance data to verify whether embedding load flexibility in EE programs is a reliable strategy for scaling load flexibility throughout PG&E's service area. Consistent with PG&E's portfolio goal of Enabling the Energy System of Tomorrow (see Chapter 3), PG&E intends to create a valuation methodology for load flexibility kW enabled by EE and fuel substitution BE activities, with locational prioritization where grid constraints or system benefits are greatest.

4. Agricultural: Overview and Objectives

PG&E's agricultural programs serve a variety of customers with specialized requirements, including agricultural growers (field crops, indoor horticulture crops, fruits and nut trees, vegetables, and vineyards), post-harvest processors, dairies, irrigation districts/agencies, fruit and vegetable processors (canners, dryers and freezers), agricultural service providers, wineries, and other beverage manufacturers.

PG&E's agricultural sector objectives and strategies were developed to align with and support PG&E's overarching portfolio goals described in Chapter 3. Figure 6-4 illustrates the agricultural sector objectives and the sector strategies that will be implemented to achieve them. PG&E's agricultural sector has one primary objective: to work with customers to implement affordable energy saving solutions.

FIGURE 6-4
AGRICULTURAL SECTOR GOALS, OBJECTIVES, AND STRATEGIES



a. Agricultural Customer Barriers

In recent years, the agricultural industry has been impacted by the fluctuating availability of surface water and increases in oversight on ground water pumping.[51] Moreover, agricultural customers have reported many challenges with EE program participation, including high measure costs, limited financing options, lack of time to learn about EE and measures, long custom review timelines that do not align with processing and growing seasonality, an unpredictable climate, and miscellaneous technical issues.[52,53]

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51 Increasing oversight of groundwater pumping in California is due in part to the Sustainable Groundwater Management Act (SGMA), which was passed in 2014 to mitigate groundwater overdraft. The SGMA established a new framework for managing groundwater supply, and required the formation of Groundwater Supply Agencies to sustainably manage groundwater at local levels across the state.

52 For example, in past years the Agricultural Energy Savings Action Plan has encountered issues offering custom measures due to ISP baseline interpretations.

53 The *2021 Potential and Goals Study Attachment 2: Industrial/Agricultural Market Saturation Study* collected market data for select agricultural sub-sectors, including dairies, water pumping for agriculture, and greenhouses. The study describes the barriers to EE measure adoption for each sub-sector, including the diverse operational conditions and considerations necessary to effectively serve the agricultural market.

2021 Potential and Goals Study Attachment 2: Industrial/Agricultural Market Saturation Study, Guidehouse Inc., (April 16, 2021), pp. 58, 65, and 75. Available at: https://www.cpuc.ca.gov/-/media/cpuc-website/divisions/energy-division/documents/energy-efficiency/2021-potential-goals-study/industrial-ag-market-saturation-study-final.pdf?sc_lang=en&hash=123825958BE1A39B21ED8E4592D8F665.

b. Agricultural Strategies

PG&E's core agricultural sector strategies that address the sector barriers and support the agricultural sector objectives include: (1) improve SMB access to offerings, (2) promote efficient BE and targeted gas savings, and (3) promote load flexibility. The following subsections provide additional detail on each of these strategies.

1) Improve SMB Access to Offerings

PG&E has identified an opportunity to better serve SMB agricultural customers who are not large enough to deliver avoided cost benefits at levels that continue to enable cost-effective RA segment program investments. PG&E has demonstrated success by addressing this subset of customers by focusing on deemed rebates that streamline the program participation process.[54] PG&E plans to continue exploring opportunities to incorporate deemed measures and measure packages that lower the barrier of entry to participate in PG&E's agricultural EE programs, for instance a Root Zone Heatingfor Greenhouses. Expanding opportunities for SMB agricultural customers to participate in PG&E's EE programs is important for broadening program participation and cost-effectiveness.

2) Promote Efficient BE and Targeted Gas Savings

PG&E plans to promote efficient electrification of existing and new buildings within the agricultural industry. For example, the Agricultural Efficiency Program[55] is anticipated to continue promoting electrification for heat source equipment via heat pumps with breweries and wineries, along with other appropriate facility types.

However, PG&E has found that many facilities, especially dairies, are ineligible to participate in EE programs for water heating

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54 PG&E has recently been successful in creating workpapers for the following agricultural measures: Heat Curtains, Infrared (IR) Film, Horticulture Lighting, Ag Ventilation Fans, and Variable Speed Drive (VSD).

55 Agricultural Efficiency Program, Program ID: PGE_Ag_001.

because they currently use propane for that use case. PG&E is requesting Commission approval to provide customer EE incentives for switching from propane to electric, allowing PG&E to diversify its tactics to meet BE and decarbonization goals (see Chapter 11, Section C.3 for more details on PG&E's policy proposal). If approved, PG&E plans to pursue adding a propane fuel-switching HPWH measure package.

PG&E also acknowledges the need to take a long-term view of hard-to-electrify sub-sectors (e.g., food processing, grain drying, wineries, etc.) that require more time for viable BE options to become available. Therefore, PG&E anticipates continuing to assist agriculture producers with gas efficiency projects for end uses where there are no viable electric alternatives. The Agricultural Efficiency Program also intends to continue to offer gas-saving exempt measures such as envelope measures, heat curtains, infrared film, economizers, and other heat recovery measures. PG&E plans to continue innovating its electrification and exempt measure offerings so that they are uniquely applicable to agricultural customers and operations.

3) Promote Load Flexibility

PG&E has had success using load-flexible technologies to facilitate peak leveling in the agricultural sector and believes there is more opportunity to pursue advanced IDSM opportunities. For example, PG&E recently participated in an agricultural demonstration project to expand irrigation load flexibility which allowed irrigators to automate their responses to hourly electricity pricing signals and demonstrated that irrigators can shift up to two thirds of their irrigation away from peak hours.[56]

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56 Research for this project was conducted under the Electric Program Investment Charge Program. See additional detail on the project in the final report for EPC-20-019. *Accelerated Deployment of Irrigation Pumping Demand Flexibility*, CEC, (June 2025). Available at: https://www.energy.ca.gov/sites/default/files/2025-06/CEC-500-2025-030.pdf.

Awareness of energy saving measures and program participation opportunities varies across the agricultural sub-sectors.[57] To support customer interest in reducing grid demand and electrifying equipment, PG&E plans to educate and support customers with innovative EE and IDSM opportunities as part of broader efforts to enhance grid reliability. PG&E intends to focus on enabling and scaling load flexibility with additional incentives for controllable technologies. This includes allocating a portion of IDSM funds to incentivize agricultural customers to participate in DR programs.

5. Public: Overview and Objectives

PG&E's public sector offerings primarily target local governments and public institutions, including state government entities, local community agencies, and institutional facilities like public K-12 schools.

PG&E's public sector objectives and strategies were developed to align with and support PG&E's overarching portfolio goals described in Chapter 3.

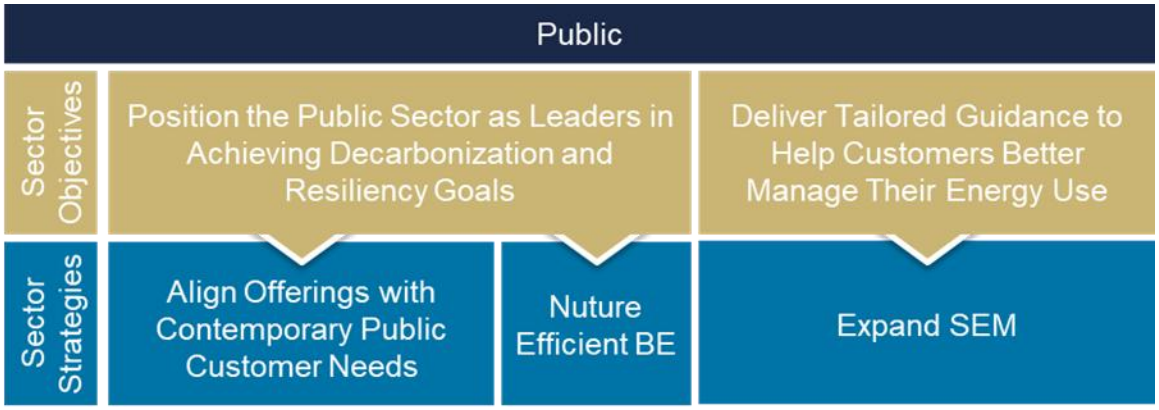
Figure 6-5 illustrates the sector objectives and the strategies that will be implemented to achieve them. PG&E's public sector has two objectives to: (1) position public sector customers as leaders in achieving decarbonization and resiliency goals and (2) deliver tailored guidance to help customers better manage their energy use.

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57 See *Industrial/Agricultural Market Saturation Study* Tables 3-23 and 3-26 for the dairy sub-sector's EE measure and program/rebate awareness levels, Tables 3-29 and 3-32 for the water pumping for agriculture sub-sector's EE measure and program/rebate awareness levels, and Tables 3-35 and 3-38 for the greenhouse sub-sector's EE measure and program/rebate awareness levels.

Industrial/Agricultural Market Saturation Study, Guidehouse Inc., (April 16, 2021). Available at: https://www.cpuc.ca.gov/-/media/cpuc-website/divisions/energy-division/documents/energy-efficiency/2021-potential-goals-study/industrial-ag-market-saturation-study-final.pdf?sc_lang=en&hash=123825958BE1A39B21ED8E4592D8F665.

FIGURE 6-5
PUBLIC SECTOR GOALS, OBJECTIVES, AND STRATEGIES



a. Public Customer Barriers

PG&E's public sector offerings primarily target local governments and public institutions, including state government entities, local community agencies, and institutional facilities like public K-12 schools.

The public sector is vital in helping to achieve California's climate goals, but it faces challenges with project development and financing.[58] Public sector customers often have older building stock with unique facility needs (e.g., prisons, water facilities, etc.) and highly structured

[58] *SoCalREN Electrification Research—Early Insights on Local Government Policies* describes public agency challenges regarding electrification project uptake. SoCalREN's Streamlined Savings Pathway provides free HPWHs (including labor and installation) for underserved public agencies, and covers up to 80 percent for other agencies. However, implementers reported that securing the remainder of costs was often a barrier for participants. The report also notes that, despite similar HPWH sizing compared to the residential sector, public sector installation costs are often higher due to the requirement to pay prevailing wages to installers.

SoCalREN Electrification Research—Early Insights on Local Government Policies, Grounded Research and Consulting, (February 14, 2024), p. 2. Available at: https://pda.energydataweb.com/api/view/3933/SoCalREN Electrification Report - 2024_0228.pdf.

processes and protocols[59] which can be barriers to executing EE and BE projects.

b. Public Strategies

PG&E's public sector strategies for addressing the sector barriers and achieving its sector objectives include: (1) align offerings with contemporary public customer needs; (2) nurture efficient BE; and (3) expand SEM. The following subsections provide additional detail on each of these strategies.

1) Align Offerings with Contemporary Public Customer Needs

Many public sector customers, including the state of California, are shifting their focus from energy savings to GHG emissions reductions to better reflect their decarbonization targets as dictated by Senate Bill (SB) 32[60] and Executive Order (EO) B-55-18.[61] Many are also adopting electrification policies.[62] Accordingly, PG&E intends to work with public sector implementers to reframe performance targets from energy savings to GHG reductions.

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59 *SoCalREN Electrification Research—Early Insights on Local Government Policies* states:

> Public agencies have arduous permitting policies that require many different documents to be developed, procedures to follow, and a large amount of labor hours to complete the procurement process. Each public agency has their own unique policies to adhere to, and this is very time consuming to learn the proper process and manage the procurement appropriately, according to the implementer.

SoCalREN Electrification Research—Early Insights on Local Government Policies, Grounded Research and Consulting, (February 14, 2024), p. 2. Available at: https://pda.energydataweb.com/api/view/3933/SoCalREN Electrification Report - 2024_0228.pdf.

60 SB 32 (approved by Governor September 8, 2016) established statewide emissions goals to reduce GHG emissions to 40 percent below the 1990 level by 2030.

61 EO B-55-18 (approved by Governor September 10, 2018) established the statewide goal to achieve carbon neutrality by 2045.

62 The study *SoCalREN Electrification Research—Early Insights on Local Government Policies* reported that "[a]s of February 2023, there were 76 California cities that had adopted local electrification policies…[t]he large majority–more than 60 of 76– are in Northern California."

SoCalREN Electrification Research—Early Insights on Local Government Policies, Grounded Research and Consulting, (February 14, 2024), p. 9. Available at: https://pda.energydataweb.com/api/view/3933/SoCalREN Electrification Report - 2024_0228.pdf.

PG&E anticipates that this may lead to increased program participation by better aligning EE and BE offerings with the evolving organizational goals of state and local governments.

PG&E also plans to investigate public sector market needs and, where feasible, reimagine offerings to better serve their goals. Reflective of this intent, PG&E is exploring ways to refine its public sector program designs to incorporate incremental GHG emissions reduction opportunities such as leveraging OBF for EV charging and battery storage and flexible, grid-interactive efficient technologies. PG&E aspires to improve public sector program performance, making it easier for federal, state of California, and local government buildings, to meet their GHG goals.

2) Nurture Efficient BE

Both EE and BE interventions can be viable approaches to helping public sector customers achieve their GHG goals. Some public sector customers have contacted PG&E to express an interest in zonal electrification and other electrification offerings, demonstrating that BE may be an effective approach to meeting their decarbonization goals.

To support this demand, PG&E plans to expand the Government and K-12 (GK-12) Comprehensive Program's[63] BE offerings, which have historically seen high demand from public sector customers for HPWHs.[64] PG&E also intends to investigate the possibility of broadening the range of electrification measures offered and extending successful HPWH measures to other sub-categories of public sector customers. This effort also includes expanding OBF support to include electrification measures, helping customers to overcome the highupfront costs often associated with public sector electrification projects (see Chapter 6, Section B.6.b.1 for more details on PG&E's related cross-cutting financing strategy).

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63 Government and K-12 Comprehensive Program, Program ID: PGE_Pub_009.

64 In 2023 the GK-12 program supported the installation of 175 heat pump water heaters, which increased to 270 in 2024.

In addition to these interventions, PG&E plans to pursue opportunities to partner and collaborate with local governments, partnerships, and Community-Based Organizations (CBO) on zonal electrification where feasible. PG&E anticipates that expanding the types of eligible BE projects, while also increasing the types of public sector projects eligible to be financed, are likely to increase public agency program participation.

3) Expand SEM

Similar to the commercial and industrial sectors, many public sector customers do not have the internal resources or engineering expertise to properly analyze each measure or efficiency option being considered in their energy projects. PG&E has successfully implemented SEM to provide this type of analytic support within the industrial sector and plans to expand this support to the public sector. PG&E's recently launched commercial SEM program is also able to serve a subset of public customers including higher education, K-12 schools, and government buildings.

6. Cross-Cutting: Overview and Objectives

PG&E's cross-cutting sector enables achievement of PG&E's portfolio goals (e.g., optimizing TSB, scaling efficient BE, enabling the energy system of tomorrow, and facilitating rate affordability) by supporting customers across all portfolio customer sectors. Cross-cutting sub-sectors include Financing, WE&T, the statewide ETP,[65] and C&S. Although C&S is both a segment and a cross-cutting sub-sector, this section focuses on PG&E's non-C&S cross-cutting strategies. See Chapter 6, Section C.5 for more details on C&S key target populations, objectives, customer barriers, and strategies.

For its financing offerings, the target audience is non-residential customers, which includes customers in the commercial, agricultural, industrial, and public sectors. For its WE&T offerings, the cross-cutting

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65 ETP is separated into two programs, the Electric ETP (SW_ETP_Elec) and the Gas ETP (SW_ETP_Gas), administered by SCE and SoCalGas, respectively. Please see SCE and SoCalGas' respective Business Plan Applications for more details on ETP strategies.

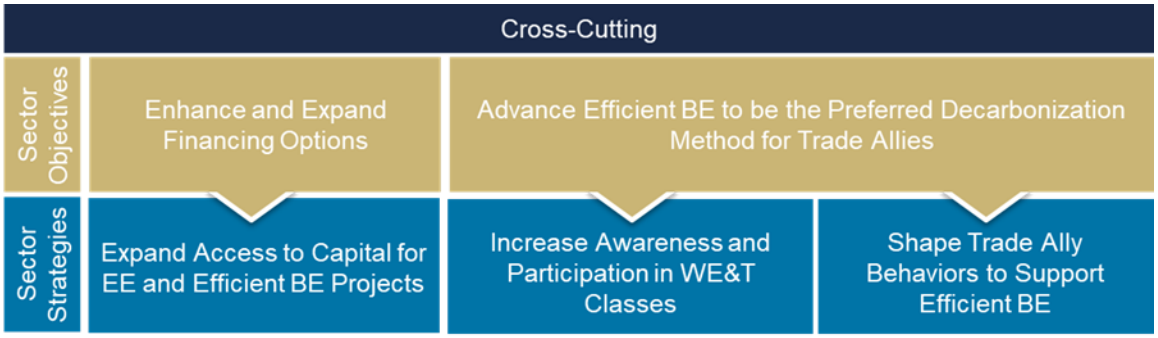
sector targets the current and future energy workforce that designs, builds, operates, and maintains buildings and building systems for the residential commercial, agricultural, industrial, and public sectors. These WE&T activities are designed to serve multiple audiences at different stages of their career, including customers seeking to enter the energy workforce and those who may face personal or systemic barriers to entry.[66]

PG&E's cross-cutting sector objectives and strategies were developed to align with and support PG&E's overarching portfolio goals described in Chapter 3. Figure 6-6 illustrates the cross-cutting sector objectives and the sector strategies that will be implemented to achieve them. PG&E's cross-cutting sector has two objectives: (1) enhance and expand financing options and (2) advance efficient BE as the preferred decarbonization method for trade allies.

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66 The PG&E-led Statewide Career and Workforce Readiness program (SW_WET_Work) aims to provide living wage career opportunities to Disadvantaged Workers through technical trainings, certifications, job placement, and wrap-around service support. The CPUC defines Disadvantaged Workers as "an individual that meets at least one of the following criteria: lives in a household where total income is below 50 percent of Area Median Income; is a recipient of public assistance; lacks a high school diploma or General Education Development (GED); has previous history of incarceration lasting one year or more following a conviction under the criminal justice system; is a custodial single parent; is chronically unemployed; has been aged out or emancipated from the foster care system; has limited English proficiency; or lives in a high unemployment ZIP code that is in the top 25 percent of only the unemployment indicator of the CalEnviroScreen Tool." Additionally, if one census tract in the participant's zip code is in the Top 25 percent of only the unemployment indicator of the CalEnviroScreen Tool, then the participant qualifies as a disadvantaged worker.

FIGURE 6-6
CROSS-CUTTING SECTOR GOALS, OBJECTIVES, AND STRATEGIES



a. Cross-Cutting Customer Barriers

Common barriers that limit customer adoption of EE and BE across customer sectors include, but are not limited to, high upfront costs; limited access to affordable credit; constrained product supply; lack of workforce trust or poor perception of EE/BE appliances; and a shortage of a trained electrification and decarbonization workforce relative to the demand expected to be created by new zero-emission appliance standards.[67]

PG&E also recognizes the importance of trade allies in influencing customers throughout the electrification customer journey. Contractors, manufacturers, distributors, and retailers play a critical role in shaping what products are available, how they are promoted, and the information customers receive at the point of sale. Trade ally comfort and familiarity with electrification technologies is key to increasing demand for efficient BE.

b. Cross-Cutting Strategies

The cross-cutting sector strategies that support the sector barriers and cross-cutting objectives include: (1) expand access to capital for EE and efficient BE; (2) increase awareness and participation in WE&T classes; and (3) shape trade ally behaviors to support efficient BE. The following subsections provide additional detail on each of these strategies.

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67 See Chapter 2, Section C.6 for details about upcoming zero-emission appliance standards.

1) Expand Access to Capital for EE and Efficient BE

Traditional incentive programs are unable to overcome all the financial barriers (e.g., high upfront costs and limited access to affordable credit) for customers who may be interested in making an EE investment.[68] Incentives may only represent a portion of a project's cost, meaning customers still need capital available to proceed with their energy investment. To address these barriers, PG&E plans to continue providing customers with options, such as OBF, to fund their EE projects. PG&E also intends to continue encouraging non-residential sector customers to reduce their dependance on incentives and rebates by offering attractive financing options (except for cases where incentives and rebates are more strategically effective such as deemed rebates for HPWH to promote electrification).

Recent updates to the OBF program[69] allow for a portion of a customer's financing to cover EV charging and battery purchases, as long as they are coupled with EE interventions.[70] Similarly, PG&E intends to expand financing offerings to include efficient BE opportunities that help customers overcome electrification cost

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68 According to survey results shared in the *PY2018-2019 California Statewide On-Bill Financing Impact Evaluation*, financing was still an important factor in most participants' decision to complete EE projects. When asked about the relative importance of the financing received through the statewide OBF Program and rebates received through other incentive programs, 59 percent of participants identified the loan as more important, 22 percent identified the rebate as more important, and 20 percent rated them as equally important.

PY2018-2019 California Statewide On-Bill Financing Impact Evaluation, Opinion Dynamics, (April 18, 2023), p. 48. Available at: https://pda.energydataweb.com/api/view/2821/CPUC OBF Evaluation Report_FINAL_04182023_clean.pdf.

69 On-Bill Financing Alternative Pathway, Program ID: PGE_OBFAP.

70 PG&E submitted AL 7315-E (filed July 3, 2024) to expand the eligible technologies under OBF to include electric vehicle charging equipment.

barriers that often drive project decisions.[71] This offering is key to scaling decarbonization interventions by helping to extend financial support for electrification measures.

Although there is a continued need to provide customers with access to capital via OBF, PG&E does not intend to request an addition to its loan pool during this portfolio plan period. Rather, PG&E plans to explore revisions to its existing OBF capital allocation decision-making framework to effectively use OBF funds to meet PG&E's TSB and decarbonization goals. This will include incorporating a threshold to guide funding decisions for large projects. Similarly, PG&E anticipates exploring the development of consistent metrics capable of comparing EE and electrification funding opportunities.

2) Increase Awareness and Participation in WE&T Classes

PG&E is seeking new ways to increase awareness of available resources on heat pumps and other electrification technologies in the residential and non-residential markets. Tactics may include increasing the use of professional organizations and targeted marketing to reach new target audiences. PG&E plans to continue training individuals across the energy workforce, including, but not limited to property managers, builders/developers, building owners, architects, electrical and mechanical engineers, electricians, plumbers, general contractors, home performance contractors, and sustainability managers. A core focus of the training involves recognizing and recommending key energy savings and GHG emissions reductions opportunities. PG&E also intends to work with third-party implementers who are running programs with

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[71] Surveyed homeowners in a TECH study assessing the market for space heating and water heating cited costs as the main barriers to HVAC heat pump and HPWH equipment adoption.

TECH Clean California: Time 2 Market Assessment Draft Report, Opinion Dynamics, (March 14, 2025). See Figure 20 on p. 39 and Figure 45 on p. 61. Available at: https://pda.energydataweb.com/api/view/4195/TECH%2BTime%2B2%2BMarket%2BAssessment%2BDRAFT_for PDA.pdf.

electrification components and encourage them to promote WE&T opportunities across their contractor and program networks.

3) Shape Trade Ally Behaviors to Support Efficient BE

PG&E is well positioned to continue to facilitate electrification and decarbonization courses that address the rapidly changing landscape and customer need for information on how to electrify and decarbonize their homes and buildings. PG&E also expects to support BE programming to contractors that includes both technical competencies and soft skills, such as how to sell BE, how to bid BE projects, and how to forecast project energy savings.

PG&E plans to leverage the best practices and proven strategies of contractors who have already integrated electrification into their business models. These contractors have successfully navigated the technical, financial, and operational challenges of deploying BE technologies with their customers. By capturing and sharing their insights, PG&E aims to shorten the learning curve for other contractors by developing contractor training resources, implementation processes, and support tools that incorporate the most effective sales approaches, installation practices, and customer engagement techniques. PG&E is also set to support partners (e.g., TECH Clean California) in expanding beyond “why to electrify” courses, and to facilitate access to advanced “how to electrify” training to program contractors.

PG&E also intends to build upon existing relationships with trade allies, manufactures, distributors, and retailers to improve the availability of BE products and encourage consistent customer experiences throughout customers’ electrification journey. Outreach to these partners is likely to focus on sustained, long-term relationships across the supply chain and an emphasis on quality installation (QI) of electrification technologies such as heat pumps and associated controls to ensure the proper performance to achieve energy savings and flexible operation. QIs and proper commissioning of equipment can contribute to customers’

confidence that electrification technologies deliver on their intended benefits and help improve the economics of BE.

PG&E also plans to continue to host trainings designed to improve their understanding of the benefits of electrification equipment, awareness of PG&E program offerings, and their familiarity with BE installation requirements. This includes the need to comply with CARB and federal timelines for phasing out high-GWP refrigerants used in space conditioning and water heating appliances. PG&E also plans to continue to offer classes focused on the proper and safe removal and disposal of high-Global Warming Potential (GWP) refrigerants. Furthermore, PG&E may consider channeling customers to CARB's refrigerant transition programs such as the F-gas Reduction Incentive Program, or any other CARB refrigerant programs that become available during the Business Plan period.

C. Portfolio Segmentation Strategy (RA, MS, Equity, C&S)

PG&E has distributed the portfolio budget among the four portfolio segments: RA, MS, Equity, and C&S. The rationale for the allocation of the budget across these segments is described below.

1. Segmentation Budget Rationale

The majority of PG&E's EE portfolio budget is distributed to the RA segment, followed by MS, C&S, and then the Equity segment (as shown in the Table below). The emphasis on the RA segment (51 percent of budget) is aligned with the overarching portfolio goal of optimizing the delivery of TSB. The MS and Equity segment budgets fall within the allocation allowed for these segments,[72] with more going to the MS segment (22 percent) due to PG&E's emphasis on enabling BE at scale and the energy system of

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[72] D.21-05-031, OP 4, p. 81:

> Beginning in program year 2022, energy efficiency program administrators who are investor-owned utilities or community choice aggregators shall limit the expenditures in their portfolios on market support and equity programs, combined, to a total of no more than 30 percent of their total budget, including statewide programs, but excluding funds forwarded to other energy efficiency program administrators.

tomorrow (as described in Chapter 3). PG&E's C&S budget (16 percent) is approximately equal to the C&S budget allocation in the last application since the work within this segment remains one of the cornerstones for a decarbonized future. While PG&E's Equity segment budget (7 percent) is lower than the other segments, it is important to note PG&E's effort to provide an equitable portfolio extends beyond the Equity segment budget, where all customers, including equity-targeted customers, have access to PG&E's programs. PG&E plans to encourage broad participation, including among equity-targeted customers, within all segments and not just the Equity segment. Within the RA segment, PG&E expects to use targeting and customer centric approaches to expand participation; and within the MS segment, PG&E anticipates partnering with local stakeholders and CBOs to reach equity-targeted groups.

TABLE 6-2
4-YEAR PORTFOLIO BUDGET FORECAST SUMMARY (2028-2031)

Line No.	Segment	2028	2029	2030	2031	Total (4-year)	Percent of Segment-Specific Budget
1	RA Segment Budget	$112,695,553	$115,010,638	$116,154,071	$115,976,647	$459,836,909	51%
2	MS Segment Budget	51,247,443	50,327,394	49,063,495	49,924,271	200,562,603	22%
3	Equity Segment Budget	17,243,642	16,744,084	16,256,371	16,311,511	66,555,608	7%
4	C&S Budget	36,039,695	36,211,593	36,415,803	36,614,214	145,281,305	16%
5	EM&V	9,051,097	9,095,571	9,078,739	9,117,777	36,343,184	4%
6	Subtotal	$226,277,430	$227,389,280	$226,968,479	$227,944,419	$908,579,609	–
7	Loan Pool Addition	–	–	–	–	–	–
8	Energy Division Portfolio Oversight	$285,900	$285,900	$285,900	$285,900	$1,143,600	–
9	Total	$226,563,330	$227,675,180	$227,254,379	$228,230,319	$909,723,209	–

The remaining sections in this chapter describe PG&E's strategies in each of the four segments: RA, MS, Equity, and C&S.

2. RA Segment

RA segment programs have the:

> …primary purpose of, and a short-term ability to, deliver cost-effective avoided cost benefits to the electricity and natural gas systems.[73]

Starting in 2024, the success of this segment is measured by its cost-effective contribution to PA TSB goals.

Approximately 51 percent of PG&E's 2028-2031 proposed budget is allocated to RA programs that deliver TSB. As described above, most programs in PG&E's portfolio are RA programs that focus on delivery of cost-effective TSB. This aligns with the Commission's intent that "the bulk of savings to achieve TSB goals" are in the RA segment.[74]

a. RA Segment Strategy

Within the RA segment, PG&E intends to prioritize TSB and cost-effectiveness. PG&E's strategy for this segment involves leveraging the most cost-effective programs to support the overall portfolio, while also considering timing, location, and sector-specific approaches to optimize both TSB and cost-effectiveness.

For the RA segment, PG&E intends to draw on three key strategies to align with the Commission's objectives for this segment: (1) consolidate and scale high-performing programs, (2) use data-driven approaches, and (3) integrate efficient electrification, where appropriate. These three key strategies are described in the bullets below.

1) Consolidate and Scale High-Performing Programs

PG&E plans to consolidate programs within a sector, removing niche programs and streamlining RA efforts. PG&E also intends to scale high-performing programs such as SEM programs, which have contributed significantly to TSB in the past. In the industrial

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73 D.21-05-031, p. 14.

74 *Ibid*.

SEM programs,[75] PG&E may increase its focus on medium-sized customers to incorporate new opportunities for smaller projects with significant TSB (as compared to the programs' historical focus on larger customers). Additionally, PG&E intends to expand its recently launched Commercial SEM Program[76] to serve additional commercial and public sector customer sectors, increasing the opportunity to capture TSB from these sectors.

2) Use Data-Driven Approaches

PG&E plans to use data-driven approaches for forecasting, planning, and targeting customers (see Chapter 3, Sections E.2.b and E.3.b for more details). PG&E anticipates using these data-driven approaches to optimize TSB and cost-effectiveness. This could include the secure use of customer bills, advanced metering infrastructure (AMI) data,[77] or other available data to analyze usage patterns to provide implementers with tailored retrofit recommendations or targeted customer marketing for participation in PG&E programs that would best serve their needs. PG&E also intends to leverage demographic participation data and customer insights to segment audiences and personalize outreach efforts, ensuring communications are relevant and accessible.

3) Integrate Efficient Electrification, Where Appropriate

PG&E proposes to encourage efficient BE within its RA segment programs, where appropriate, because of its potential to contribute to TSB goals and provide quantifiable benefits to the

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75 Industrial Strategy Energy Management – Food Processing, Program ID: PGE_Ind_001a; Industrial Strategic Energy Management – Manufacturing, Program ID: PGE_Ind_001b.

76 Commercial Strategic Energy Management, Program ID: PGE_Com_009.

77 "Meters that have the capability to measure and record usage data at hourly or shorter intervals, and provide usage data to energy companies and may also provide the data to customers at least once daily. Data are used for billing and other purposes. Advanced meters include basic hourly interval meters and extend to real-time meters with built-in two-way communication capable of recording and transmitting instantaneous data."

Leveraging Advanced Metering Infrastructure to Save Energy, ACEEE, (January 3, 2020), p. 20. Available at: https://www.aceee.org/sites/default/files/pdfs/u2001_0.pdf.

electric and gas system. The three key elements of efficient BE include: (1) installation of high-performance electric equipment with an emphasis on peak efficiency; (2) integrating measures, commissioning and controls optimization, and right-sizing of equipment; and (3) incorporating load flexibility to enable load shifting away from peak periods. PG&E believes that encouraging efficient BE in RA segment programs is aligned with the Commission's intent for this segment.

b. Sectors Served by RA Segment

PG&E proposes to continue to offer RA segment programs across all customer sectors (see table below). PG&E's RA segment approach is sector-specific, as described in Section B of this chapter.

- For residential customers, PG&E plans to evolve and enhance the VEAP, Universal Auditing Tool, and behavioral offerings. PG&E also intends to continue to support the statewide program offerings in this sector. PG&E is forecasting to serve approximately 3.2 million single family and 5 thousand manufactured homes with RA segment programs.
- For commercial customers, PG&E proposes to continue to encourage the installation of energy saving and fuel substitution measures through PG&E's Commercial Energy Efficiency Program as well as through programs that target specific groups (e.g., high tech, bio tech, food service). PG&E also anticipates expanding SEM and RA segment offerings that can serve midsized commercial customers that fall between microbusinesses and larger businesses.
- For industrial customers, PG&E plans to leverage SEM as the main driver of customer energy savings and TSB. PG&E intends to continue to serve large industrial customers within food processing and manufacturing, while shifting the focus over time to include other industrial customers that might benefit from SEM offerings, particularly medium-sized industrial customers that have not previously been served by the program. PG&E also intends to continue to offer traditional incentive-based efficiency programs to

food processing, manufacturing and other customers such as those that focus on petroleum and chemical processing.

- For agricultural customers, PG&E plans to continue to use a suite of three agricultural programs. Through these programs, PG&E intends to encourage customers to remove non-critical natural gas equipment, install heat-saving envelope interventions, and add-on equipment measures that reduce or remove dependency on natural gas, while still delivering cost-effective TSB.
- For public customers, PG&E plans to target government, K-12, and California state agencies among other public sector customers through PG&E's Government and K-12 Comprehensive Program and the Statewide Institutional Partnerships Programs.[78]

In addition to the programs listed in the table, PG&E's 2028-2031 Portfolio Plan also includes cross-cutting efforts (outside of RA segment programs) such as OBF that can serve multiple sectors and contribute to RA segment goals by enabling third-party implemented and PG&E-implemented programs to deliver TSB within their respective programs.[79]

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78 There are two Statewide Institutional Partnerships Programs. PG&E is the PA-lead for the statewide Institutional Partnerships Program_DGS and DoC, focused on governmental agencies, (SW_IP_Gov) and SCE is the PA-lead for the statewide Institutional Partnerships Program-Colleges, focused on higher education facilities (SW_IP_Colleges).

79 Although the OBF Alternative Pathways (PGE_OBFAP) program is a MS segment program as it provides access to capital, EE accomplishments (e.g., TSB and cost-effectiveness) for the projects implemented by programs are attributable to the respective programs, many of which are RA segment programs.

TABLE 6-3
RESOURCE ACQUISITION PROGRAMS

Line No.	Applicable Sector	Program Name	Program ID	Program Type
1	Residential	Heat Pump Adoption Program Placeholder	PGE_Res_011	Deemed
2		Residential Behavioral Program	PGE_Res_002d	Deemed
3		Universal Audit Tool Program	PGE_Res_002a	Deemed
4		VEAP	PGE_Res_001b	Population NMEC
5	Commercial	Commercial Behavioral Program	PGE_Com_007	Population NMEC
6		Commercial Calculated Incentives	PGE21011	Custom
7		Commercial Deemed Incentives	PGE21012	Deemed
8		Commercial Efficiency Program	PGE_Com_003	Deemed, custom, NMEC - population, NMEC - site
9		Food Service POS	SW_FS	See lead PA
10		Healthcare Efficiency Program	PGE_Com_005	Custom, NMEC, and Deemed
11		High Tech and Bio Tech Efficiency Program	PGE_Com_004	NMEC - Site, Custom
12		Midstream Comm Water Heating	SW_MCWH	See lead PA
13		SEM - Commercial	PGE_Com_009	SEM, Deemed, NMEC
14		SW HVAC All Electric Non-Residential	SW_HVAC_AE_NonRes	See lead PA
15	Industrial	Industrial Calculated Incentives	PGE21021	Custom
16		Industrial Deemed Incentives	PGE21022	Deemed
17		Industrial SEM - Food Processing	PGE_Ind_001a	SEM
18		Industrial SEM - Manufacturing	PGE_Ind_001b	SEM, NMEC - Site, Custom
19		Manufacturing and Food Processing Efficiency Program	PGE_Ind_003	NMEC - Site, Custom
20	Agricultural	Agricultural Calculated Incentives	PGE21031	Custom,
21		Agricultural Deemed Incentives	PGE21032	Deemed
22		Agricultural Efficiency Program	PGE_Ag_001	Deemed, Custom
23	Public	Government and K-12 Comprehensive Program	PGE_Pub_009	Deemed, custom, NMEC - population, NMEC - site
24		Institutional Partnerships, UC/CSU/CCC	SW_IP_Colleges	Custom
25		Institutional Partnerships: DGS and DoC	SW_IP_Gov	Deemed

c. Targeted Sectors for Five Specific RA Segment Program Types: SEM, NMEC, Deemed, Custom, and Direct Install

This section describes the use of five specific program types within the RA segment (as requested by the CPUC). The program type is also shown in the far-right column in the table above.

- PG&E proposes to use deemed savings across all customer sectors because these programs offer easy access to programs and energy savings.
- PG&E proposes to offer NMEC programs across all customer sectors because these programs can capture stranded savings that are not available from other program offerings.
- PG&E proposes to use custom across all non-residential customer sectors to allow for projects that offer new opportunities that cannot be captured by deemed measures.
- PG&E proposes to continue to use SEM to serve the industrial sector since SEM in this sector has proven to be a large contributor to TSB in the past. PG&E also plans to actively expand SEM offerings to serve the commercial and public sectors.
- PG&E does not have any direct install offerings in the RA segment; however, PG&E does offer direct install programs within the Equity segment which contribute to portfolio TSB goals.

3. MS Segment

MS segment programs have the:

> …primary objective of supporting the long-term success of the energy efficiency market by educating customers, training contractors, building partnerships, or moving beneficial technologies towards greater cost-effectiveness.[80]

As stated in D.23-06-055, the MS segment is intended to support efforts with the following five sub-objectives:

- Demand: Build, enable, and maintain demand for EE products and services in all sectors and industries to ensure interest in, knowledge of benefits of, or awareness of how to obtain EE products and/or services.

[80] D.21-05-031, p. 14.

- Supply: Build, enable, and maintain supply chains to increase the capability and motivation of market actors to supply EE products and/or services, and to increase the ability, capability, and motivation of market actors to perform/ensure QIs that optimize EE savings.
- Partnerships: Build, enable, and maintain partnerships with consumers, governments, advocates, contractors, suppliers, manufacturers, CBOs, and/or other entities to obtain delivery and/or funding efficiencies for EE products and/or services and added value for partners.
- Innovation and Accessibility: Build, enable, and maintain innovation and accessibility in technologies, approaches, and services development to increase value, decrease costs, increase EE, and/or increase scale of and/or access to emerging or existing EE products and/or services.
- 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 EE projects, products, or services.

Approximately 22 percent of PG&E's 2028-2031 proposed budget is allocated to the MS segment. PG&E's MS segment efforts are specifically designed to support EE, scale efficient BE, and enable the energy system of tomorrow (see Chapter 3 for more information on PG&E's overall portfolio goals).

a. MS Segment Strategies

PG&E's priorities for the MS segment are to drive awareness, build capacity through training, leverage partnerships (especially with CBOs and local governments), foster innovation, and expand financing. Work towards these MS segment efforts can have a portfolio-wide impact that make it more likely for PG&E to achieve the Commission's TSB goals.

PG&E's key strategies for the MS segment are presented by each of the five sub-objectives to clearly show how the direction of PG&E's offerings align with the Commission objectives for this segment.

1) Increase Demand (Awareness)

PG&E plans to focus on raising customer awareness of programs and offerings, increasing customers' knowledge of EE and BE, and increasing access to available resources. This includes

building customer awareness and demand for energy saving and electrification options— preparing customers to make informed decisions, with an emphasis on making electrification the preferred choice for customers. PG&E plans to do this by promoting a unified marketing message about efficient BE across PG&E. In addition, PG&E intends to partner with local governments, CBOs and others (described below under "partnerships"), to increase awareness (and demand) for EE and BE across the service area.

In support of this sub-objective, PG&E also intends to customize behavioral platforms to better support customers on their electrification journey, tailor messaging to different customer segments, and continue to support tools like the online marketplace, which helps customers learn about and access equipment to save money on their energy bills while providing environmental benefits.

2) Strengthen Supply (Training and Contractor Support)

PG&E proposes to leverage MS segment programs to prioritize training contractors and market actors for the next generation of EE programs, which are intended to include a greater focus on efficient BE and load flexibility. PG&E anticipates working to strengthen supply by reaching new audiences (through the use of professional organizations and targeted marketing) and empowering contractors and market actors to become more fluent in advanced energy saving technologies, electrification technologies and load flexible technologies. This includes workforce development, upskilling existing partners, and preparing contractors to support the transition to new technologies and approaches in the energy sector.

In support of this sub-objective, PG&E intends to leverage WE&T and NC programs to continue to educate, train, and continuously engage with builders, architects, engineers, and qualified actors within the supply chain (including those related to

compliance)[81] to increase their knowledge and comfort level with the practices and technologies involved in high performance mixed fuel and all-electric buildings.

PG&E also plans to provide EE and BE programming for contractors, including both technical competencies and soft skills, such as how to sell BE, how to bid BE projects, and how to forecast project energy impacts. As part of the work with contractors, PG&E plans to find ways to make electrification better for contractor's businesses and leverage contractors who have already specialized in electrification to share best practices and help other contractors in the transition. By capturing and sharing their insights, PG&E aims to shorten the learning curve for other contractors. This is expected to include developing contractor training resources, implementation processes, and support tools that incorporate the most effective sales approaches, installation practices, and customer engagement techniques.

3) Build Strategic Partnerships

PG&E plans to engage in existing and new partnerships with RENs, CCAs, CBOs, and local governments. These partnerships are key to community engagement, expanding the reach of PG&E's portfolio-wide activities. PG&E intends to leverage partnerships with CBOs and local governments to reach HTR audiences. Innovative efforts in this area may include supporting non-ratepayer funded programs by offering marketing insights, technical expertise, and service planning support for these programs. PG&E may also share data with partners to help target neighborhoods for electrification or EE outreach.

PG&E also plans to continue existing partnerships and to form new partnerships with manufacturers, retailers, and distributors to influence stocking and promotion of advanced EE technologies and

[81] The building energy code compliance supply chain includes the following market actors: architects, designers, energy consultants, certified energy analysts, plans examiners, general contractors, installers, building inspectors, Home Energy Raters, Acceptance Test Technicians (ATT), and building owners.

BE options. These partnerships can also encourage consistent customer experiences throughout customers' electrification journeys. Outreach to these partners is likely to focus on sustained, long-term relationships across the supply chain. PG&E also plans to host trainings designed to improve their understanding of the benefits of advanced EE and electrification equipment, awareness of PG&E program offerings, and their familiarity with BE installation requirements.

In support of this sub-objective, PG&E also intends to leverage the statewide NC programs to grow partnerships and professional networks to allow for greater promotion of new and emerging technologies for future code cycles, paving a pathway for wider adoption as new and emerging technologies become cost-effective. PG&E intends for its statewide NC programs to continue engaging with the compliance supply chain, such as Certified Energy Analysts (CEA) and Acceptance Test Technicians (ATT). By engaging CEAs, ATTs, and other accomplished provider groups, statewide NC programs can leverage the compliance improvement (CI) resources and other training to strengthen the building and compliance industries and their abilities to design for, construct with, and implement advanced technologies.

4) Foster Innovation

PG&E plans to continue supporting innovation through the statewide electric ETP[82,83] and by piloting new approaches within existing programs that can be scaled, if successful. Specifically, PG&E proposes to test new approaches and technologies that support efficient BE and load flexibility. For example, PG&E includes prospective placeholder programs that could support either targeting BE in areas with underutilized electric assets (Targeted Electrification Placeholder Program)[84] or targeting EE and load

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82 SCE is the PA-lead for the Statewide Electric ETP.

83 ETP, Electric, Program ID: SW_ETP_Elec.

84 Program ID: PGE_Res_009.

management in grid-constrained areas (Targeted Load Management Placeholder Program).[85] PG&E also intends to support the adoption and testing of emerging electric technologies where options are limited, such as in the agricultural sector.

5) Expand Financing Options to Increase Access to Capital

PG&E plans continue to offer and improve financing mechanisms, such as loans, to help customers and market actors participate in programs. PG&E's financing efforts aim to enable energy savings across customer sectors. Currently, PG&E has a financing platform, OBF, that helps customers who otherwise don't have access to affordable credit, or who need help to overcome the up-front cost hurdle of EE investment. OBF's target audience is non-residential customers, including business customers as well as federal, state, county or local government agencies.

PG&E's vision for future financing efforts is to continue providing attractive financing options to increase participation in demand-side energy investments across non-residential sectors (while reducing customer dependence on incentives and rebates). Recent updates to the OBF program allow for a portion of a customer's financing to cover EV charging and battery purchases, as long as they are coupled with EE interventions.[86] Similarly, PG&E intends to expand financing offerings to include BE opportunities that help customers overcome electrification cost barriers that often drive project decisions. This offering is key to scaling decarbonization interventions by helping to extend financial support for electrification measures when customers may not have a viable payment alternative.

As required by the CPUC, PG&E intends to track the required MS segment metrics so that they may eventually be able to demonstrate the broader and more integrated impact of the MS segment.

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85 Program ID: PGE_Com_010.

86 AL 7315-E (filed July 3, 2024).

b. Sectors Served by MS Segment

PG&E intends to serve all sectors with MS segment programs (see the table below). In addition, many of PG&E's MS segment efforts are cross-cutting in nature, including OBF, WE&T and PG&E's support of the statewide Emerging Technology (ETP) Programs.

TABLE 6-4
SECTORS SERVED BY MARKET SUPPORT SEGMENT PROGRAMS

Line No.	Applicable Sector	Program Name	Program ID
1	Residential	Electrification Contractor Support Placeholder	PGE_Res_008
2		Electrification Customer Experience Support Placeholder	PGE_Res_010
3		Online Marketplace Program	PGE_Res_002e
4		Statewide Residential QI/quality maintenance (QM)	SW_HVAC_QIQM
5		SW Home Energy Score California	SW_HESC
6		SW New Construction NonRes Res - All Electric	SW_NC_NonRes_Res_electric
7		SW New Construction NonRes Res - Mixed Fuel	SW_NC_NonRes_Res_mixed
8		SW New Construction Res - All Electric	SW_NC_Res_electric
9		Targeted Electrification Placeholder	PGE_Res_009
10	Commercial	SW New Construction NonRes Com - All Electric	SW_NC_NonRes_Com_electric
11		SW New Construction NonRes Com - Mixed Fuel	SW_NC_NonRes_Com_mixed
12		Targeted Load Management Placeholder	PGE_Com_010
13	Industrial	SW New Construction NonRes Ind - All Electric	SW_NC_NonRes_Ind_electric
14		SW New Construction NonRes Ind - Mixed Fuel	SW_NC_NonRes_Ind_mixed
15	Agricultural	SW New Construction NonRes Ag - All Electric	SW_NC_NonRes_Ag_electric
16		SW New Construction NonRes Ag - Mixed Fuel	SW_NC_NonRes_Ag_mixed
17	Public	California Analysis Tool for Locational Energy Assessment (CATALENA)	PGE_Pub_011
18		SW New Construction NonRes Public - All Electric	SW_NC_NonRes_Pub_electric
19		SW New Construction NonRes Public - Mixed Fuel	SW_NC_NonRes_Pub_mixed
20	Cross-Cutting	Emerging Technologies Program, Electric	SW_ETP_Elec
21		Emerging Technologies Program, Gas	SW_ETP_Gas
22		Innovation-enabling MS Program Placeholder	PGE_CC_001
23		OBF Alternative Pathway	PGE_OBFAP
24		WE&T Integrated Energy Education and Training	PGE21071
25		WET Career Connections	SW_WET_CC

For residential customers, PG&E intends to continue to provide platforms that support the customer experience, such as the Online Marketplace Program.[87] PG&E intends to expand residential MS segment efforts with the inclusion of three placeholder programs that would support achieving PG&E's portfolio goals and objectives.[88] In addition, PG&E plans to collaborate on the statewide programs within this sector, including the statewide QI/QM, statewide Home Energy Score program, and the statewide NC programs. PG&E is forecasting to serve approximately 7,500 single family homes with MS segment programs.

For commercial customers, PG&E intends to support programs to encourage efficient NC and integration with other IDSM offerings. PG&E also intends to offer financing programs to this sector.

For both the industrial and agricultural sectors, PG&E intends to use the MS segment to continue to support statewide NC efforts.

For (and in collaboration with) the public sector, PG&E intends to offer new tools to assist public agencies, while collaborating with these agencies to support NC efforts in the public sector.

There are also several cross-cutting MS segment efforts as shown in the table above. PG&E plans to increase awareness of available resources on heat pumps and other electrification technologies, continue to facilitate electrification and decarbonization courses, and provide customers with access to capital via the OBF platform. PG&E also intends to expand on these to offer an innovation-enabling MS segment program, as described earlier in this chapter (see Chapter 11, Section C.2, for more details on PG&E's related policy proposal).

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87 Online Marketplace Program, Program ID: PGE_Res_002e.

88 The three residential MS segment placeholder programs include: (1) Electrification Contractor Support Placeholder (PGE_Res_008), (2) Targeted Electrification Placeholder (PGE_Res_009), and (3) Electrification Customer Experience Support Placeholder (PGE_Res_010).

4. Equity Segment

The programs in the Equity segment have the:

> …primary purpose of providing energy efficiency to HTR or underserved customers and disadvantaged communities in advancement of the Commission's Environmental and Social Justice (ESJ) Action Plan.[89]

The objective of this segment is to target HTR, disadvantaged, and/or underserved communities specifically to:

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

Approximately 7 percent of PG&E's 2028-2031 requested budget is allocated to Equity segment programs, with additional budget from the RA segment being used to support expanding access to priority-targeted equity groups (as described below).

a. Equity Strategy

Historically, not all customers have equal access to the resources needed to participate in EE programs. This includes access to information, adequate financial incentives, and the ability to make necessary home improvements. Historical and systemic inequities have led to disparities in energy burden, with marginalized communities often paying a higher percentage of their income on energy costs. These inequities are particularly apparent as the state electrifies since electrification can be expensive and these customers may not be able to

89 D.21-05-031, p. 14.

move away from gas on their own.[90] Addressing these inequities requires targeted interventions and policies that prioritize the needs of these communities.

PG&E's primary strategy for addressing the targeted groups is greater inclusivity across all PG&E's programs. That is, PG&E's strategy is centered on inclusivity and integrating equity considerations across the entire portfolio, in addition to the targeted Equity segment programs and offerings. Across all programs, PG&E intends to improve accessibility for targeted customers by expanding measure packages and offering tools and resources). This helps to achieve equity objectives throughout the portfolio, increasing the likelihood of broad, meaningful impact while also contributing to the portfolio TSB goals.

For the Equity segment, PG&E intends to draw on four key strategies to align with the commission objectives: (1) use data driven approaches to improve accessibility, (2) cultivate partnerships and increase stakeholder engagement, (3) minimize barriers to participation, and (4) leverage third-party contracts. These strategies, described in the bullets below, are expected to extend beyond PG&E's Equity segment programs.

1) Use Data-Driven Approaches to Improve Accessibility

PG&E plans to leverage demographic participation data to improve accessibility for equity customers to its EE portfolio. This approach allows for efficient, proactive identification and inclusion of target groups without requiring extensive data collection from

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90 The CPUC staff paper *Progress Towards a Gas Transition* highlights how low-income customers, who remain reliant on fossil fuel appliances and transportation, may be disproportionately affected by the cost risks associated with the state's transition away from fossil fuels. One cost risk is that too much gas infrastructure will be maintained as customers increasingly switch to electric appliances and transportation, thus leaving a smaller number of gas customers responsible for gas system maintenance costs. The second cost risk is that gas infrastructure will be retired too quickly, which can cause gas prices to rise dramatically if there is not enough gas transmission and storage infrastructure supply to meet demand.

2024 Joint Agency Staff Paper: Progress Towards a Gas Transition, CPUC, (February 22, 2024), p. 16. Available at: https://docs.cpuc.ca.gov/PublishedDocs/Efile/G000/M525/K660/525660391.PDF - page=1.

participants and minimizing confusion for non-qualified groups. PG&E also intends to use locational information to improve visibility into equity customer participation and identify populations in need of services. This is particularly important for the Equity segment electrification efforts proposed for the residential sector.

2) Cultivate Partnerships and Increase Stakeholder Engagement

PG&E intends to engage with stakeholders to share PG&E's Equity segment programmatic plans and updates, solicit feedback and input from stakeholders, and report on PG&E's actions taken as a result of these engagements. Furthermore, PG&E intends to collaborate with CBOs, local governments, schools, and other community institutions to broaden EE and BE programs' reach and facilitate the creation of community "champions" who can generate interest and demand at a local level. This approach is particularly important for PG&E's Equity segment zonal electrification and BE pilots due to the socio-economic burdens faced by equity customers. PG&E sees an opportunity to make BE offerings more accessible and appealing to customers by leveraging trusted on-the-ground leadership to educate customers, market programs, and tailor implementation approaches to meet the local needs of equity customers (see Chapter 3, Section E.2 for details).

3) Minimize Barriers to Participation Through Inclusive Program Design

PG&E plans to use in-language outreach and materials, work with CBOs and/or local governments, target incentives for those customers who are HTR, and embed other equity-focused enhancements into programs to address barriers to participation and increase access of vulnerable customers to EE offerings. This effect is expected to extend beyond just the segment programs.

4) Leverage Third-Party Contracts

PG&E recognizes that current contracting processes, specifically the pay-for-performance structure of third-party contracts, can unintentionally prioritize high TSB projects and leave

out customers who are HTR or more costly to serve. To encourage inclusivity, PG&E intends to consider options for adjusting contract language to incentivize third-party implementers to develop offerings, and inclusive strategies, for equity-targeted participants. This may include:

- Revising third-party implementation contracts to include equity-related metrics and incentives so contractors are rewarded not just for savings but also for achieving equity objectives.
- Incorporating expectations for implementers to promote WE&T programs in specific communities and connect participants to these resources, which help reach HTR demographics.

b. Equity Sub-Category Definitions

The current definition of "equity targeted" includes three customer sub-categories: DAC, HTR, and underserved. The three sub-categories were defined in D.23-06-055.[91] The CPUC requires data collection and metric reporting for DAC, HTR, and underserved across all three segments, not just for the Equity segment.

The CPUC's Business Plan template requests that PAs "discuss whether the current definitions of the three equity sub-categories…require further refinement or clarification." PG&E believes that the current definitions for DAC, HTR, and underserved customers are clear and aligned with Commission intent; however, HTR and underserved definitions are difficult to use in day-to-day implementation and reporting.[92] In practice, these often require direct collection of sensitive customer information (such as income, language, membership in an underserved business group, business size, rent/lease status of building), which can deter participation, add administrative burden, and be hard to track consistently across programs. At the same time, comparable data for the broader

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91 D.23-06-055, Section 7.2, p. 45-48 and Section 7.3, p. 49-54.

92 CEDARs requires all entries to include flags for whether the recipient was DAC, HTR or underserved, and assumes that all measures installed will include this information.

population is limited, reducing the usefulness of these categories (as currently defined) for future goal setting and evaluation. For these reasons, some refinements or potentially a single, simplified, geography-based definition of the targeted equity group, may be needed to allow the state to collect and report on accomplishments in a practical and scalable way.

Disadvantaged Communities (DAC) refer to 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.[93]

These communities are fully defined by geography (as identified in the CalEnviroScreen tool created by the California Environmental Protection Agency).[94] As such, this sub-category is easy to approximate with address and zip code information and does not require any direct data collection from participants. PG&E does not believe that the definition of a DAC customer needs further refinement.

The CPUC's HTR sub-category is a complex definition requiring a HTR customer to meet multiple criteria (i.e., two to three criteria), some of which must be collected from participants.[95] HTR criteria such as income requirements or speaking a language other than English require data collection directly from a customer and additional administrative

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93 See the CPUC web page on Disadvantaged Communities for additional detail: https://www.cpuc.ca.gov/industries-and-topics/electrical-energy/infrastructure/disadvantaged-communities.

94 *CalEnviroScreen 4.0*, CalEPA, (May 1, 2023). Available at: https://oehha.ca.gov/calenviroscreen/report/calenviroscreen-40

95 The definition in D.23-06-055 OP 33 states that:

> Two criteria are considered sufficient if one of the criteria met is the geographic criterion [i.e., in a DAC or outside the United States Office of Management and Budget Combined Statistical Areas of the San Francisco Bay Area, the Greater Los Angeles Area and the Greater Sacramento Area or the Office of Management and Budget metropolitan statistical areas of San Diego County]. If the geographic criterion is not met, then at least three (other) criteria must be met. The exception is for California Native American Tribes, who do not need to meet any additional criteria.

and customer burdens, which can create a barrier to participation. PG&E believes that across the full portfolio, the definition of HTR should be more closely aligned with data that is available from existing sources (that is, proxy data that can be assigned to a household based on address) in order to minimize barriers to participation. As an option, an Equity segment program could be allowed to expand this definition to include criteria that would be voluntarily collected directly from the participant, such as primary language or household income. However, PG&E recommends that the primary definition for HTR, which is required to be used by all programs across a PA's full portfolio of programs, be refined so that it does not require direct data collection from customers and so that there is an official statewide count of the number of HTR customers against which participation achievements can be assessed.

The CPUC's underserved definition includes both geographic-based requirements (e.g., in a predominately low-income census tract, or in a census track with 75 percent of school children eligible for free lunch) and non-geographic based requirements (e.g., the reported income of a specific household). It overlaps with many of the HTR sub-categories and with the DAC category (i.e., everyone who is in a DAC is underserved although not all underserved are DAC or HTR). Like HTR, PG&E recommends refinement of the definition of underserved so that it does not require any direct data collection from customers (that is, it should be able to be approximated based on available proxy data for language or income based on a participant's zip code). PG&E also recommends that the definition be refined in a manner that allows an official statewide count of the number of underserved customers against which participation achievements can be assessed.

As noted above, there is overlap between these three definitions. PG&E believes that additional discussions and refinements are needed to bring these categories together into a single, simplified, definition of equity-targeted groups that can be determined based on a customer's zip code to allow the state to collect and report on accomplishments in a practical and scalable way.

c. Sectors Served by Equity Segment

PG&E intends to offer Equity segment programs to three sectors, as shown in Table 6-5. PG&E intends to offer targeted Equity segment programs to residential and commercial sector customers. PG&E also proposes to continue the WE&T Career and Workforce Readiness Program[96] to support disadvantaged workers.

PG&E is forecasting to serve approximately 1,000 single family or manufactured homes with the Equity segment programs shown in the table below.

TABLE 6-5
SECTORS SERVED BY EQUITY SEGMENT PROGRAMS

Line No.	Applicable Sector	Program Name	Program ID
1	Residential	Residential Zonal Electrification Equity Program Implementer A	PGE_Res_004a
2		Residential Zonal Electrification Equity Program Implementer B	PGE_Res_004b
3		Residential Electrification Equity Program	PGE_Res_005
4	Commercial	Micro and Small Business Program	PGE_Com_SmallBiz
5	Cross-Cutting	WET Career and Workforce Readiness	SW_WET_Work

PG&E plans to work with third-parties and equity-targeted communities to expand the program offering in this segment. Examples of possible expansions of the existing offerings include:

- Residential BE Pilots: PG&E has identified the need to test new approaches for providing electrification offerings to equity-targeted groups to mitigate the potential impact to these customers as BE scales in future years and fewer customers are left to bear the costs of the remaining gas system (see Chapter 3 for more details on PG&E's commitment to improvement in rate affordability). Through residential BE pilots, PG&E intends to support groups that might need additional financial assistance.
- Micro and Small Business Programs: PG&E was the first utility company to roll out a small business Equity segment program in

[96] WET Career and Workforce Readiness, Program ID: SW_WET_Work.

California. PG&E's Micro and Small Business Program installed EE measures in equity-targeted business. PG&E intends to work with third-party implementers and the local community to serve this group within PG&E's future Equity segment program offerings.

5. Codes and Standards

The C&S segment has the following primary purposes:[97]

- Influencing standards and code-setting bodies (such as the CEC to strengthen EE regulations;
- Improving compliance with existing C&S;
- Assisting local governments to develop ordinances that exceed statewide minimum requirements; and
- Coordinating with the other programs and entities to support the state's policy goals.

Approximately 16 percent of PG&E's 2028-2031 proposed budget is allocated to the C&S segment. PG&E's C&S segment efforts are specifically designed to support long-term EE savings and enable the energy system of tomorrow (see Chapter 3, Section E.3 for more information).

a. C&S Segment Strategy

PG&E has five primary C&S segment strategies that aim to help it to reach its portfolio goals and are consistent with the Commission's objectives. Four of the five strategies represent a continuation of existing strategies that have proven successful, including: (1) conduct enhanced data collection and collaborate with stakeholders; (2) advocate for cost-effective building codes and appliance standards; (3) support our hometowns to achieve their energy and GHG emissions reduction goals through local ordinances; and (4) support compliance with building codes and appliance standards. PG&E's fifth C&S segment strategy is to promote emerging opportunities for C&S initiatives to advance California's decarbonization objectives, such as GHG-emission and load flexibility standards. These C&S continuing

97 D.23-06-055, pp. 13-14.

strategies and emerging opportunities are described in the subsections below.

1) Continuing Successful Existing Strategies

Existing strategies that are currently pursued by the C&S segment and proposed to continue are included here. Readers are also encouraged to review PG&E's previously approved 2024-2031 EE Business Plan, where these strategies are described in greater detail.

- Conduct Enhanced Data Collection and Collaborate with Stakeholders

  To support more stringent building codes, reach codes, and appliance standards, PG&E collects extensive data during the administration of its code readiness activities. These data are used to support future Codes and Standards Enhancement (CASE) studies, standards rulemaking engagement, and negotiations. In addition, the data is shared with stakeholders to ensure accurate results and to build stakeholder support.

- Advocate for Cost-Effective Building Codes and Appliance Standards

  Advocacy is one of the central roles and a key strategy to support the C&S segment goals and objectives. Stakeholder engagement is vital to understanding the issues around individual rulemakings and to gaining support for recommended efficiency levels. The C&S programs also engage with manufacturers and industry stakeholders to understand potential issues, share research, and collaborate on areas of agreement to advance efficiency standards and test procedures.

- Support Our Hometowns to Achieve Their Energy and GHG Emissions Reduction Goals Through Local Ordinances

  Local energy ordinances play a leading role in driving beyond-code innovation that advances progress towards the state's EE and decarbonization goals. Reach codes are often part of a local government's climate action plan. Developing technical support resources is an effective approach to

supporting these objectives. These initiatives include, but are not limited to, cost-effectiveness studies for residential and non-residential building types, ordinance development tools, and NC/alteration studies.

- Support Compliance with Building Codes and Appliance Standards

  Compliance improvement activities promote the knowledge and skills needed to comply with existing and new building codes and appliance standards for market actors throughout the compliance supply chain. This includes providing role-based training, tools, and resources while receiving feedback from code experts with the ultimate goal of simplifying and reducing the amount of time required to complete code-related job tasks. Compliance improvement activities also include outreach to improve awareness about code requirements and support for performance certifications such as Associate Energy Analysts (AEA) and Certified Energy Analysts (CEA).

2) Promote Emerging Opportunities

C&S programs regularly evolve to meet the changing landscape of building practices and efficient technologies available in the market. One of the ongoing pursuits of C&S segment is to adapt to these market changes. PG&E also recognizes that many of the beneficial outcomes of C&S segment initiatives go beyond reductions in energy and demand usage to potentially include GHG and non-GHG emissions reductions and other health benefits, among other possible outcomes. Initiatives being pursued by the C&S programs to promote emerging opportunities include the following:

- Support the Development and Adoption of Standards That Encourage Lower Energy Use and GHG Emissions in Existing Buildings

  The C&S programs plan to explore the potential to support state and local efforts to develop and implement policies that will encourage or compel existing large buildings to meet or exceed

energy performance targets, such as Building Performance Standards (BPS). Additionally, setting targets for energy, GHG emissions, and other performance metrics with BPS could inform other existing or emerging resource or MS programs.

- Align the Metric of Success of the C&S Programs With California's 2045 Carbon Neutrality Goal

  As proposed in Chapter 11, Section D.3, PG&E recommends that the goal metric for C&S programs be transitioned to TSB. The current C&S goal metrics—first-year energy savings and peak demand reductions—is not optimally aligned with PG&E and California's goals of cost-effective GHG reductions at scale. Measures that produce no energy savings but generate GHG savings and other grid benefits, such as load management or refrigerant capture, add program costs but do not contribute benefits within the current C&S attribution model.

- Increase Demand Flexibility Through C&S

  Flexible demand appliance standards (FDAS) are designed to help customers align their electricity use with generation and grid capacity. FDAS are expected to create downward pressure on electric rates, improve air quality, and help mitigate future climate change. When customers opt-in to using automated load-shifting appliances, it may also provide electricity bill savings. The C&S segment sees an opportunity to influence the communication protocols enabled or embedded in appliances through engaging on industry test standards committees, working directly with the CEC, and conducting testing to support the adoption of FDAS standards.

- Support the Development of Ultra-Low or Zero-NOx Emission Appliance Standards

  PG&E proposes to continue working with the CARB and local air quality management districts to develop ultra-low or zero NOx emission appliance standards. These primarily include appliances for water and space heating but could be

expanded to include other residential end uses to further limit GHG emissions in residential buildings.

- Expand Program Advocacy to Select Non-Energy Standards

  PG&E aims to extend the efforts of its C&S segment to advocate for appropriate and safe changes in non-energy related portions of state and national building codes, where applicable, to allow for and promote innovative options that are currently experiencing low uptake or blocked outright due to outdated electrical, plumbing, mechanical, or similar requirements.

b. Sectors Served by C&S

PG&E proposes offering C&S segment activities that serve all customer sectors, with a greater emphasis on the residential, commercial, and public sectors. This section describes the sectors served by PG&E's C&S programs.

- Residential customers continue to benefit from updated building energy codes, including local ordinances that may extend beyond baseline requirements. Additional focus on building codes and appliance standards that encourage load flexibility with appliances could benefit both the energy system and customers. Ultra-low or zero NOx emission appliance standards directly affect residential customers as older equipment fails or ages out and is replaced.
- In the commercial sector, C&S initiatives include advocacy activities to expand access to EV charging in new or renovated commercial properties through state and national building codes. PG&E also proposes to advocate for the establishment of Building Performance Standards (BPS) or similar strategy to set a maximum energy use intensity level or emission cap for existing larger buildings, potentially including large multifamily buildings as well. The commercial sector would also be subject to the previously described ultra-low or zero NOx emission appliance standards, where applicable.
- Public and institutional customers would be subject to a similar set of initiatives that would be designed for the commercial sector, but

are expected to be more focused on reductions in GHG emissions. Other initiatives, including BPS and ultra-low and zero NOx emission appliance standards, may also apply to this sector.

- For industrial and agricultural customers, PG&E expects to continue to pursue measures that are specifically targeted to these sectors through continuing advocacy efforts within building codes and appliance standards as well as the development of compliance improvement resources to serve these customers.

TABLE 6-6
CODES AND STANDARDS PROGRAMS

Line No.	Segment	Program Name	Program ID
1	C&S	State Appliance Standards Advocacy	SW_CSA_Appl
2		State Building Codes Advocacy	SW_CSA_Bldg
3		National Codes & Standards Advocacy	SW_CSA_Natl
4		Compliance Improvement	PGE21053
5		Reach Codes	PGE21054
6		Planning and Coordination	PGE21055
7		Code Readiness	PGE21056
8		C&S Decarbonization Support	PGE_CS_Decarb

PACIFIC GAS AND ELECTRIC COMPANY

CHAPTER 7

PORTFOLIO COORDINATION

PACIFIC GAS AND ELECTRIC COMPANY
CHAPTER 7
PORTFOLIO COORDINATION

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PACIFIC GAS AND ELECTRIC COMPANY
CHAPTER 7
PORTFOLIO COORDINATION

A. Introduction

This chapter describes Pacific Gas and Electric Company's (PG&E) coordination efforts that are foundational to supporting the portfolio strategies discussed in Chapter 3, as well as the segment and sector strategies discussed in Chapter 6. Coordination among PG&E segments, sectors, and programs as well as coordination with other Portfolio Administrators (PA) is critical for achieving complementary program delivery, minimizing duplication, and enabling cost-effective energy efficiency (EE) programs. Additionally, coordination is essential to helping prepare the market for flexible building electrification (BE) in the near term, while working towards the longer-term portfolio vision of scaling efficient, flexible, and affordable BE by 2035. The remainder of this chapter is organized as follows:

- Section B: Coordination within PG&E Segments, Sectors, and Programs;
- Section C: Coordination with Other PAs;
- Section D: Coordination with Market Transformation (MT);
- Section E: Coordination with Energy Savings Assistance (ESA) Programs; and;
- Section F: Coordination with Other Demand Side Programs.

B. Coordination within PG&E Segments, Sectors, and Programs

PG&E is committed to segment, sector, and program-level coordination within the EE portfolio to facilitate offerings that are cohesive and support the market's evolution towards efficient, flexible BE. Across segments, the market support (MS), resource acquisition (RA), and equity programs coordinate to support customers' ability to take advantage of energy saving opportunities. Sectors and programs coordinate where there are multiple offerings that target the same population, offer the same technologies, or can mutually benefit from collaboration. Coordination that takes place across PG&E's segments, sectors, and programs can be grouped into five primary categories: (1) Marketing and Outreach Coordination, (2) Workforce Education and Training (WE&T) Coordination, (3) Financing Coordination, (4) Customer Enrollment and Service

Delivery Coordination, and (5) Data Collection and Exchange Coordination. Additional detail on each coordination category is provided in Sections B.1 through B.5 below.

1. Marketing and Outreach Coordination

PG&E marketing plays a critical role in driving program awareness, adoption, and energy management behavior change across sectors. PG&E has two portfolio-wide marketing objectives: (1) enhance awareness, engagement, and participation among customers, contractors, and community stakeholders, and (2) optimize the effectiveness of its EE and efficient BE interventions by implementing targeted marketing communications and outreach initiatives.

Coordination between the marketing team and EE program teams, who have familiarity with the specific customer segments they serve, is essential for designing impactful marketing efforts that deliver on the portfolio-wide objectives and goals. This collaboration concentrates on designing multi-channel marketing campaigns that meet customers in their channel of choice and clearly communicates the benefits of EE and BE offerings across diverse customer audiences. PG&E's marketing team actively collaborates with the program delivery and strategy teams to design and deliver messaging that resonates with key customer segments and sectors. Additionally, the marketing team leads initiatives to identify and amplify customer testimonials, develop case studies, and uses participation data and customer insights to personalize outreach efforts.

PG&E aspires to make the BE process easy, accessible, and appealing for customers. To achieve this, the marketing team plans to collaborate with BE programs and strategy and WE&T on relevant marketing efforts related to the customer journey. The marketing team intends to actively partner with the BE program delivery teams to develop educational materials, workshops, and digital resources that support BE offerings. The marketing and BE program delivery teams also plan to maintain post-electrification customer engagement by providing ongoing support and communications to improve customer satisfaction, address emerging needs, and foster long-term customer relationships. To support contractors as BE advocates, the marketing team plans to support contractors participating in PG&E's

WE&T programs with current marketing collateral, training, and technical resources to improve delivery of consistent and accurate messaging to customers.

2. WE&T Coordination

WE&T programs are strategically coordinated with other EE portfolio program offerings to align contractor training and curricula with the portfolio, segment, and sector-level strategies. As the EE portfolio seeks to prepare the BE market to scale, contractors will play a critical role as trusted advisors. The energy workforce is uniquely positioned to influence customer decisions and facilitate adoption of electrification technologies.

Significant coordination is expected to take place between WE&T programs and RA segment programs where fuel substitution measures will be incorporated. PG&E intends to coordinate between its RA segment programs and WE&T programs to ensure training curricula and certifications continue to address core skills, while also addressing fuel substitution technologies, skills, and energy saving opportunities. Where applicable, third-party solicitations for RA segment programs may also include contract provisions encouraging bidders to describe how their proposed programs expect to coordinate with WE&T.

WE&T programs plan to also coordinate internally to advance career opportunities for disadvantaged workers. PG&E's Career and Workforce Readiness (CWR) program[1] offers skills training, job placement, and retention support for disadvantaged workers to support workforce diversity. In parallel, the WE&T Integrated Energy Education and Training (IEET)[2] Program removes employment barriers for disadvantaged workers by actively engaging them in IEET trainings through targeted marketing and advanced registration opportunities. Additionally, the IEET Program offers subsidized tuition for disadvantaged workers participating in the Building Operator Certification training.[3] To strengthen outreach to disadvantaged workers, the WE&T programs may co-develop email, print, and social media

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1 WE&T CWR, Program ID: PGE_SW_WET_Work.

2 WE&T IEET, Program ID: PGE21071.

3 WE&T IEET, Implementation Plan (Program ID: PGE21071), p. 9, response to #10.

marketing awareness campaigns, along with early registration coordination for disadvantaged workers in WE&T classes with limited capacity.

Additionally, WE&T programs plan to internally coordinate to implement best practices for training contractors to assist customers to navigate the electrification process, enable high-quality installations that boost customer satisfaction and trust. The Codes and Standards (C&S) Compliance Improvement (CI) Program[4] also plans to continue coordination with WE&T to supplement training curriculum to include additional information on building codes and appliance standards requirements.

3. Financing Coordination

PG&E's On-Bill Financing Alternative Pathways (OBF-AP) Program[5] provides access to capital for non-residential EE and efficient electrification projects. RA segment programs coordinate with OBF-AP to bolster the non-residential sector's ability to complete EE and BE retrofits. Consistent with the Financing sector strategy discussed in Chapter 6, Section B.6.b, PG&E plans to continue to support the non-residential sector by providing attractive financing offers to make their energy investments. Accordingly, PG&E expects coordination between the Financing sector and non-residential sectors to continue to increase awareness of OBF, refer eligible customers to incentive offerings when they are strategically effective, and educate PG&E's contractor network on available financing options.

4. Customer Enrollment and Service Delivery Coordination

PG&E programs coordinate, where applicable, to streamline customer referrals and service delivery. These coordination efforts help to reduce administrative burden and improve overall cost-effectiveness. For example, PG&E's strategic energy management (SEM) programs have been consistently successful in delivering high Total System Benefit (TSB) and customer satisfaction.[6] Customer enrollment and service delivery coordination within the SEM programs is a key enabler of the program

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4 Compliance Improvement, Program ID: PGE21053.

5 OBF AP, Program ID: PGE_OBFAP.

6 In 2024, PG&E delivered the highest TSB in the Industrial sector, mostly from Custom SEM.

model's success. SEM programs are led by a single program manager, which enables sharing strategic insights and exchanging participant leads easily across programs.

Another example is the IEET program which intends to continue coordinating delivery of the Tool Lending Library (TLL)[7] with the SEM programs. By offering customers, engineers, energy consultants, etc. access to building performance measurement tools and technical advice at no upfront cost, the TLL assists customers and contractors in implementing energy-saving upgrades, and remains a valuable resource for evaluating SEM program benefits. SEM programs routinely coordinate with IEET to assess new tools and replace outdated equipment.

Behavioral programs that serve a large portion of PG&E's residential and commercial customer base can continue to be a valuable information and referral channel to direct eligible customers to equity programs. Equity program managers may also advise RA segment program teams targeting similar sectors on techniques to embed equity-focused enhancements, such as in-language materials, into the programs they oversee.

5. Data Collection and Exchange Coordination

PG&E serves as the lead PA for the statewide all-electric and mixed fuel New Construction (NC)[8] MS segment programs, along with the statewide C&S advocacy[9] programs. The State Building Codes Advocacy program continually updates programs in alignment with EE regulations regarding the design and construction of new buildings. PG&E's NC offerings strategically coordinate with C&S to collect data that informs the development of regulations for new or renovated buildings, all electric buildings, advanced EE techniques, and automated load flexibility technologies. The statewide

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7 The Tool Lending Library (TLL) is PG&E's free tool lending program, which provides a wide selection of energy and building measurement tools to customers and professionals working on energy efficiency, demand reduction, demand response, and electrification projects in California.

8 SW NC NonRes – All Electric, Program ID: PGE_SW_NC_NonRes_electric, SW NC NonRes – Mixed, Program ID: PGE_SW_NC_NonRes_mixed, SW NC Res – All Electric, Program ID: PGE_SW_NC_Res_electric.

9 State Appliance Standards Advocacy, Program ID: PGE_SW_CSA_Appl, State Building Codes Advocacy, Program ID: PGE_SW_CSA_Bldg, National C&S Advocacy, Program ID: PGE_SW_CSA_Natl.

NC programs plan to continue coordinating with the statewide C&S advocacy programs by collecting primary data for high performance measures that align with PG&E's long-term tactical plan and support future C&S cycles.

C. Coordination with Other PAs

PG&E coordinates with other PAs administering EE programs to support portfolio alignment, reduce customer confusion, and enable uniform delivery of statewide programs. Sections C.1-C.3 provide descriptions of the PAs that PG&E coordinates with the coordination structures that are adhered to, and the coordination practices that are employed for program overlap identification and mitigation. Coordination to identify and mitigate potential program overlap is particularly important to reduce redundancy and enable efficient use of funds.[10] However, as discussed in Section C.3, PG&E asserts that existing coordination venues do not sufficiently prevent overlap of "substantively similar… and duplicative programs" at this time.[11] Current practices to prevent or resolve program overlap are primarily reactive with limited opportunity to prevent overlap prior to program approvals.

1. Coordination Participants

The California Public Utilities Commission (CPUC or Commission) directed a statewide approach to upstream, midstream, and market transformation programs in Decision (D.)16-08-019[12] and subsequently identified lead PAs for statewide programs and program areas in

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10 PG&E's protest response dated November 12, 2024 in response to the Public Advocates Office protest filed November 4, 2024. Link: Regulation (To obtain the pleading select the following: Case = "EE 2024 Business Portfolio Plan…"; Document Type: "Pleading"; Dates: 11/12/24 to 11/12/24; and click the "Search" button).

11 D.23-06-055, OP 32.

12 D.16-08-019, pp. 61-62 provides the adopted definition of statewide programs:

> Statewide means: A program or subprogram that is designed to be delivered uniformly throughout the four large Investor-Owned Utility service territories. Each statewide program or subprogram should be consistent across territories and overseen by a single lead program administrator…Upstream (at the manufacturer level) and midstream (at the distributor or retailer level, but not contractor or installer) interventions are required to be delivered statewide. Some, but not all, downstream (at the customer level, or via contractors or installers) approaches are also appropriate for statewide administration. Statewide programs are also designed to achieve market transformation.

D.18-05-041.[13] As a lead and non-lead PA for the statewide programs, PG&E coordinates with Southern California Edison (SCE), SoCalGas (SCG), and San Diego Gas & Electric (SDG&E). PG&E also expects to participate in statewide program coordination with Bay Area Regional Energy Network (BayREN), which was approved to be the lead administrator for a new Home Energy Score program expected to launch in 2026.[14] PG&E is the assigned lead PA for the statewide C&S advocacy, NC, HVAC,[15] and WE&T programs, and the State of California/Department of Corrections Institutional Partnership Program.[16]

PG&E also coordinates with the following PAs with overlapping service areas: Ava Community Energy (AVA), BayREN, Central California Rural Regional Energy Network (CCR REN), Marin Clean Energy (MCE), Northern Rural Energy Network (NREN), and Tri-County Regional Energy Network (3C-REN). This coordination takes place across multiple venues discussed in Section C.2, including the Joint Cooperation Memos (JCM). JCMs are one of the primary venues for coordinating with PAs on local programs targeting similar geographic areas as they require PAs to summarize the programs they intend to run and indicate which programs may overlap, as well as describe processes for coordinating program awareness and referrals.[17] Table 7-1 provides an overview of the shared geographic territory and customer segments where overlap is possible according to the most recent JCMs.

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13 D.18-05-041, pp. 91-92.

14 "The Bay Area Regional Energy Network (BayREN) shall be the statewide administrator of a new Home Energy Score program to be funded by an additional $9.9 million between 2024 and 2027…By no later than July 1, 2026, BayREN shall submit a Tier 2 advice letter (AL) with details of the statewide plan." D.23-06-055, OP 3, p. 120.

15 SW HVAC All Electric Non-Residential, Program ID: PGE_SW_HVAC_AE_NonRes.

16 Institutional Partnerships: DGS and DoC, Program ID: PGE_SW_IP_Gov.

17 D.18-05-041, Ordering Paragraph (OP) 38, pp. 190-191.

TABLE 7-1
JCM COVERAGE OF GEOGRAPHIC OVERLAP AND POTENTIAL CUSTOMER SEGMENT OVERLAP

Line No.	JCM Coverage	Overlapping Geography – Counties	Overlapping Geography – PG&E Service Model	Single Family	Multi Family	Commercial	Industrial	Agricultural	Public	C&S	WE&T	Financing
1	PG&E and AVA 2023 JCM	Alameda, San Joaquin	Region 3: Bay Area, Region 5: Central Valley			X	X					
2	PG&E and BayREN 2024-2025 JCM	Alameda, Contra Costa, Marin, Napa, San Francisco, San Mateo, Santa Clara, Solano, Sonoma	Region 1: North Coast; Region 2: North Valley and Sierra; Region 3: Bay Area; Region 4: South Bay and Central Coast	X	X	X			X	X	X	
3	PG&E and CCR REN 2025-2026 JCM (Central)(a)	Monterey, San Benito, Santa Cruz, San Luis Obispo	Region 4: South Bay and Central Coast	X	X	X			X	X	X	X
4	PG&E and CCR REN 2025-2026 JCM (SJV)(a)	Fresno, Kern, Kings, Madera, Merced, San Joaquin, Stanislaus, Tulare	Region 5: Central Valley	X	X	X				X	X	X
5	PG&E and MCE 2024-2025 JCM	Contra Costa, Marin, Napa, Solano	Region 1: North Coast; Region 2: North Valley and Sierra; Region 3: Bay Area	X		X	X	X			X	
6	PG&E and NREN 2025-2026 JCM	Alpine, Amador, Butte, El Dorado, Humboldt, Lake, Lassen, Mendocino, Placer, Plumas, Sierra, Sutter, Tuolumne, Yuba	Region 1: North Coast; Region 2: North Valley and Sierra; Region 5: Central Valley	X	X	X			X		X	X
7	PG&E and 3C-REN 2024-2025 JCM	San Luis Obispo, Santa Barbara	Region 4: South Bay and Central Coast	X	X	X		X	X	X	X	

(a) D.23-06-055, OP8.
(b) *Ibid.*

2. Coordination Structure and Frequency

While D.18-05-041,[18] declined to establish a formal Investor-Owned Utility (IOU) Program Council, the IOUs formed an informal governance structure and meeting schedule to enable coordination across statewide programs. This governance structure includes the Statewide Energy Efficiency Team (SWEET) and the corresponding program teams. PG&E supports this governance structure and attends regular meetings with the PAs to coordinate statewide programs and support broader portfolio planning. Coordination activities are conducted in accordance with the antitrust rules and regulations and D.18-05-041, specifically as it relates to the governance of statewide programs.

SWEET serves as the liaison between the program teams; it meets bi-weekly for the purpose of discussing and keeping each other informed on statewide program progress, thereby enabling coordination on program delivery and timely updates on budgets and expenditures. The program teams are responsible for the design of their respective statewide programs and for overseeing the program implementers.

In addition to participating in statewide program coordination, PG&E maintains continuous coordination with the IOUs, Regional Energy Networks (REN), and Community Choice Aggregators (CCA) through multiple venues to align portfolios and discuss policy matters. PG&E staff participate in various meetings held throughout the year to coordinate with other PAs at the portfolio-level, region-level and sector-level. The frequency of these meetings varies from weekly, monthly, bi-monthly, quarterly, annually, and ad hoc depending on the level of coordination that is required. Table 7-2 provides an overview of the coordination venues PG&E staff participate in.

[18] D.18-05-041 approved the IOUs' business plans for the 2018-2025 period and established several changes to statewide program administration, including designation of a lead PA for each of the statewide programs.

TABLE 7-2
COORDINATION VENUES

Line No.	Venue	Attendees	Frequency
1	Statewide Program Coordination Meetings	SWEET and statewide program teams	Bi-weekly
2	Regional JCM Coordination Meetings	IOU, CCA, and REN sector and program leads responsible for JCM development (occasionally attended by EE policy team for policy topics related to the JCMs)	Ad hoc coordination meetings with 3C-REN, AVA, BayREN, CCR REN, MCE, NREN, SCE, SCG, and Southern California Regional Energy Network (SoCalREN) during JCM development periods.
3	Portfolio Coordination Meetings	EE portfolio managers, EE program teams, and EE policy team	Weekly all-IOU meeting Monthly meeting with all IOUs , RENs and ATA CCA Quarterly portfolio check-in with 3C-REN; and PA Sector Coordination (PASC) meeting among CCR REN, 3C-REN, SoCalREN, and the IOUs. Annual portfolio presentation meeting with BayREN.
4	Sector/Program Coordination Meetings	CCA and REN sector and program teams responsible for sector/program coordination	Quarterly commercial program coordination meeting with AVA; multifamily program coordination meeting with 3C-REN; and residential program coordination meeting with MCE. Monthly commercial sector, public sector, and multifamily program coordination meetings with BayREN; and non-residential sector coordination meeting with MCE. Bi-monthly residential program coordination meeting with BayREN. Quarterly statewide agriculture program meeting with participating PAs.
5	California Energy Efficiency Coordinating Committee (CAEECC) Meetings	CAEECC members, CPUC Energy Division staff, and other interested stakeholders	Frequency determined by annual CAEECC Work Plan submitted to the CPUC for approval. Six meetings held throughout 2025.

PG&E program sector leads and programs leads (and occasionally policy staff) attend ad hoc meetings to develop and update the JCMs.[19] Portfolio coordination meetings are held weekly to annually depending on the venue and include the quarterly PASC meetings; one-on-one portfolio coordination meetings with BayREN and 3C-REN; weekly all-IOU policy

[19] JCMs authored according to CPUC guidance in D.19-12-021, D.21-05-031, and D.23-06-055.

meetings; and monthly all-PA policy meetings. Sector coordination meetings are held between PG&E and individual RENs and CCAs in shared geographic territory to discuss sector/program-specific coordination. General topics include sector updates, program updates, policy changes, program referrals, marketing/outreach, data sharing, contractor issues, and double-dipping[20] prevention. PG&E staff also coordinate with other PAs through the CAEECC,[21] which is a venue for CPUC EE process and policy stakeholders to convene.

3. Coordination Practices

PG&E has established processes to identify programs that may be substantively similar to or duplicative[22] of programs implemented by other PAs. These processes are informed by those developed through the Joint PA AL 20-E/20-G,[23] pursuant to D.23-06-055, OP 32. OP 32 directed PAs to submit a joint Tier 2 AL providing information on substantively similar programs and steps they can take to mitigate or minimize ratepayer risk of program overlap or duplication.

Potential risks of program duplication include inefficient use of ratepayer funds, confusion among customers regarding which programs to participate in, and redundancy. PG&E applies a defined set of criteria to flag programs that are potentially "substantively similar" or "duplicative" according to how these terms were defined in AL 4980-G/7390-E.[24] These criteria include whether programs target the same sector, audience, and end uses; utilize the same delivery type; are offered under the same segment category; and

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20 PG&E Resource Savings rulebook, v 4.0, 10/2/2023 at p. 37. Double-dipping is generally defined as the claiming of incentives for the same intervention in more than one program regardless of the delivery channel.

21 The CPUC authorized CAEECC in D.15-10-028.

22 The processes include but are not limited to the Joint Coordination Memorandum (JCM) and ongoing PA-to-PA coordination.

23 *D.23-06-055 Ordering Paragraph 32 Report*, SoCalREN, (October 1, 2024). Available at: https://www.pge.com/tariffs/assets/pdf/adviceletter/GAS_4980-G.pdf.

24 Final definitions for the terms "similar," "program overlap," "substantively similar" and "program duplication" are provided in Table 7 of the *D.23-06-055 Ordering Paragraph 32 Report*.

D.23-06-055 Ordering Paragraph 32 Report, SoCalREN, (October 1, 2024), pp. 20-21. Available at: https://www.pge.com/tariffs/assets/pdf/adviceletter/GAS_4980-G.pdf.

operate within the same service area. PG&E uses California Energy Data and Reporting System (CEDARS) data, budget filings, and other available program data and reporting to identify instances of program overlap.

Where potential overlap is identified, PG&E brings the finding to the appropriate coordination venues including the JCM, portfolio-level, sector-level and program-level coordination meetings. The timeline to resolve overlap depends on the mitigation action(s) that are agreed upon by the PAs with substantively similar or duplicative programs. Actions that PG&E may take to reduce or prevent ratepayer risk include those described in 4980-G/7390-E, such as:

- Regular cross PA coordination, including JCM development and attendance of regularly scheduled and ad-hoc PA meetings;
- Data sharing across programs for marketing and implementation transparency;
- Providing education to help customers make informed decisions regarding which programs to participate in; and
- Taking programmatic actions, such as making updates to implementation plans to include program protocols and decision trees to avoid overlap.

Practices to prevent or resolve program overlap, however, are primarily focused on coordinating implementation once programs have been launched into the market. There are currently limited opportunities to identify program overlap prior to when a program is approved for funding and administration.

While the Joint AL was in compliance with OP 32, PG&E filed a response on November 4, 2024,[25] recommending additional analysis to support the CPUC's decision-making regarding program precedence for

[25] PG&E's response to the OP 32 Joint AL PG&E 4980-G/7390-E (SDREN 20-E/20-G), filed on November 4, 2024. Link: Regulation (To obtain the pleading select the following: Case = "EE 2024 Business Portfolio Plan…"; Document Type: "Pleading"; Dates: 11/4/24 to 11/4/24; and click the "Search" button).

statewide midstream and statewide/local downstream program channels.[26] In parallel, PG&E is currently co-leading a supplemental assessment with SCE to comprehensively examine the extent of program overlap within these delivery channels.[27] These areas of overlap were largely unaccounted for by 4980-G/7390-E, but potentially represent a significant area of ratepayer risk as determined by an IOU-led study conducted in 2022.[28]

When overlapping statewide midstream and statewide/local downstream programs both have resource components that report TSB claims, this can lead to unintentionally duplicative incentives and TSB claims for the same measure. The supplemental assessment seeks to identify if instances of unintentionally duplicative incentive expenditures/TSB claims for a single measure installation are occurring, and if so, to what extent. Additional CPUC guidance regarding program precedence, informed by the results of the supplemental overlap analysis, would further support mitigation of overlap between proposed programs and existing offerings.

D. Coordination with Market Transformation

PG&E coordinates with various CPUC-authorized market transformation programs to scale adoption of advanced electrification, solar, battery storage technologies and load-shifting technologies. This section summarizes coordination between the EE portfolio and market transformation programs that aims to increase the availability of efficient, flexible-ready technologies across distributor and retailer channels, and increase adoption of these technologies. This includes coordination with the California Market Transformation

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26 When the D.23-06-055 proposed decision (PD) was issued, the PD proposed establishing a statewide program precedence to address stakeholder concerns of duplication between statewide and local programs, with the reasoning that failing to afford precedence may undercut the objective of statewide program efficiencies. *Proposed Decision of ALJ Fitch and ALJ Kao Authorizing Energy Efficiency Portfolios for 2024-2027 and Business Plans for 2024-2031,* CPUC, (May 26, 2023), pp. 81-83.

27 The supplemental assessment is expected to be completed in July 2026.

28 PG&E's response to the OP 32 Joint AL [PG&E 4980-G/7390-E (SDREN 20-E/20-G)] filed on November 4, 2024, included a summary of the 2022 Joint IOU study in Appendix A. Link: Regulation (To obtain the pleading select the following: Case = "EE 2024 Business Portfolio Plan…"; Document Type: "Pleading"; Dates: 11/4/24 to 11/4/24; and click the "Search" button).

Administrator (CalMTA) market transformation initiatives (MTI), the Technology and Equipment for Clean Heating (TECH), and the Self-Generation Incentive Program (SGIP).

1. Market Transformation Initiatives

CPUC Decision 19-12-021 authorized the creation of a statewide Market Transformation Administrator,[29] CalMTA, to oversee the development and implementation of a portfolio of MTIs. MTIs are strategic interventions to accelerate market adoption of innovative EE technologies and practices and are intended to foster cost-effective, long-term changes in the market. These initiatives support the state's broader policy objectives regarding EE, Greenhouse Gas (GHG) reduction, equity, and workforce development. PG&E actively participates in the Market Transformation Advisory Board (MTAB) to ensure that its program offerings are represented in collaborative market transformation efforts and align with broader IOU EE portfolio objectives. The C&S team specifically oversees PG&E's participation in the MTAB as MTIs are often complementary to—and can be coordinated with—building codes and appliance standards advocacy programs.

Learnings from the MTIs can be incorporated into PG&E's RA and equity segment programs to advance uptake of technologies and tactics successfully deployed through the MTIs to scale efficient BE equipment and grid-interactive technologies. Additionally, PG&E intends to coordinate with approved MTIs that accelerate market adoption of GHG-reducing technologies. As CalMTA's portfolio plans to take an integrated approach to market transformation that benefits environmental and social justice communities,[30] PG&E intends to coordinate with approved MTIs that complement equity segment BE programs.

2. TECH Program

The TECH Program is a statewide, CPUC-authorized and separately funded decarbonization program offering assistance to replace gas, space, and water heating appliances with high efficiency all-electric alternatives.

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29 D.19-12-021, OP 6, OP 7, OP 9, pp. 90-91.

30 Additional information on CalMTA's approach to equitable market transformation can be found on their website: https://calmta.org/an-equity-lens/.

Contingent on authorized funding for TECH through the Application period, PG&E will continue to collaborate with the TECH team on possible heat pump trainings and contractor education efforts in underserved areas to avoid confusion and to present a united effort. In addition, PG&E's daily thermal storage load shifting program, WatterSaver Phase 2, will continue to collaborate with TECH for customer recruitment purposes. TECH and PG&E will collaborate to conduct email campaigns to their TECH/SGIP's heat pump water heater (HPWH) incentive beneficiaries who are not already enrolled in the WatterSaver Program to recruit them into WatterSaver Phase 2. These collaborative efforts serve to help mitigate the grid impacts of increased HPWH adoption.

3. SGIP[31]

The SGIP is a statewide, CPUC-authorized program that provides incentives to certain IOU customers for distributed energy resources (DER), including combined solar and energy storage systems. While separately funded from EE, SGIP complements PG&E's MS and equity segment programs, particularly in their capacity for assisting income qualified residential customers with electrification retrofits that may be paired with solar and storage. Coordination with the SGIP program team spans the program participation lifecycle, including customer referrals, direct customer support, marketing, and implementation support.

These coordination efforts support the portfolio goal to *enable the energy system of tomorrow* by readying the market for flexible behind-the-meter load management solutions to enhance customer resiliency, grid utilization, and energy system reliability. Additionally, this coordination enables the portfolio goal to *scale efficient BE* by enabling greater access to DERs that can be paired with BE.

E. Coordination with ESA Programs

PG&E coordinates its EE portfolio with its ESA programs, which provide EE measures and education at no-cost to eligible customers pursuant to Public

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31 More information on SGIP is available at R.20-05-012, Order Instituting Rulemaking Regarding Policies, Procedures and Rules for the SGIP and Related Issues.

Utilities Code Section 2790(a).[32] ESA programs target households at or below 250 percent of the federal poverty level, including single family homes, multifamily properties, and mobile homes. Current ESA programs offered through the separately funded Income Qualified Programs (IQP) portfolio[33] include: (1) ESA Main;[34] (2) ESA Northern Multifamily Whole Building (MFWB);[35] (3) and ESA Pilot Plus (PP)/ESA Pilots Deep (PD).[36] The overall objectives of EE and ESA collaboration are to:

1) Leverage Resources and Efficiency Gains

The EE portfolio and ESA programs teams actively collaborate with the intention of identifying opportunities to leverage proposed program resources in the development of portfolio and program implementation strategies. These resources may include but are not limited to research, program learnings, methodologies, marketing and education materials, customer referrals or leads, and program data which may be shared between programs or initiatives to aid in the attainment of goals and objectives.

2) Coordinate Program Strategy and Alignment

PG&E teams actively coordinate internally to align and evaluate the respective goals and priorities of the ESA programs and EE portfolio. The primary goals of collaboration include, but are not limited to:

- Identifying any areas of overlapping strategies between EE and ESA programs; and
- Aligning and delineating the intended recipients and target participants for customer programs.

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32 Public Utilities Code, §§ 2790 and 739.1.

33 PG&E filed its 2028-2033 IQP application on January 9, 2026. The CPUC approved budgets and goals for the 2021-2026 IQP application on June 7, 2021 in D.21-06-015.

34 ESA, Program ID: ESA.

35 ESA Northern MFWB Program, Program ID: PGE_NMFWB.

36 D.21-06-015, OPs 38-42, pp. 479-480, created new ESA PP/PD programs. ESA PP/PD is a targeted pilot to deliver deep energy savings for participating income-qualified customers. Pilot participants may receive incentives for qualifying electrification equipment, including HPWHs, heat pump space conditioning, electric clothes dryers, and induction cooktops. PG&E did not request an extension of ESA PP/PD into the 2028-2033 IQP program cycle, but proposed specific electrification program design changes for the cycle based on learnings from the pilot.

3) Prioritize Customer Experience and Delivery

Customer experience and accessibility to program benefits for qualified customers are a priority for PG&E. The ESA and EE teams collaborate on the delivery and implementation of portfolio programs with the goals of improving customer experience, minimizing customer confusion between distinct programs, and supporting appropriate program access to eligible customers.

The overarching coordination strategy involves regular and ad hoc meetings between the EE and ESA program teams. Specific EE and ESA programs that require coordination are flagged in Table 7-3.[37]

TABLE 7-3
PG&E EE PROGRAM AND ESA COORDINATION

Line No.	EE Programs	ESA Main	ESA MFWB	ESA PP/PD
1	SW NC NonRes Com – All Electric[(a)]		X	
2	Universal Audit Tool Program[(b)]	X	X	X
3	Virtual Energy Audit Program[(c)]	X	X	X
4	Residential Zonal Electrification Equity Program Implementer A[(d)]	X		X
5	Residential Zonal Electrification Equity Program Implementer B[(e)]	X		X
6	Online Marketplace[(f)]	X	X	X
7	Residential Electrification Equity Program[(g)]	X		X

(a) Program ID: PGE_SW_NC_NonRes_Com_electric.
(b) Program ID: PGE_Res_002a.
(c) Program ID: PGE_Res_001b.
(d) Program ID: PGE_Res_004a.
(e) Program ID: PGE_Res_004b.
(f) Program ID: PGE_Res_002e.
(g) Program ID: PGE_Res_005.

PG&E's Statewide Non-residential Commercial New Construction All-electric program (marketed to customers as the California Energy Design Assistance [CEDA] program) and the ESA MFWB programs require close coordination to

37 PG&E did not request an extension of ESA PP/PD into the 2028-2033 IQP program cycle.

avoid duplicative efforts in the multifamily sector.[38] ESA MFWB provides whole-building upgrades to multifamily properties with at least five units. The program targets deed-restricted multifamily properties where a minimum of 65 percent of residents meet ESA income eligibility and non-deed-restricted properties where a minimum of 80 percent of residents meet ESA income eligibility. PG&E's CEDA program engages property owners, builders, and developers in the multifamily sectors to build all-electric. The CEDA program does not have income eligibility criteria.

PG&E's Virtual Energy Audit and Universal Audit Tool residential programs also coordinate with ESA. The Virtual Energy Audit Program is a normalized metered energy consumption-based (NMEC) program that offers free virtual energy audits, education, and energy advisor services to residential customers in the PG&E service area, and coordinates with ESA to ensure customers who enroll in the program are not also enrolled in any ESA offerings. To be counted in the program's savings pool, participants cannot be enrolled in any other PG&E residential energy savings program, including ESA programs.

Also, the Universal Audit Tool Program available for use by the ESA Program, which incorporates promotion of this program into its customer enrollment and energy education processes. As part of this integration, ESA encourages participating customers to complete the program survey to provide information on household characteristics and energy-use behaviors, which supports the delivery of ESA's energy education requirements.

Additionally, PG&E's Online Marketplace Program coordinates with ESA to guide customers toward applicable ESA programs and resources.

Coordination is also essential across PG&E's electrification pilots and ESA programs. The ESA Main program is leveraged by the Residential Electrification Equity Program[39] and the zonal electrification pilots[40] to address remediation issues and offer EE measure upgrades where participating residential premises qualify. By leveraging the ESA Main program to complete energy upgrades, the pilots are able to offset costs and avoid duplication.

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38 Coordination strategies between the SW NC NonRes Com – All Electric program and ESA MFWB are detailed in the 2025-2026 PG&E and BayREN JCM.

39 Program ID: PGE_Res_005.

40 Program ID: PGE_Res_004a; Program ID: PGE_Res_004b.

F. Coordination with Other Demand-Side Programs

The EE portfolio is increasingly seeking ways to enable load flexibility and complement other demand-side programs, e.g., the Demand Response (DR) portfolio, in anticipation of managing the growing electric system demand from BE. PG&E believes that flexible load resources can play an important role in fostering an affordable clean energy transition with the potential to harness them as reliable, secure, cost effective, and adaptable to changing grid conditions. PG&E is exploring tactics to successfully enable load flexibility, including:

- Deploying load flexibility-enabled and load flexibility-upgradeable efficient electric equipment;
- Promoting and streamlining dual enrollment of incented devices into matching demand flexibility programs;
- Reducing customer participation barriers across EE and demand flexibility programs through improved education on the benefits of load management and clear opt-in/opt-out pathways;
- Preventing double counting of energy savings;
- Developing shared performance metrics across teams to align objectives and offerings;
- Exploring ways to encourage third-party implementers to implement more integrated demand-side management interventions to bridge EE and DR programs; and
- Piloting co-deployment of EE measures along with other DERs in grid-constrained areas.

The teams currently conduct cross-promotion of EE and load flexibility programs, along with technology integration where feasible.

PACIFIC GAS AND ELECTRIC COMPANY

CHAPTER 8

STAKEHOLDER ENGAGEMENT

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STAKEHOLDER ENGAGEMENT

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PACIFIC GAS AND ELECTRIC COMPANY
CHAPTER 8
STAKEHOLDER ENGAGEMENT

A. Introduction

This chapter provides a summary of Pacific Gas and Electric Company's (PG&E) stakeholder engagement that informed the development of its 2028-2035 Energy Efficiency (EE) Business Plan. This chapter also provides PG&E's stakeholder engagement strategies in support of the vision and goals outlined in Chapter 3 of this application. PG&E's portfolio goals for 2028-2035 are to:

1) Optimizing delivery of Total System Benefit (TSB);
2) Scale Efficient Building Electrification (BE);
3) Enable the Energy System of Tomorrow; and
4) Facilitate Rate Affordability.

The remainder of this chapter is organized as follows:

- Section B: Summary of Stakeholder Engagement.

B. Summary of Stakeholder Engagement

PG&E has long recognized the value of engaging with external stakeholders, not only those that are directly involved in the EE proceeding but also more broadly across the diverse communities within its service area. These stakeholders include customers and contractors who may participate in EE programs, as well as implementers, community-based organizations (CBOs), local governments, proceeding intervenors, and peer Portfolio Administrators (PA) with experience delivering successful EE and electrification programs.

PG&E's EE offerings are primarily voluntary programs (outside of Codes & Standards); therefore, it is imperative that customers and other participants *choose* to pursue EE. Program success often depends on aligning the portfolio and offering designs with the needs, preferences, and practical realities of target participants, informed by the perspectives of the broader stakeholder ecosystem that supports or shapes their engagement. As PG&E continues its strategic shift to leverage the EE portfolio to enable efficient BE at scale, PG&E conducted several layers of stakeholder engagement to help inform its 2028-2035 EE Business Plan and broader enterprise BE strategy. This approach is aligned

with the California Public Utilities Commission's (CPUC's) encouragement in Decision (D.) 21-05-031 for "program administrators to consult early and often with stakeholders even prior to the preparation of draft filings, to understand stakeholder priorities and concerns."[1]

This section summarizes stakeholder engagement activities with: (1) local governments and community organizations, (2) residential customers, (3) third-party implementers, (4) EE intervenors, and (5) peer utilities. PG&E provides the number of engagements for each stakeholder group and how PG&E incorporated feedback from each group.

1. Local Governments and Community Organizations

PG&E interviewed more than 15 local government agencies and community organizations in separate sessions to solicit their input on effective approaches to community engagement and adoption of technologies, with a focus on vulnerable customers and electrification. During these discussions that occurred from July through December 2025, PG&E sought to: (a) better understand community engagement approaches and lessons learned from past and current initiatives, (b) deepen its understanding of barriers to BE adoption and gather feedback on strategies to address them, and (c) request feedback on existing program designs and considerations for future program designs.

a. Benchmarking Community Engagement Approaches

PG&E learned about various community engagement approaches conducted by local government and community organizations to help inform and refine PG&E's ongoing community engagement strategies. Interview participants highlighted multi-pronged strategies (e.g., newsletters, social media, fairs/events, canvassing/door knocking, marketing, word of mouth, workshops/meetings, etc.) with different types of messaging to educate communities about BE with varying levels of success. Common takeaways regarding community engagement approaches included: community trust in BE is essential and word of mouth can be successful to foster that trust; in-language and concise

[1] D.21-05-031, p. 48.

communications are key; CBOs can be key partners to support outreach, trust-building, and implementation; and it is important for PG&E to earn the trust of its communities for successful engagement.

PG&E is already leveraging these valuable insights, along with insights gathered from research conducted via its Customer Experience and Insights organization and its experience with its current programs and pilots, to develop and refine its community engagement approaches and materials. PG&E intends to continue to do so during the 2028-2031 period in support of its goal of enabling efficient BE at scale. This includes testing targeted community-centric marketing and messaging, providing in-language materials and multi-modal engagement opportunities, fostering community and neighborhood "champions," and providing transparent information on topics PG&E may be uniquely positioned to provide, such as rates, energy system reliability, and energization timelines.

b. Understanding BE Adoption Barriers and Feedback on BE Strategies

During these stakeholder interviews, PG&E deepened its understanding of BE adoption barriers and gathered feedback on successes and opportunities to consider as it refines its BE strategies. The local governments and community organizations interviewed shared barriers to BE adoption within PG&E's service area, which enhanced

findings from other BE adoption studies[2,3] such as upfront and energy costs, reliability concerns, community trust, and contractor workforce demand and capacity. Interview participants highlighted that some barriers such as energy costs and community trust have had varying levels of success when addressed with education, incentives, and coaching. However, some barriers such as upfront capital and contractor workforce limitations are more structural and may be more challenging and resource intensive to resolve.

PG&E applied the insights gained from local governments and community organizations in the development of its strategies described in Chapter 3, Section E.2. PG&E intends to take a multi-pronged approach to addressing these barriers including increasing awareness via education and marketing; enabling a simple, accessible, and appealing customer electrification journey; facilitating the transition of the contractor workforce; testing solutions to reduce costs and project timelines; and increasing access to capital via its On-Bill Financing (OBF) platform.

c. Program Design Feedback for Existing and Future Programs

Some stakeholders in these interviews provided feedback on existing BE and/or EE offerings, and considerations for future program

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2 The Draft *2025 California Building Energy Action Plan* summarizes several key barriers to statewide BE. The identified barriers include, but are not limited to, high upfront costs; concerns regarding post-electrification bill impacts; remediation costs that are often too high for existing energy programs to address; a shortage of contractors with the training and experience to complete electrification retrofits; and social and structural barriers that are prevalent in many hard-to-reach communities.

2025 California Building Energy Action Plan, CEC, (December 2025). See Chapter 2: Major Issues in Building Decarbonization. Available at: https://www.energy.ca.gov/sites/default/files/2025-12/CEC-400-2025-001-CMD.pdf.

3 The *DOE Deep Energy Retrofit Cost Survey* surveyed building energy professionals to gather their perspectives on energy retrofit market drivers, challenges, and opportunities. Respondents rated project cost as the most important factor when it comes to energy retrofit decision-making. Aside from costs, respondents identified lack of a trained workforce as one of the main barriers to deep energy retrofit project completion.

DOE Deep Energy Retrofit Cost Survey, Lawrence Berkeley National Laboratory, (January 2021), p. 10 and p. 12. Available at: https://escholarship.org/uc/item/2v1193bh.

design. Key themes of the feedback on existing programs included: complex and sometimes conflicting program criteria and requirements can result in confusion and mistrust with customers, and energization processes are hard and requirements difficult to understand. Interview participants recommended future program design considerations including: programs and communications that are designed around customers, helping them save money and understand the value propositions; ongoing engagement and feedback loops with communities; and strong social networks in neighborhoods that enable the success of zonal electrification.

PG&E considered this program design feedback in developing its Business Plan and notes that many of the themes raised by stakeholders are reflected in the portfolio's proposed direction. PG&E intends to simplify the customer electrification journey through the development and expansion of online tools that can support customer decision making,[4] test solutions to reduce costs and project timelines related to energization, and pair efficient BE with exempt measures to support greater energy savings for customers, including income-qualified customers.

2. Residential Customer Research

PG&E conducted twelve in-person and online focus groups[5] across three different geographical regions across its service area from August through October 2025 to gain a broader understanding of customers' awareness of electrification pathways and deepen its understanding of specific customer barriers to electrification. The research generated key insights into customer awareness, drivers, and barriers related to electrification. Among the focus group participants, awareness was lowest among Spanish-speaking customers and non-adopters, and most

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4 PG&E currently provides the Energy Action Guide via its Online Marketplace Program and is exploring other online tools that can further expand resources and information for the broader electrification customer experience. These efforts are intended to occur prior to the 2028-2031 portfolio plan years and to be funded via other CPUC proceedings such as the 2027 General Rate Case and 2027 Diablo Canyon Volumetric Performance Fee proceedings.

5 Online focus groups conducted among Spanish-speaking customers.

participants considered solar to be part of electrification. Key drivers included cost savings and environmental impacts, with safety, health, self-sufficiency, comfort, and convenience also cited. Cost emerged as the primary barrier, both directly and as a constraint on customer education, alongside concerns related to grid reliability, fuel diversity, and technology reliability.

This research strengthened PG&E's focus on addressing key customer barriers to electrification through improved education and awareness campaigns, including in-language and accessible marketing materials. Given that costs, affordability, and energy burden continue to be key concerns among many residential customers, PG&E proposes several tactics to improve the economics of BE, including testing solutions to reduce costs and project timelines (such as deferring or avoiding panel or electric service upsizing), pairing efficient BE with exempt measures, and increasing access to capital through an expansion of OBF. PG&E also intends to explore addressing customer concerns regarding resiliency during power outages by testing pairing battery storage options with EE and BE. See Chapter 3, Section E.2 for more detail.

3. Third-party Implementers

As an EE PA, PG&E regularly interacts with the third-party implementers (3P implementers) within its portfolio through its typical portfolio management activities. In 2025, PG&E facilitated two separate opportunities for 3P implementers to provide feedback on topics relevant to its 2028-2031 Portfolio Plan: (a) sixteen interviews with existing 3P implementers throughout the month of March and (b) an EE Project Development meeting on May 7th.

The 3P implementer feedback surfaced several consistent themes. Implementers noted appreciation for PG&E's role in supporting BE efforts, while also identifying ongoing friction in reporting and forecasting, limitations related to measure availability and claimable savings, and challenges innovating under current cost-effectiveness requirements. Participants also requested clearer communications, more standardized process guidance, and improved clarity on the valuation and compensation of load shifting.

PG&E has already taken some of this feedback into consideration in its current portfolio cycle, such as through the collaboration with California Technical Forum and other stakeholders on the creation of a statewide Custom Rulebook and measure guidance for common custom measures, and through working with CPUC staff on the development of tools to leverage custom impact profiles and new custom project templates. As described in Chapter 6, Section B, during the 2028-2031 Portfolio Plan period, PG&E intends to proactively develop deemed measures and measure packages for third-party programs to encourage greater participation from customer sectors such as small-to-medium business and agricultural customers. As described in greater detail in Chapter 11, Section C.2, PG&E intends to establish a new innovation-enabling market support segment program that can provide supplemental funding to resource acquisition segment programs. This program intends to address 3P implementer challenges to innovating while meeting cost-effectiveness requirements of the resource acquisition segment.

Lastly, PG&E shares in the interest of some 3P implementers to establish approaches that can better value the benefits from load flexibility tactics (including load shifting) and inform associated compensation mechanisms. In Chapter 3, Section E.3.b, PG&E discusses a portfolio tactic to target EE in grid-constrained areas to support its goal of "enabling the energy system of tomorrow." PG&E envisions that, if successful, this can provide a pathway to demonstrating and establishing a methodology to quantitatively value the benefits of enabling load flexibility. As noted in Chapter 11, Section C.4, PG&E requests a step toward this future by requesting the continued use of EE funding for load shifting in 2028 and beyond.

4. EE Intervenors

PG&E periodically engages with key intervenors in the EE proceeding including the Natural Resources Defense Council, Sierra Club and Earth Justice, The Utility Reform Network, the Building Decarbonization Coalition, the Public Advocates Office at the CPUC, and the California Energy + Demand Management Council. PG&E held meetings with these parties in Q1 2026 and shared targeted overviews on various topics including portfolio

strategies on BE, optimizing delivery of TSB, and select policy proposals. Parties generally supported PG&E's focus on BE and acknowledged the importance of electric rate affordability. Some parties wanted PG&E to increase its BE focus and budget further, while others appreciated PG&E's work to drive down its portfolio budget. PG&E determined its Portfolio Plan balances the needs to effectively prepare the market for BE to scale while also better understanding the complex intersection of EE, BE, and rate affordability. PG&E intends to continue to collaborate with stakeholders as it refines its BE strategies and tactics prior to and throughout the 2028-2031 Portfolio Plan period.

PA Benchmarking Interviews

PG&E conducted outreach to peer PAs across the United States to benchmark its efforts and to inform the development and refinement of its EE portfolio strategies. PG&E spoke with nine peer EE PAs[6] to seek out their visions for EE and innovative strategies and ideas related to evolving their EE portfolios, BE, and load flexibility, which could inform PG&E's Portfolio Plan. These exploratory conversations focused on exchanging ideas and insights for enhancing EE through electrification, heat pump programs, load management, and weatherization initiatives.

A common consensus among the peer EE PAs was that certain building types and loads present technical and economic challenges for electrification,[7] especially within the non-residential sector, and that workforce readiness continues to be a barrier for full-scale efficient electrification projects.[8] PG&E's strategies and pilots proposed in Chapter 3 incorporate some of these insights and are aimed at evolving the EE Portfolio to overcome these challenges and barriers.

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6 The nine peer EE PAs included Consolidated Edison, Evergy, New York State Energy Research & Development Authority, Sacramento Municipal Utilities District, Baltimore Gas & Electric, National Grid, Efficiency Maine, Commonwealth Edison Company, and Exelon.

7 *New York's Carbon Neutral Buildings Roadmap,* New Buildings Institute, (December 2022), p. 69-71. Available at: https://www.nyserda.ny.gov/All-Programs/Carbon-Neutral-Buildings.

8 *Ibid.*, p. 153.

PACIFIC GAS AND ELECTRIC COMPANY

CHAPTER 9

EVALUATION, MEASUREMENT & VERIFICATION

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EVALUATION, MEASUREMENT & VERIFICATION

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PACIFIC GAS AND ELECTRIC COMPANY
CHAPTER 9
EVALUATION, MEASUREMENT & VERIFICATION

A. Introduction and Background

This chapter provides a summary of PG&E's planned Energy Efficiency (EE) Evaluation, Measurement and Verification (EM&V) activities for 2028 through 2035.

PG&E's planned EM&V activities align with the California Public Utilities Commission's (CPUC or the Commission) priorities for EM&V and the roles the Commission has outlined for Portfolio Administrators (PA) in the EM&V process. Decision (D.) 10-10-033, Ordering Paragraph (OP) 2 and Appendix A adopts and details the following priorities for EE EM&V:

- Savings measurement and verification;
- Program evaluation;
- Market assessment;
- Policy and planning support; and
- Financial management auditing.

Based on Commission guidance and the above decisions for EM&V, PG&E's primary goals for its portfolio EM&V activities are to:

1) Support the accuracy of ex ante claims;
2) Inform portfolio design and management; and
3) Collaborate with the Commission to support accurate and actionable ex post impact evaluations.

The remainder of this chapter is organized as follows:

- Section B: Summary of PG&E's Planned EM&V Studies and Activities;
- Section C: EM&V Goals; and
- Section D: Proposed Forecast Budget Including PA/ED Allocation and Justification.

B. Summary of PG&E's Planned EM&V Studies and Activities

PG&E plans to pursue its EM&V goals through a combination of primary research, secondary research, and other activities. During the 2028-2031 portfolio period, PG&E expects to continue to develop and lead evaluation studies (primary research). When study topics align with the interests of other

Investor-Owned Utility (IOU) PAs, PG&E intends to conduct joint studies with them, to ensure results are applicable across territories and seek economies of scale. To ensure careful stewardship of customer funds, PG&E also intends to first explore whether it could leverage secondary research to accomplish the same objectives in a more rapid or cost-effective way before initiating primary research studies.

PG&E proposes areas of potential research that it may undertake during the 2028-2031 portfolio period, rather than proposing specific studies or projects in detail. This is because EE markets and portfolio needs can evolve rapidly, and a specific study proposed today may not be relevant in later years. For example, during the second half of 2021, a new area of EE policy and program activity arose in response to the Governor's July 30, 2021, proclamation[1] on summer electric reliability issues for 2022-2023. PAs had to shift priorities quickly to respond to this emergent need. PG&E intends to keep stakeholders and regulators informed of any changes to its research plans. Throughout the portfolio period, when scoping or conducting an EM&V study, PG&E will follow required procedures for EM&V studies including proper noticing, CPUC collaboration and stakeholder engagement.

Other activities through which PG&E intends to pursue its EM&V goals include:

- ***Collaborating with the Commission and other PAs on studies they are leading.*** This includes review of study plans, interim deliverables, and draft and final reports, as well as responding to data requests.
- ***Supporting the evaluation readiness of new and potential programs and pilots and supporting third-party program solicitations.*** These activities seek to ensure potential new programs will be able to support expost evaluation, have clear logic models, and have plans to collect appropriate data.

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1 Proclamation of a State Emergency, Approved by Governor July 30, 2021. Available at: https://www.gov.ca.gov/wp-content/uploads/2021/07/Energy-Emergency-Proc-7-30-21.pdf.

C. EM&V Goals

This section summarizes PG&E's EE portfolio EM&V goals for the eight-year strategic business plan period of 2028-2035. Each section demonstrates how PG&E intends to advance the corresponding goal through specific approaches, activities, and portfolio segments.

1. EM&V Goal: Support the Accuracy of Ex Ante Claims

PG&E may undertake research to support the accuracy of ex ante claims by:

a) **Ex Ante Methods Research:** conducting research to inform methods for estimating Total System Benefit (TSB);

b) **Ex Ante Parameter Updates:** conducting research to inform updates to specific ex ante TSB and cost effectiveness parameters;

c) **Program Level Ex Ante Meter-Based TSB Calculation:** calculating program level ex ante TSB for meter-based programs;

d) **Funding for Tools that Enable Ex Ante Reporting:** funding the development and maintenance of tools that enable ex ante reporting; and

e) **Conducting industry standard practice (ISP) baseline:** conducting or supporting ISP assessments when necessary.

PG&E does not discuss evaluation data or methodologies related to equity or market support programs in this section because PG&E expects that those programs will be tracked according to metrics that align with the equity and market support segment metrics developed by the California Energy Efficiency Coordinating Committee (CAEECC) equity and market support metrics working groups. PG&E anticipates tracking both those segment level metrics, and equity and market support program level metrics, using readily available data, rather than EM&V study results. PG&E will support, as needed, studies identified by the Commission as necessary for the development of methodology to track the nonenergy benefits identified by the CAEECC working group on equity segment level metrics.

a. Ex Ante Methods Research

Research in this area would identify, test, or operationalize new methods for estimating TSB of EE measures, projects, or programs. An

example of this type of research is the *Commercial Whole Building Demonstration Early M&V Report*,[2] which assessed the reliability of whole building approaches to estimating energy savings, including methods that fed into the development of current site level Normalized Metered Energy Consumption (NMEC) protocols. Another example is the *Population NMEC Control Group Accuracy Assessment*,[3] which investigated the accuracy of several population-level, meter-based estimation methods with and without comparison groups. If PG&E undertakes research on ex ante methods during the 2028-2031 portfolio period, it will reflect portfolio priorities and needs at that time, as well as the availability of existing or planned research on the topics of interest.

One example of a potential research topic is the development of methods to adjust NMEC calculations to account for the addition of electric vehicle (EV) charging or solar panels to residential homes. Both EV charging and solar energy production affect the customer's metered energy consumption, but do not result directly from EE program participation. As a result, EE TSB calculations that use NMEC methods must adjust for the effects of EV charging or solar energy production.

b. Ex Ante Parameter Updates

Research in this area would update specific ex ante parameters used to estimate TSB or calculate cost effectiveness. Past examples of this type of research included measure package update studies, such as the *California LED Workpaper Update Study*.

- ***Development of new load shapes***, per guidance in Resolution E-5152 Approval of the Database for EE Resources updates for Program Year 2023 and revised version for Program Years 2022 and 2021. Because load shapes are an input into the TSB calculation, they will need to be accurate and up-to-date for ex

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2 *PG&E Commercial Whole Building Demonstration Early M&V Report*, SBW Consulting, (May 10, 2019). Available at: https://www.calmac.org/publications/CommWholeBldgDemoEarlyMVRprt.05-10-2019.CalMAC.ID.PGE.0434.01ES.pdf.

3 *Population NMEC Control Group Accuracy Assessment*, Demand Side Analytics, (February 15, 2022). Available at: https://www.calmac.org/publications/PGE0476.01.pdf.

ante TSB calculations to truly reflect the grid and system impacts of EE measures;

- ***Development of values for new avoided cost benefits*** used to calculate TSB of EE measures; and
- ***Updates to measure costs for rapidly evolving technologies***, such as electrification measures.

c. Program Level Ex Ante Meter-Based TSB Calculation

Work in this area will involve calculating ex ante TSB estimates for population NMEC programs. Work in this area may also involve conducting "early M&V" studies to inform inputs into TSB estimates of programs that use randomized controlled trial or quasi-experimental designs,[4] such as Home Energy Reports (HERs) and Home Energy Checkups[5]. *PG&E HER 2020 Energy and Demand Savings Early M&V*[6] is an example of an "Early M&V" study.

d. Funding for Tools that Enable Ex Ante Reporting: Electronic Technical Resource Manual, the California Energy Data and Reporting System and Cost-Effectiveness Tool, and the California Measurement Advisory Council Website

PA EM&V funds also support ex ante claim accuracy by funding the electronic tools that support accurate reporting. PG&E intends to continue funding for the development of the Electronic Technical Resource Manual as needed during the 2028-2031 portfolio period. In addition, PG&E proposes a similar model of IOU-funded development of improvements to and a governance system for the California Energy Data and Reporting System (CEDARS) and the Cost-Effectiveness Tool it contains. Lastly, PG&E plans to continue to use IOU EM&V funds to support the administration and maintenance of the California

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4 *Evaluation, Measurement, and Verification (EM&V) of Residential Behavior-Based Energy Efficiency Programs: Issues and Recommendations*, SEE Action, (May 2012). Available at: https://www.energy.gov/sites/default/files/2021-08/emv_behaviorbased_eeprograms.pdf.

5 Add program codes.

6 *PG&E HER 2020 Energy and Demand Savings Early M&V*, Nexant, (January 3, 2021). Available at: https://pda.energydataweb.com/api/view/2594/PGE 2020 HER Energy and Demand Savings Report %5BFinal%5D CALMAC PGE0466.01.pdf.

Measurement Advisory Council (CalMAC) website[7], which, in addition to serving as a repository for final study reports related to EE and demand response program evaluation and research, maintains California weather files used to estimate weather normalized energy savings.

e. Conducting ISP Baseline Research When Necessary

PG&E intends to conduct or support ISP studies when necessary to research and establish ISP baselines for measures, processes and equipment. ISP studies ensure more cost-effective implementation of PG&E's portfolio of EE projects and programs by incentivizing technologies or practices beyond standard practice. IOU support of this research is important as third-party program implementers are often reluctant to invest in ISP research.

2. EM&V Goal: Inform Portfolio Design and Management

EM&V work performed in this area could include market assessment or process evaluation/formative evaluation research. These types of studies can inform portfolio design and management by offering insight into the potential for programs or measures, as well as how they are operating. PG&E anticipates that work in this area could inform the design and management of resource acquisition, equity, and/or market support segment programs.

a. Market Assessment

In D.09-09-047, the Commission noted that market assessment research is particularly important in a constantly evolving environment, and that salient topics in this area may include assessment of remaining program potential, saturation studies, and research on emerging technologies.[8] Useful market assessment information may come from PA-scoped and -led primary research studies. However, secondary research—analyses of existing studies or data—may also be a cost-effective approach to understanding EE markets. Potential market assessment work that PG&E will undertake in 2028-2031 may include:

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7 Add link to CalMAC.

8 D.09-09-047, p.300.

- ***Analyzing the results of, or collaborating with the CPUC to provide input into, EE Potential and Goals (P&G) Studies.*** P&G studies provide detailed information on the market potential of a range of EE measures.
- ***Analyzing or commissioning analyses of results and data from the California Energy Commission's (CEC) Residential Appliance Saturation Study[9] and California Commercial End Use Survey*** while they remain up-to-date sources of information.
- ***Analyzing or commissioning analyses of customer energy usage data*** to understand customers' energy usage patterns, trends in energy usage, needs, and opportunities for EE interventions. These analyses could focus on specific sectors, market segments, portfolio segments (e.g., resource acquisition or equity), or customer groups of interest.
- ***Primary or secondary research*** on trends in energy use or rapidly evolving technology areas, customer wants and needs, and barriers to and enablers of adoption of EE measures or new technologies—overall or within groups of interest, such as equity populations. Primary research would consist of IOU-led studies; secondary research could consist of conducting or commissioning literature reviews or syntheses of existing information.

Market assessment may be especially important toward the end of the portfolio cycle, as PG&E begins to plan for its 2028-2031 portfolio.

1) Potential Market Assessment Topics of Interest: Electrification and Fuel Substitution

Throughout 2028-2031, market assessment research on electrification and fuel substitution may be particularly important to PG&E's portfolio, given the centrality of electrification to PG&E's

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9 *2019 Residential Appliance Saturation Study*, CEC, (August 4, 2021). Available at: https://www.energy.ca.gov/data-reports/surveys/2019-residential-appliance-saturation-study.

portfolio goals[10] and the importance of fuel substitution to support Commission decarbonization policy.[11] In order to succeed in promoting these measures, EE programs must overcome barriers to adoption, including concerns over customer awareness of equipment and programs, cost, panel upgrade requirements, customer preferences for gas, and lack of awareness of heat pump technology.[12],[13] While existing research has helped to identify these barriers, additional research may be needed on how to overcome them.

2) Potential Market Assessment Topic of Interest: Bill Impacts

The Commission has recognized customer affordability as a key issue,[14] and also noted the potential for rising disparities in electricity affordability by socioeconomic status.[15] By definition,

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10 *2025 Potential and Goals Study – Final,* Guidehouse Inc., (June 23, 2025). Available at: https://www.cpuc.ca.gov/-/media/cpuc-website/divisions/energy-division/documents/energy-efficiency/2025-potential-goals-study/2025-group-e-potential--goals-study-final-report-20250717.pdf.

11 For example, see D.23-04-035 Addressing Codes and Standards Subprograms and Budgets and Staff Proposal on Reducing Ratepayer-Funded Incentives for Gas Energy Efficiency Measures, where the Commission discusses fuel substitution measures as potentially viable electric alternatives to gas measures.

12 Opinion Dynamics has led multiple research studies on heat pumps and Technology and Equipment for Clean Heating (TECH) Clean California, including the *TECH Baseline Market Assessment,* which characterized key barriers to purchasing heat pump HVAC and heat pump water heater technologies. *TECH Initiative Baseline Market Assessment*, Opinion Dynamics, (October 3, 2022), see Sections 3.4 and 4.4. Available at: https://opiniondynamics.com/tech-initiative-baseline-market-assessment/ - 2-2-3-gen-pop-survey.

13 *TECH Clean California: Time 2 Market Assessment Final Report,* Opinion Dynamics, (May 14, 2025), See sections 4.4 and 5.4. Available at: https://www.calmac.org/publications/TECH_Time_2_Market_Assessment_Final.pdf.

14 See the CPUC's response to California Governor Newsom's Executive Order N-5-24 to mitigate the rising cost of electricity service in California.

CPUC Response to Executive Order N-5-24, CPUC, (February 18, 2025). Available at: https://www.cpuc.ca.gov/-/media/cpuc-website/industries-and-topics/reports/cpuc-response-to-executive-order-n-5-24.pdf.

15 The *CPUC Response to Executive Order N-5-24* notes that low-income Californians pay a higher share of their income on utility bills compared to higher-income ratepayers and discussed cost shifts impacting lower income households.

resource acquisition EE programs aim to produce TSB,[16] rather than optimizing for bill savings for individual participating customers. However, it may still be useful from a market assessment standpoint to understand the bill impacts of measures or programs. For example, if programs or measures have greater bill impacts with certain rates, that information may be useful to implementers for marketing, to make improvements to program design, or to inform best practices that feed into other programs. Research or analyses in this area could seek to quantify bill impacts or understand the mechanisms that produce them.

3) Potential Market Assessment Topic of Interest: Integrated Demand Side Management

PG&E continues to seek ways to support the internal coordination of Distributed Energy Resources (DER)-related programs. Data and information in this area could support EE goals by identifying areas where EE programs could benefit from, or might struggle with, program coordination. Possible research could include exploring further coordination opportunities that deliver more benefits to customers and the grid and enable ratepayer dollars to go further. Integrated Demand Side Management (IDSM) market assessment research could be paired with process evaluation research, as discussed in the next section.

b. Process Evaluation and Formative Evaluation Research

The California Evaluation Framework defines process evaluations as systematic assessments that document program operations at a point in time to identify possible improvements or document findings that

[16] Resource acquisition programs are "programs with a primary purpose of, and short-term ability to, deliver cost-effective avoided cost benefits to the electricity and natural gas systems…This segment should make up the bulk of savings to achieve TSB goals," D.21-05-031, p. 14 states.

can inform the design or management of other programs.[17] Process evaluations are often "formative"—that is, they are conducted early in a program's operations or when it has reached steady state, in order to obtain feedback and provide results that can be used to improve the program in real time.[18]

During the 2028-2031 portfolio period, PG&E may undertake process evaluations if it expects that their findings could affect the portfolio at a material level. A process evaluation with portfolio-level impact might lead to changes in a program or program area with significant impact on either portfolio-level TSB goals or equity or market support segment goals. Alternatively, it might yield lessons from which numerous programs can benefit.

Process evaluation work undertaken by PG&E in the 2028-2031 portfolio period will likely consist of primary research studies—unlike the market assessment area, where EM&V work will likely comprise a mix of primary and secondary research. However, secondary research in this area may be warranted, for example, a literature review on best practices for a certain type of program.

In some cases, a process evaluation could include an evaluability assessment, where a new program or pilot is reviewed before, early in, or even during the implementation period (e.g., alignment with program logic model and adherence to data collection plans) to assess and adapt the program in real time as well as increase the likelihood of its readiness for ex post evaluation. In other cases, a process evaluation could be paired with an "early M&V" study that assesses program outcomes or impacts. Studies may also include elements of process evaluation and market assessment—for example, an analysis of the market barriers for a measure or group of measures. In another example, an IDSM study could examine learnings from programs in

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17 *The California Evaluation Framework*, TecMarket Works, (rev. January 24, 2006). Available at: https://www.cpuc.ca.gov/-/media/cpuc-website/files/uploadedfiles/cpuc_public_website/content/utilities_and_industries/energy/energy_programs/demand_side_management/ee_and_energy_savings_assist/caevaluationframework.pdf.

18 *Ibid.*

which different DERs are either integrated into a single program or used concurrently by customers and explore areas of remaining potential.

3. EM&V Goal: Collaborate with the Commission for Accurate and Actionable Ex Post Impact Evaluations

Generally, PA collaboration on Commission impact evaluations consists of reviewing draft study plans, responding to data requests, assisting with customer recruitment, and reviewing and commenting on draft reports. PG&E anticipates remaining involved in these ways in the 2028-2031 portfolio period. Additionally, during the 2028-2031 portfolio period, customer-funded EE in California will likely reach a steady state of majority third party program implementation and the new portfolio process mandated in D.21-05-031 will be implemented,[19] offering opportunities to reconsider the impact evaluation timeline. As a result of these changes, PG&E requests the Commission continue involving PAs in scoping impact evaluations for programs that PAs do not directly implement, prior to when evaluation contractors draft study plans. PAs could offer input on how to structure evaluations—for example which programs or groups of programs may merit focus—and what timing of results would help PAs ensure they can use the results to feed into program improvements.

D. Proposed Forecast Budget Including PA/ED Allocation and Justification

PG&E proposes a total PG&E EM&V budget of $36.3 million over four years. This forecast comprises 4 percent of the total portfolio budget of $909.7 million over four years, consistent with Commission direction to allot 4 percent of each PA's portfolio forecast for EM&V.[20]

PG&E proposes to allot 27.5 percent of its forecasted EM&V budget, or $10.0 million over four years, for the PA-led EM&V efforts described in Section B. The remaining 72.5 percent ($26.3 million over four years) will be reserved for CPUC led EM&V activities.

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19 D.21-05-031, Ordering Paragraph (OP) 2, p. 81.

20 D.12-05-015, OP 157, p. 433.

TABLE 9-1
PG&E EM&V BUDGET AND CPUC ALLOCATION BY YEAR

Line No.	Program ID	Program Name	2028	2029	2030	2031	Cumulative
1	PGE_EMV_001	PGE EM&V	$2,489,052	$2,501,282	$2,496,653	$2,507,389	$9,994,376
2	PGE_EMV_002	CPUC EM&V	6,562,045	6,594,289	6,582,086	6,610,388	26,348,809
3	Total EM&V		$9,051,097	$9,095,571	$9,078,739	$9,117,777	$36,343,184

PACIFIC GAS AND ELECTRIC COMPANY

CHAPTER 10

COST AND COST RECOVERY

PACIFIC GAS AND ELECTRIC COMPANY
CHAPTER 10
COST AND COST RECOVERY

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PACIFIC GAS AND ELECTRIC COMPANY
CHAPTER 10
COST AND COST RECOVERY

A. Summary of Costs at Portfolio Level

The combined total proposed Energy Efficiency revenue requirement for Program Years (PY) 2028-2031 that supports PG&E's Energy Efficiency (EE) Program Goals and Budgets described in this application is presented below. PG&E will collect from customers the combined total revenue requirement of PG&E, Community Choice Aggregators (CCA), and Regional Energy Networks (REN) that have been approved for Program Administrator (PA) status. PG&E proposes to recover in rates a total of $914 million in the electric Procurement Energy Efficiency Revenue Adjustment Mechanism (PEERAM) and $559 million in the gas Public Purpose Program Surcharge – Energy Efficiency (PPPEE) in 2028-2031, subject to change due to the Revenue Fees and Uncollectibles (RF&U) approved in future General Rate Cases (GRC), as further discussed below. This remainder of this chapter is organized as follows:

- Section B: RF&U Factor;
- Section C: Integrated Demand Side Management Budget;
- Section D: Rate Impacts;
- Section E: Cost Recovery Through Continued Use of Balancing Accounts; and
- Section F: PA's Approach to Classification of Which Unspent Funds Are Designated "Committed" and Thus, Not Applied to Reduce Recovery in Future Years.

TABLE 10-1
2028-2031 ENERGY EFFICIENCY PROGRAM ELECTRIC AND GAS REVENUE REQUIREMENTS

Line No.	Category	2028	2029	2030	2031	Total
1	Electric:					
2	Program Budget	$217,430,700	$222,616,406	$228,176,178	$233,968,968	$902,192,252
3	Plus: RF&U[(a)]	2,957,927	3,028,474	3,104,109	3,182,914	12,273,423
4	Total Electric Revenue Requirement:	$220,388,627	$225,644,879	$231,280,287	$237,151,882	$914,465,676
5	Gas:					
6	Program Budget	$129,160,467	$138,249,855	$142,856,592	$148,888,832	$559,155,747
7	Total Gas Revenue Requirement:	$129,160,467	$138,249,855	$142,856,592	$148,888,832	$559,155,747
8	Total EE Revenue Requirement (Electric, plus Gas)	$349,549,095	$363,894,735	$374,136,879	$386,040,714	$1,473,621,423

(a) The RF&U is based on PG&E's Advice Letter (AL) 5128-G/7727-E and is shown for illustration purposes. The revenue requirement shall be adjusted accordingly when the RF&U is approved in future GRCs or ALs applicable to the Program Year (PY) .

B. RF&U Factor

The RF&U is determined through the GRC and updated on an annual basis. The RF&U shown for 2028-2031 EE Program Electric Revenue Requirements represents the RF&U using the 2026 factor, 0.013604. Decision (D.) 23-11-069 adopted PG&E's methodology to forecast the uncollectibles factor to be revised annually by AL submittal using a 10-year rolling average based on updated historical data. PG&E filed AL 5128-G/7727-E, updating its 2026 Uncollectibles factor, using historical recorded data. The revenue requirement shall be adjusted accordingly with the RF&U approved in future GRCs applicable to the respective year.

1. Cost Recovery

To fund the 2028-2031 PG&E, Bay Area Regional Energy Network (BayREN), Northern Rural Energy Network (NREN), Central California Rural Regional Energy Network (CCR REN), Tri County Regional Energy Network (3C-REN), Marin Clean Energy (MCE), and Peninsula Clean Energy (PCE) portfolio and Evaluation, Measurement, and Verification (EM&V) budgets (as applicable) identified in this application filing, PG&E requests total cost recovery in the amount of $1,461,347,999, excluding RF&U. As shown in Table 10-2, there are no offset or unspent and uncommitted funds forecasted for the 2028-2031 years. This cost recovery amount reflects the total PA budget request. The REN and CCA budget requests were provided to PG&E by their respective agents as of February 19, 2026. All reported values are subject to change based on their individual application filings.

TABLE 10-2
2028-2031 TOTAL COST RECOVERY REQUEST, INCLUDING REN/CCA AND OTHER COSTS

Line No.	Portfolio Administrator	PA Programs[a]	Energy Division Portfolio Oversight[b]	EM&V PA[c]	EM&V Energy Division[d]	Total[e]
1	PG&E Portfolio	$872,236,425	$1,143,600	$9,994,376	$26,348,809	$909,723,209
2	NREN	86,197,408	0	987,678	2,603,880	89,788,966
3	CCR REN[b]	120,947,477	0	1,385,856	3,653,622	125,986,955
4	3C-REN[a]	45,791,735	0	524,697	1,383,292	47,699,724
5	BayREN	179,132,425	0	2,239,155	5,224,696	186,596,276
6	Total REN	$432,069,045	$0	$5,137,386	$12,865,490	$450,071,921
7	MCE	$62,640,755	$0	$1,044,013	$1,566,019	$65,250,786
8	PCE	34,850,000	0	399,323	1,052,760	36,302,083
9	Total CCA	$97,490,755	$0	$1,443,336	$2,618,779	$101,552,869
10	Total (IOU +REN +CCA)	$1,401,796,225	$1,143,600	$16,575,097	$41,833,078	$1,461,347,999

(a) PG&E's portion of 3C-REN's budget is currently 45.6 percent.
(b) PG&E's portion of CCR REN's budget is currently 74 percent.

Table 10-3 summarizes the total cost recovery figures for 2028-2031 for PG&E, as well as RENs and CCAs in PGE's territory for which PG&E requests cost recovery on their behalf, inclusive of the applicable electric and gas portions for cost recovery. PG&E's electric/gas split is applied PAs included in PG&E's authorized budget cap in cases where the PA did not provide their own electric/gas split as of February 19, 2026.

TABLE 10-3
2028-2031 TOTAL COST RECOVERY REQUEST, INCLUDING REN/CCA BY ELECTRIC AND GAS SPLIT

Line No.	Portfolio Administrator	Year	Total Budget	Elec %[d]	Gas %[d]	Electric Cost Recovery	Gas Cost Recovery
1	PG&E	2028	$226,563,330	59%	41%	$133,897,237	$92,666,093
2		2029	227,675,180	57%	43%	129,011,095	98,664,085
3		2030	227,254,379	56%	44%	126,818,451	100,435,928
4		2031	228,230,319	55%	45%	125,020,348	103,209,972
5		Total	$909,723,209	57%	43%	$514,747,130	$394,976,079
6	Regional Energy Networks						
7	BayREN[f]	2028	$44,661,255	72%	28%	$32,156,104	$12,505,151
8		2029	45,954,680	73%	27%	33,546,916	12,407,764
9		2030	47,531,774	73%	27%	34,698,195	12,833,579
10		2031	48,448,567	73%	27%	35,367,454	13,081,113
11		Total	$186,596,276	73%	27%	$135,768,669	$50,827,607
12	3C-REN[a],[f]	2028	$11,160,535	58%	42%	$6,473,110	$4,687,425
13		2029	11,630,255	58%	42%	6,745,548	4,884,707
14		2030	12,214,681	58%	42%	7,084,515	5,130,166
15		2031	12,694,253	58%	42%	7,362,667	5,331,586
16		Total	$47,699,724	58%	42%	$27,665,840	$20,033,884
17	NREN[f]	2028	$18,728,299	65%	35%	$12,173,394	$6,554,905
18		2029	20,411,927	65%	35%	13,267,753	7,144,174
19		2030	22,988,985	65%	35%	14,942,840	8,046,145
20		2031	27,659,755	65%	35%	17,978,841	9,680,914
21		Total	$89,788,966	65%	35%	$58,362,828	$31,426,138
22	CCR REN[b],[e]	2028	$23,306,953	80%	20%	$18,645,562	$4,661,391
23		2029	29,715,404	80%	20%	23,772,323	5,943,081
24		2030	34,669,351	80%	20%	27,735,481	6,933,870
25		2031	38,295,247	80%	20%	30,636,198	7,659,049
26		Total	$125,986,955	80%	20%	$100,789,564	$25,197,391
27	Community Choice Aggregators						
28	MCE	2028	$15,577,044	59%	41%	$9,205,917	$6,371,127
29		2029	16,453,607	57%	43%	9,323,361	7,130,246
30		2030	16,556,204	56%	44%	9,239,127	7,317,077
31		2031	16,663,930	55%	45%	9,128,193	7,535,737
32		Total	$65,250,786	57%	43%	$36,896,598	$28,354,188
33	PCE[f]	2028	$6,593,750	74%	26%	$4,879,375	$1,714,375
34		2029	9,025,208	77%	23%	6,949,410	2,075,798
35		2030	9,817,396	78%	22%	7,657,569	2,159,827
36		2031	10,865,729	78%	22%	8,475,269	2,390,460
37		Total	$36,302,083	77%	23%	$27,961,623	$8,340,460
38	Combined Cost Recovery Totals						
39	Total[c]	2028	$346,591,167	–	–	$217,430,700	$129,160,467
40		2029	360,866,262	–	–	222,616,406	138,249,856
41		2030	371,032,770	–	–	228,176,178	142,856,592
42		2031	382,857,800	–	–	233,968,968	148,888,832
43		Total	$1,461,347,999	–	–	$902,192,252	$559,155,747

TABLE 10-3
2028-2031 TOTAL COST RECOVERY REQUEST, INCLUDING
REN/CCA BY ELECTRIC AND GAS SPLIT
(CONTINUED)

(a) PG&E's portion of 3C-REN's budget is currently 45.6 percent.

(b) PG&E's portion of CCR REN's budget is currently 74 percent.

(c) Totals in this table do not include RF&U.

(d) PG&E applies PG&E's electric and gas split to RENs or CCAs who did not provide different values as of 2/19/2026.

(e) PG&E's electric and gas portions of the CCR REN budget are directed in D.24-09-031, Conclusions of Law 10 and 11. CCR REN continued to use this split as of 2/19/2026.

(f) BayREN, NREN, 3C-REN, and PCE's applicable electric and gas splits are the latest values as provided by each party as of 2/19/2026.

2. Electric and Gas Split

The electric and gas split is based on a two-step allocation approach. Fuel Substitution Measures have 100 percent of the costs allocated to the new fuel's customers.[1] All other measures' costs are allocated proportionally to the total electric and gas avoided cost benefits achieved by these measures. The forecast annual electric and gas split for PY 2028-2031 is shown in Table 10-4. If the Commission does not approve the electric/gas split associated with this 2028-2031 forecast budget application, then PG&E will default to its last approved electric/gas split. PG&E expects to request to update these values again in the 2027 True-Up AL, prior to the 2028 PY, with the most recent information available.

[1] D.19-08-009, Ordering Paragraph (OP) 5 requires all fuel substitution measures and associated program costs to be funded by ratepayers of the new fuel, not ratepayers of the fuel being substituted. PG&E only implements gas-to-electric fuel substitution within its proposed portfolio.

TABLE 10-4
2028-2031 PG&E ENERGY EFFICIENCY PROGRAM ELECTRIC AND GAS SPLIT CALCULATION

Line No.		2028	2029	2030	2031	2028-2031
1	PG&E Portfolio					
2	PG&E (excluding fuel substitution budget)	$201,448,029	$201,355,276	$196,933,193	$198,480,714	$798,217,212
3	PG&E Budget Forecasted to Support Fuel Substitution	25,115,301	26,319,904	30,321,186	29,749,605	111,505,996
4	Total Cost Recovery Request for PG&E Portfolio (excluding offset)	$226,563,330	$227,675,180	$227,254,379	$228,230,319	$909,723,209
5	Applicable Electric Split	54%	51%	49%	48%	
6	Applicable Gas Split	46%	49%	51%	52%	
7	Electric Portion for Cost Recovery (excluding fuel substitution budget) (line 2 x line 5)	$108,781,936	$102,691,191	$96,497,265	$95,270,743	$403,241,134
8	Fuel Substitution Applicable Electric Split	100%	100%	100%	100%	
9	Electric Portion for Cost Recovery (fuel substitution budget) (line 3 * line 8)	$25,115,301	$26,319,904	$30,321,186	$29,749,605	$111,505,996
10	Total Electric Portion for Cost Recovery for PG&E Portfolio (line 7 + line 9)	$133,897,237	$129,011,095	$126,818,451	$125,020,348	$514,747,130
11	Total Gas Portion for Cost Recovery for PG&E Portfolio (line 4 – 10)	$92,666,093	$98,664,085	$100,435,928	$103,209,972	$394,976,079
12	Electric Split (with fuel substitution)[(a)]	59%	57%	56%	55%	
13	Gas Split (with fuel substitution)[(a)]	41%	43%	44%	45%	

(a) The electric and gas splits with fuel substitution are based on the electric and gas portions of the cost recovery after accounting for fuel substitution. These splits will be used to allocate PG&E's portfolio expenditures between electric and gas during in each PY and are updated in future True-Up and Mid-Cycle ALs.

C. Integrated Demand-Side Management Budget

D.18-05-041 directs each IOU PA to set aside a minimum of $1 million for the residential sector and a load share-proportional fraction of $20 million for the commercial sector from each IOU PA's Integrated Demand-Side Management (IDSM) budget for testing and deployment of integration strategies. In consultation and agreement with the IOUs, PG&E budgets $8 million of the required $20 million for the commercial sector. With an additional $1 million of IDSM budget for the residential sector, PG&E's budget for IDSM activities totals $9 million annually. Previously, PG&E allocated the commercial portion of the budget to the Demand Response portion of the IDSM budget. This has led to unnecessary complication, and in this application PG&E embeds the IDSM budget for all sectors within the EE Program budgets, and will allocate up to the full $9 million annually to the IDSM activities as needs arise. PG&E's proposal to streamline and clarify IDSM budget policy is discussed further in Chapter 11, Section C.4.

D. Rate Impacts

PG&E's illustrative EE Program rate impacts among PG&E's electric and gas customer classes are shown in Tables 10-5 and 10-6, respectively. The rate impacts shown in Tables 10-5 and 10-6 reflect the impact of the incremental revenue requirements requested in this proceeding in 2031[2] relative to the amounts authorized and effective in rates as of January 1, 2026. Under PG&E's EE Program expense forecast proposal, the bill impact for a typical bundled residential electric non-California Alternate Rates for Energy (CARE)/non-Family Electric Rate Assistance customer using 500 kilowatt-hour (kWh) per month in 2031 will increase $0.26 from $168.37 to $168.63.

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2 2031 is the year with the highest EE budget request.

TABLE 10-5
ILLUSTRATIVE ELECTRIC CLASS AVERAGE RATE TABLE

Line No.	Customer Class	Proposed Revenue Increase (000's)	Present Rates January 1, 2026 ($/kWh)	Proposed Rates for 2031 EE ($/kWh)	Percentage Change
1	Bundled Service[a]				
2	Residential	$5,429	$0.33674	$0.33727	0.2%
3	Small Commercial	1,564	0.41239	0.41312	0.2%
4	Medium Commercial	1,332	0.35943	0.36007	0.2%
5	Large Commercial	1,850	0.31561	0.31616	0.2%
6	Streetlights	61	0.43561	0.43632	0.2%
7	Standby	144	0.14992	0.15024	0.2%
8	Agriculture	2,605	0.38990	0.39060	0.2%
9	Industrial	1,012	0.21719	0.21757	0.2%
10	Average	$13,996	$0.33417	$0.33473	0.2%
11					
12	Direct Access and Community Choice Aggregation Service[b]				
13	Residential	$9,434	$0.28455	$0.28513	0.2%
14	Small Commercial	3,815	0.33147	0.33221	0.2%
15	Medium Commercial	3,144	0.26542	0.26607	0.2%
16	Large Commercial	6,347	0.21786	0.21842	0.3%
17	Streetlights	109	0.32889	0.32960	0.2%
18	Standby	36	0.15907	0.15941	0.2%
19	Agriculture	1,134	0.27735	0.27808	0.3%
20	Industrial	4,455	0.13841	0.13881	0.3%
21	Average	$28,474	$0.23972	$0.24028	0.2%
22					
23	Departing Load[c]				
24	Residential	$2			0.2%
25	Small Commercial	$8			1.5%
26	Medium Commercial	$46			1.8%
27	Large Commercial	$44			1.4%
28	Streetlights	$0			0.0%
29	Standby	$0			0.0%
30	Agriculture	$18			1.9%
31	Industrial	$524			1.3%

(a) Customers who receive electric generation as well as transmission and distribution service from PG&E.

(b) Customers who purchase energy from non-PG&E suppliers.

(c) Customers who purchase their electricity from a non-utility supplier and receive transmission and distribution service from a publicly owned utility or municipality. A rate comparison cannot be provided for Departed Load as the applicable rates vary by specific departed load customer categories and any average rate that could be derived, would not be representative of any particular departed load category.

Under PG&E's EE Program expense forecast proposal, the bill for a typical bundled residential non-CARE customer using 31 therms per month in 2031 will increase $0.13 from $82.45 to $82.58.

TABLE 10-6
ILLUSTRATIVE GAS CUSTOMER CLASS AVERAGE RATETABLE

Line No.	Customer Class	Present Rates January 1, 2026 ($/Therm)	Proposed Rates for 2031 EE ($/Therm)	$ Change	Percentage Change
1	Bundled – Retail Core[(a)]				
2	Residential Non-CARE	$2.784	$2.788	$0.004	0.2%
3	Residential CARE	$2.205	$2.209	$0.004	0.2%
4	Small Commercial Non-CARE	$1.943	$1.953	$0.010	0.5%
5	Large Commercial	$1.314	$1.320	$0.006	0.5%
6	Uncompressed Core NGV	$1.324	$1.324	$0.000	0.0%
7	Compressed Core NGV	$2.997	$2.997	$0.000	0.0%
8	Transport Only – Retail Core				
9	Residential Non-CARE	$2.276	$2.280	$0.004	0.2%
10	Residential CARE	$1.697	$1.701	$0.004	0.3%
11	Small Commercial Non-CARE	$1.480	$1.490	$0.010	0.6%
12	Large Commercial	$0.894	$0.900	$0.006	0.7%
13	Uncompressed Core NGV	$0.909	$0.909	$0.000	0.0%
14	Compressed Core NGV	$2.583	$2.583	$0.000	0.0%
15	Transport Only – Retail Noncore (Noncovered Entities)				
16	Industrial – Distribution	$0.736	$0.749	$0.013	1.8%
17	Industrial – Transmission	$0.405	$0.408	$0.003	0.7%
18	Industrial – Backbone	$0.191	$0.194	$0.003	1.5%
19	Uncompressed Noncore NGV – Distribution	$0.656	$0.656	$0.000	0.0%
20	Uncompressed Noncore NGV – Transmission	$0.378	$0.378	$0.000	0.0%
21	Electric Generation – Distribution/Transmission	$0.344	$0.344	$0.000	0.0%
22	Electric Generation – Backbone	$0.139	$0.139	$0.000	0.0%
23	TRANSPORT ONLY – WHOLESALE				
24	Alpine Natural Gas (T)	$0.262	$0.262	$0.000	0.0%
25	Coalinga (T)	$0.264	$0.264	$0.000	0.0%
26	Island Energy (T)	$0.284	$0.284	$0.000	0.0%
27	Palo Alto (T)	$0.257	$0.257	$0.000	0.0%
28	West Coast Gas – Castle (D)	$0.577	$0.577	$0.000	0.0%
29	West Coast Gas – Mather (D)	$0.792	$0.792	$0.000	0.0%
30	West Coast Gas – Mather (T)	$0.266	$0.266	$0.000	0.0%

(a) Bundled rates incorporate an illustrative procurement revenue requirement and will not match rates as filed in PG&E's Core Monthly Pricing ALs.

PG&E calculates alternative estimated rate impacts in the California Public Utilities Commission's (CPUC or Commission) requested format, which includes impacts of reduced energy sales, in Exhibit (PG&E-3), Attachment B, Appendix Table 2.

PG&E will incorporate the annual electric EE Program revenue requirement authorized in this proceeding into electric rates in the Annual Electric True-Up (AET) filing with other rate changes effective January 1 of each year in the program forecast period, or as soon as possible thereafter. Any required EE Program electric rate change resulting from this proceeding will be implemented in accordance with the then-current adopted revenue allocation and rate design methods adopted for the EE Program revenue component of electric Public Purpose Program (PPP) rates.[3]

PG&E will incorporate the annual gas EE Program revenue requirement authorized in this proceeding into gas rates in its annual gas PPP surcharge AL, effective January 1st of each year in the program forecast period. Similarly, any gas EE Program revenue change will be allocated among customer classes consistent with the then-current adopted practices.[4] If a decision is not issued in time to incorporate the proposed revenue requirement in PPP surcharge rates by January 1, 2028, then PG&E will incorporate changes adopted in this proceeding in the following year's PPP surcharge AL. [5]

If the Commission does not issue a decision in this proceeding in time to be included in PG&E's AET and PPP surcharge filings that would include revenue requirements for the period beginning with 2028, then the average annual revenue requirement from the 2024-2027 application shall remain in place until a Final Decision is issued. Electric corporations and gas corporations shall continue to recover costs, and to make transfers to CCAs and RENs, based on the most recently adopted year's budget. Upon issuance of the Final Decision, for electric rates PG&E will true-up the difference between the Final Decision and amounts in rates at the time of the decision through the next rate change or in the following year's AET. For gas rates, PG&E will true-up the difference between the authorized revenue requirement and the amount in rates through

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3 Electric EE Programs are allocated to customers in PPP rates based on the revenue allocation authorized in GRC Phase II proceedings.

4 Gas EE Programs are allocated based on the direct allocation method as authorized in D.19-10-036, pp. 83-84, OP 9. PG&E has proposed updates to these allocations in the 2027 Cost Allocation and Rate Design proceeding, A.25-11-006.

5 D.04-08-010 adopted that utilities may request a change in gas PPP surcharge rates during the year only if failure to make the rate change would result in a forecasted total rate increase of 10 percent or more on January 1 of the next year, p. 7.

the Public Purpose Program Energy Efficiency balancing account balance in its next PPP surcharge AL.[6]

E. Cost Recovery Through Continued Use of Balancing Accounts

There are no proposed changes to the balancing accounts that PG&E uses to track the program cost and revenue requirement for the 2028-2031 EE Program. PG&E uses the following balancing accounts to track the program cost and revenue requirement:

- Procurement Energy Efficiency Revenue Adjustment Mechanism (PEERAM): PEERAM, Electric Preliminary Statement Part EF, is a two-way balancing account that recovers the electric procurement portion of adopted Energy Efficiency Program revenue requirements.
- Public Purpose Program Revenue Adjustment Mechanism (PPPRAM): PPPRAM, Electric Preliminary Statement Part DA, is a two-way balancing account that records the authorized electric revenue requirement for the Energy Savings Assistance Program and the EE portion of the former Public Goods Charge compared to the actual revenue collected through rates.
- Public Purpose Program Surcharge – Energy Efficiency (PPP-EE): PPP-EE, Gas Preliminary Statement Part BA, is a two-way balancing account that records the gas EE PPP funding authorized by the CPUC and the billed surcharge amounts that recover the authorized funding from eligible customers.
- Procurement Energy Efficiency Balancing Account (PEEBA): PEEBA, Electric Preliminary Statement Part DI, is a one-way balancing account that tracks PG&E's procurement EE costs and revenues associated with authorized programs and tracks the electric portion of PG&E's EE Program expenditures against the electric portion of authorized EE Program funding.
- Gas Public Purpose Program Energy Efficiency Balancing Account (PPPEEBA): PPPEEBA is a one-way subaccount of the Customer Energy Efficiency Adjustment, Gas Preliminary Statement Part Y. It tracks the gas

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6 Should REN or CCA filing budgets differ from what is provided or should REN or CCA PA statuses change such that PG&E's budget for 2024-2027 request may need to be amended, PG&E's revenue requirements may change. PG&E may need to submit supplemental or revised testimony.

portion of PG&E's EE Program expenditures against the gas PPP surcharge portion of authorized EE Program funding.

F. PA's Approach to Classification of Which Unspent Funds Are Designated "Committed" and Thus, Not Applied to Reduce Recovery in Future Years

PG&E distinguishes between unspent funds that are committed to be spent on a specific cost, and funds that are uncommitted and thus would be used to offset cost recovery in future years. On November 4, 2025 PG&E filed AL 5141-G/7752-E, PG&E's 2026-2027 Mid-Cycle AL in Compliance with D.21-05-031, D.23-06-055, and D.25-08-034, in which PG&E did not have available any additional unspent funds within the 2024-2027 program cycle to offset cost recovery in the 2026 and 2027 PYs. At the time of filing this application, there are no unspent, uncommitted funds from prior PYs available to offset the cost recovery for 2028-2031. Any unspent, uncommitted funds that do result will be addressed in a future application or AL filing, as appropriate.

PACIFIC GAS AND ELECTRIC COMPANY

CHAPTER 11

RECOMMENDATIONS FOR NEW OR MODIFIED EE POLICY

PACIFIC GAS AND ELECTRIC COMPANY
CHAPTER 11
RECOMMENDATIONS FOR NEW OR MODIFIED EE POLICY

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PACIFIC GAS AND ELECTRIC COMPANY
CHAPTER 11
RECOMMENDATIONS FOR NEW OR MODIFIED EE POLICY

A. Introduction

This chapter discusses Pacific Gas and Electric Company's (PG&E) proposal for policy modifications in support of the vision outlined in Chapter 3 of this application. Chapter 3 outlines the following goals for PG&E's Energy Efficiency (EE) portfolio in 2028-2035:

1) Optimize Delivery of Total System Benefit (TSB);
2) Scale Efficient Building Electrification (BE);
3) Enable the Energy System of Tomorrow; and,
4) Facilitate Rate Affordability.

To achieve these goals, PG&E proposes policy changes under three categories: (1) changes to facilitate rate affordability, (2) changes to enable efficient BE at scale and the energy system of tomorrow, and (3) changes to optimize delivery of TSB. The sections below describe PG&E's policy recommendations along with justifications and expected outcomes, which are also summarized in Table 11-1 below.

TABLE 11-1
SUMMARY OF POLICY RECOMMENDATIONS

Line No.	Policy Recommendation	Opportunity
1	*Portfolio Goal: Facilitate Rate Affordability*	
2	Develop cost controls for regional energy network (REN) budgets to ensure budget controls across all EE Portfolio Administrators (PA) in alignment with Commission affordability goals	Enable regulatory oversight in establishing reasonable EE budget levels for all EE PAs.
3	Promote California Energy Efficiency Coordinating Committee (CAEECC) reform to streamline engagement	Provide more efficient oversight and stakeholder accountability
4	*Portfolio Goal: Scale Efficient Building Electrification and Portfolio Goal: Enable the Energy System of Tomorrow*	
5	Change the third-party outsourced budget requirements and definition	Provide more PA flexibility in procurement and program design by revising the third-party outsourcing requirements to comprise 50-60 percent of EE portfolio budgets and changing the third-party definition to no longer require programs to be “proposed and designed” by third-party implementers.
6	Establish a new innovation-enabling Market Support (MS) segment program to provide supplemental innovation funding to Resource Acquisition (RA) segment programs	Enable and promote innovative approaches and program designs
7	Allow EE funding for propane-to-electric fuel switching	Better serve hard-to-reach (HTR) and Disadvantaged Community (DAC) customers while reducing greenhouse gas emissions (GHG).
8	Streamline and clarify Integrated Demand-Side Management (IDSM) policy from CPUC Decision (D.) 18-05-041 and D.23-06-055	Provide budget flexibility while maintaining approval process by eliminating the minimum annual IDSM-Demand Response (DR) budget requirements and allowing PAs to continue EE-Distributed Energy Resources (DER) IDSM to leverage EE funding for ongoing load shifting that reduces peak consumption in 2028-2031.
9	*Portfolio Goal: Optimize Delivery of TSB*	
10	Reaffirm regulatory timelines for the DEER bus stop schedule, measure package review, and custom project reviews	Focus use of limited resources while strengthening regulatory accountability, enhancing market responsiveness, and ultimately improve ratepayer value.
11	Bifurcate the DEER Resolution into a guidance and update Resolution and a locking Resolution	Improve planning and predictability for PAs and implementers.
12	Change the Codes and Standards (C&S) goal metric to TSB	More fully capture the multi-faceted benefits offered by C&S programs beyond energy savings

PG&E's portfolio strategies and portfolio forecast in this prepared testimony reflect current policy rather than the proposed changes herein. Upon implementation, these policy changes would complement and enhance PG&E's EE strategies. If the California Public Utilities Commission (CPUC or Commission) adopts policy changes proposed herein or otherwise, PG&E intends to update its portfolio plans accordingly in its True-Up Advice Letter (TUAL) or Mid-Cycle Advice Letter (MCAL), depending upon when the policy changes go into effect.

The remainder of this chapter is organized as follows:

- Section B: Proposed Policy Changes to Facilitate Rate Affordability;
- Section C: Proposed Policy Changes to Enable EE Portfolios of the Future and Scale Efficient BE;
- Section D: Proposed Policy Changes to Optimize Delivery of TSB; and
- Section E: Conclusion.

B. Proposed Policy Changes to Facilitate Rate Affordability

PG&E proposes the following policy changes to promote rate affordability among PG&E customers by using ratepayer dollars more effectively and efficiently.

1. Develop Cost Controls for REN Budgets to Ensure Budget Controls Across All PA Portfolios in Alignment with Commission Affordability Goals

PG&E requests the Commission adopt REN budget control policy, through the process described in this section, to ensure that Commission policy oversight rationalizes all EE PA budget levels in alignment with state electric rate affordability goals. California ratepayers face significant electric rate affordability pressures, with rates outpacing inflation since 2021.[1] The Commission has identified the biggest drivers of this as wildfire mitigation costs, Net Energy Metering program costs and cost shifts, and increased

[1] PG&E's electric bundled residential average annual rate increased 11 percent over the period of 2016-2024, compared to an inflation rate of 3.5 percent over the same period. *2025 Senate Bill 695 Report to the Governor and Legislature on Actions to Limit Utility Cost and Rate Increases Pursuant to Public Utilities Code Section 913.1,* CPUC, (Sept 2025), p.2. Available at: https://www.cpuc.ca.gov/-/media/cpuc-website/divisions/office-of-governmental-affairs-division/reports/2025/2025-sb-695-report_093025.pdf.

distribution infrastructure investment,[2] and has acknowledged that EE programs have both cost-effective and non-cost-effective components that deliver myriad benefits to customers.[3] The Commission currently has policy mechanisms in place to limit the magnitude of ratepayer-funded budgets for all EE PA budgets, except for RENs. The Commission should ensure it implements budget control mechanisms that rationalize the level of each PA's EE budget that is appropriate to meet the Commission's affordability goals, as well as other policy goals.

PG&E recognizes that RENs provide important offerings to HTR customers, with programs expected to be less cost-effective than resource-focused utility portfolios. RENs have also played an increasingly important role in the emerging BE market, particularly within DACs. However, since their introduction in 2012,[4] the statewide authorized REN budgets have grown from $13 million in 2013 to an estimated cumulative, average $280 million per year for the 2028-2031 cycle,[5] with no regulatory budget caps or cost-effectiveness requirements that rationalize the appropriate level of REN cost obligation for ratepayers. Given the current electric rate affordability pressures, PG&E urges the Commission take steps to adopt a clear and implementable cost control policy mechanism that will set reasonable boundaries for REN budgets, thereby ensuring budget controls for all PAs.

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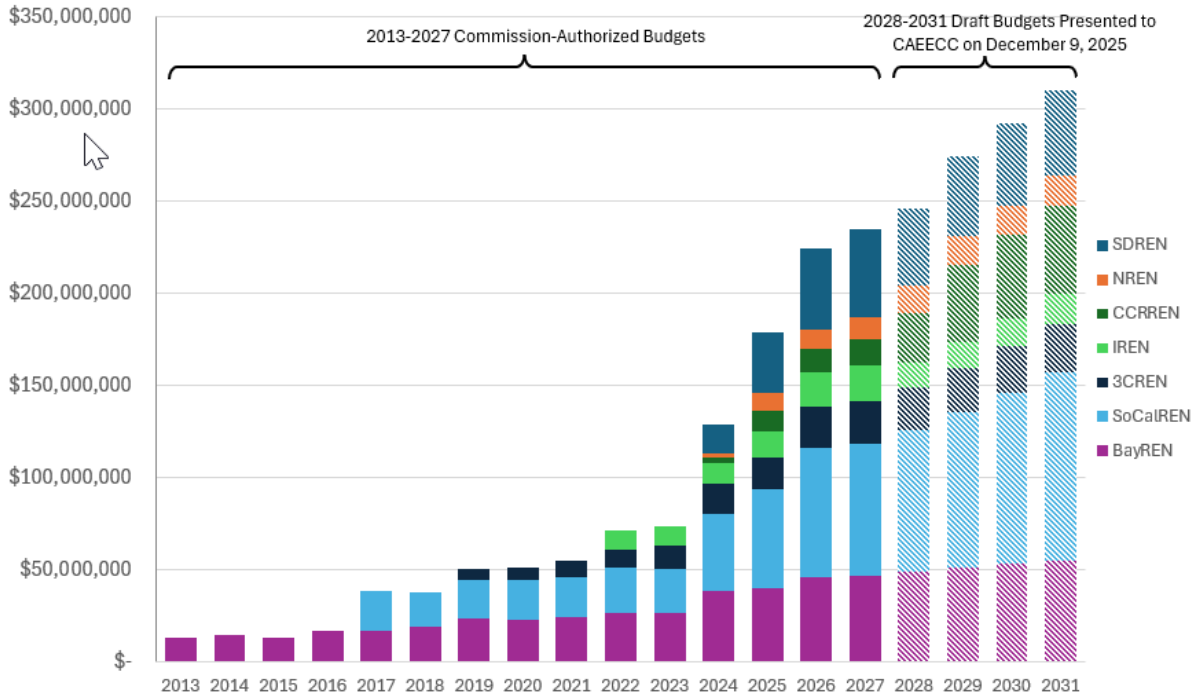
2 *Ibid*, pp. 2-4.

3 *CPUC Response to Executive Order N-5-24*, CPUC, (February 18, 2025), p. 8 and Table A-2. Available at: https://www.cpuc.ca.gov/-/media/cpuc-website/industries-and-topics/reports/cpuc-response-to-executive-order-n-5-24.pdf.

4 RENs were originally enabled and defined in D.12-11-015.

5 REN budgets are collected from both electric and gas ratepayers; REN budgets are recovered through rates by the Investor-Owned Utilities (IOU) that act(s) as the REN's fiscal agent. Electric and gas splits for cost recovery of REN budgets through electric and gas rates are specified in the IOU's budget filing for a given program year. The 2013 REN budget was taken from BayREN's budget reported in their 2013 Annual Report. BayREN was the only REN operating in 2013. The estimated average $280 million statewide cumulative budget per year for 2028-2031 was taken from draft REN budgets presented at the December 9, 2025 CAEECC meeting, found in the updated slide deck revision 12-12-2025 on the CAEECC website. Available at: https://www.caeecc.org/12-9-2025-full-caeecc-mtg.

FIGURE 11-1
CALIFORNIA REGIONAL ENERGY NETWORK BUDGET GROWTH
FROM 2013 THROUGH 2031



Notes: The budgets presented in this chart are for the following RENs: San Diego Regional Energy Network (SDREN), Northern California Rural REN (NREN), Central California Rural REN (CCRREN), Inland REN (IREN), Tri-County REN (3CREN), Southern California REN (SoCalREN), and Bay Area REN (BayREN).

The 2013-2016 budgets presented in this chart were taken from BayREN EE Annual Reports. The 2017-2027 budgets were taken from California Energy Data and Reporting System (CEDARS) budget filing data and reflect the authorized budget levels for each REN for these years (with the budgets fungible across the 2024-2027 portfolio period in accordance with D.21-05-041). The 2028-2031 budgets were taken from the December 9, 2025 CAEEC presentations of each REN's estimated budget and may differ from their final 2028-2035 Business Plans. SoCalREN's 2028-2031 budget presented in their CAEECC presentation was described as their 2028-2031 forecasted budget filed in 2022 as part of their EE Portfolio Application for the 2024-2027 Portfolio Period and 2024-2031 Business Plan.

REN budgets presented in this chart are recovered through both gas and electric rates. REN budgets are recovered through rates by the IOU(s) that act(s) as the REN's fiscal agent. Electric and gas splits for cost recovery of REN budgets through electric and gas rates are specified in the IOU's budget filing for a given program year.

All EE PA budgets, with the exception of REN budgets, are subject to quantifiable budget cost control mechanisms intended to safeguard ratepayer funding at reasonable levels. IOU and Apply-to-Administer (ATA) CCAs must forecast EE portfolios with cost-effective RA segments and combined MS and equity segment budgets (which are typically not cost-effective) that do not exceed 30 percent of the PA's total EE portfolio

budget.[6] Further, the IOUs must also forecast EE portfolio compliance with several specific budgets caps and targets,[7] including (but not limited to) a hard 10 percent cap on administrative spend. Elect-to-Administer (ETA) CCAs are subject to budget caps that are calculated as a function of a portion of the portfolio budget of the incumbent IOU in the overlapping territory.[8] These existing cost controls are summarized in Table 11-2 below. Adoption of REN cost control policy would enable alignment with Commission affordability goals.

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6 D.21-05-031, OPs 3 and 4, p. 81. ATA CCAs can administer EE programs subject to the same policies and standards as IOUs, with some exceptions, per D.14-01-033 Conclusion of Law (COL) 5 and OP1.

7 *Energy Efficiency Policy Manual*, Version 6.0, CPUC, (April 2020), Appendix C, p. 87-94. Available at: https://www.cpuc.ca.gov/-/media/cpuc-website/files/legacyfiles/e/6442465683-eepolicymanualrevised-march-20-2020-b.pdf.

8 See maximum ETA CCA budget formula defined in D.14-01-033 at p.22 and modified in D.24-04-007. ETA CCAs can follow a simpler pathway to offer EE Programs than ATA CCAs by filing advice letters to administer EE programs just for their own customers, with specific requirements, per D.14-01-033 COL 6, 15, and 17 and OP 6.

TABLE 11-2
SUMMARY OF CURRENT EE PA BUDGET COST CONTROLS

Line No.	PA Type	Current Policy Mechanism for Budget Cost Control? (By Portfolio Segment)			
		Resource Acquisition	Equity	Market Support	Codes and Standards
1	IOU	YES Must be cost-effective; TSB portfolio goals provide guidelines for reasonableness of budget size	YES Combined budgets capped at 30 percent of total portfolio budget		NO No hard requirement for total C&S budget, but C&S-specific energy savings goals provide guidelines for reasonableness of budget size. Non-advocacy C&S program budgets may not exceed 70% of total C&S budget.
2	ATA CCA	YES Segment must be cost-effective	YES Combined budgets capped at 30 percent of total portfolio budget		NO
3	ETA CCA	YES Total portfolio budget caps are calculated as a function of a portion of the portfolio budget of the incumbent IOU in the overlapping territory, defined in D.14-01-033 and D.24-04-007. Portfolio segmentation does not apply.			NO
4	REN	NO	NO	NO	NO

PG&E requests the Commission undertake a stakeholder process within the EE Applications proceeding to ultimately adopt a REN cost control policy that will inform the Commission's final budget disposition of the 2028-2031 EE Portfolio Plans. As part of this process, PG&E requests the Commission issue a Ruling seeking comment to solicit input on approaches to rationalize REN budgets by considering, among other things: (1) the primary purpose of RENs; (2) the needs of the EE market; (3) the contributions of all EE PA portfolios relative to Commission policy goals; (4) other state or ratepayer programs serving similar, overlapping purposes; (5) electric rate affordability concerns; and (6) budget controls currently in place for other EE PAs. Until the Commission adopts a

REN cost control policy, PG&E further requests the Commission place a moratorium on the authorization of new RENs for 2028 and beyond.

PG&E requests that the Commission's consideration of a REN cost control policy—and its review of the RENs' 2028-2031 budget requests, should the Commission authorize budgets prior to adopting a cost control policy—address the general principles for REN portfolios articulated in D.12-11-005 and D.19-12-021 for the Commission to balance trade-offs across PA portfolios in alignment with statewide goals, and consider REN budget proportions relative to incumbent IOU budgets, respectively. D.12-11-005 described the Commission's responsibility to balance trade-offs between utility and REN portfolios, given that each individual PA does not control other PA portfolios.[9] While trade-offs were discussed in the context of overall portfolio cost-effectiveness,[10] this concept applies to balancing PA portfolios in a manner that achieves overall statewide policy goals as efficiently as possible. Because over a dozen EE PAs—comprised of at least four different PA types—are expected to administer EE portfolios during the 2028-2031 Portfolio Plan period,[11] it would be prudent for the Commission to review an individual PA's portfolio in the context of the entire EE landscape (i.e., the impact of one PA portfolio as part of a larger whole of multiple portfolios serving Commission policy goals) to justify ratepayer funding

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9 D.12-11-005, p. 18 states

> even if some REN proposals are not cost effective, if the same proposals had been made by utilities, they would have had the opportunity to be approved as part of a larger portfolio. The same should therefore be true for REN proposals, since they will become part of the larger portfolio that the Commission will approve. The REN proposals should not be held to a higher standard than similar utility programs. The difference is that the utilities are not fully in control of the REN proposals and cannot make the cost-effectiveness tradeoffs themselves within their own portfolios. Instead, it becomes the responsibility of the Commission to approve a portfolio, including both utility and REN proposals, that is cost-effective overall.

10 The Commission evolved its interpretation of cost-effectiveness to affirm in D.21-05-031 pp.66-67 that it is not restricted to ensuring overall, statewide EE cost-effectiveness (or for entire individual portfolios). The Commission also introduced portfolio segmentation policy through D.21-05-031, exempting MS and Equity portfolio segments of cost-effectiveness requirements in recognition of their non-resource-focused objectives.

11 Over a dozen EE PAs are expected to administer EE portfolios in the 2028-2031 Portfolio period, including: four IOUs, seven RENs, two ATA CCAs, the California Market Transformation Program Administrator (see D.25-11-023), and possibly other ETA CCAs (ETA CCA funding has not yet been authorized for 2028 and beyond).

allocations to EE budgets. PG&E further recommends the Commission revisit its intent expressed in D.19-12-021 for the sizing of REN budgets to:

> …be proportional to the incumbent IOU budgets, in the same territory, for the number of customers served by non-statewide and non-regional programs [using the same definitions for Elect-to-Administer CCA budget limits adopted in D.14-01-033], while taking into account plans to serve hard-to-reach customers.[12]

It is unclear whether this intent for budget level control has been implemented to any extent; no quantifiable budget controls were described as part of the 2024-2027 REN budget authorizations in D.23-06-055.

Until REN cost controls are in place, PG&E suggests the Commission's review of the reasonableness of 2028-2031 REN budgets should further consider whether there have been overlaps, duplication, or other implementation issues in the 2024-2027 portfolios,[13] especially to the extent proposed 2028-2031 budget levels are above 2024-2027 approved budget levels. These review criteria would mitigate further ratepayer funding obligations to increase statewide REN budgets while there are no cost controls in place that establish reasonable cost control levels for RENs.

Additionally, PG&E recommends the Commission adopt cost-effectiveness requirements for REN RA segments to consistently implement its portfolio segmentation policy, because the primary purpose of this segment is to "deliver cost-effective avoided cost benefits" as defined by D.21-05-031.[14] While REN portfolios are exempt from cost-effectiveness requirements because they are intended to fill gaps in utility portfolios, pilot potentially scalable approaches, and/or serve HTR customers,[15] any REN programs that are not primarily designed to deliver cost-effective avoided energy cost benefits should be appropriately categorized as MS or equity segment programs according to the REN program's alignment with the segment definitions adopted in D.21-05-031

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12 D.19-12-021, p. 39.

13 D.19-12-021, Finding of Fact (FOF) 8 states that RENs are intended to fill gaps in utility portfolios, pilot potentially scalable approaches, and/or serve hard-to-reach customers. D.23-06-055 Ordering Paragraph (OP) 32 required PAs to assess program overlap and duplication, and to define precedence to assist the Commission in contemplating whether establishment of program precedence is warranted, as described on p.87.

14 D.21-05-031, p.14.

15 D.19-12-021, FOF 8, p. 82.

and D.23-06-055.[16] MS segment sub-objectives include building and enabling demand, supply, partnerships, innovation and accessibility, and access to capital.[17] Equity segment programs serve HTR or underserved customers and DAC, and may provide increased comfort and safety, improved indoor air quality, and more affordable utility bills.[18]

If the Commission affirms that cost-effectiveness requirements should not apply to REN RA segment programs, PG&E requests the Commission rationalize this implementation of its portfolio segmentation policy by (a) explaining the circumstances under which non-cost-effective REN programs are better aligned with the RA segment purpose to "deliver cost-effective avoided cost benefits" than the equity or MS segments, and (b) further clarify the objectives of the RA segment, if appropriate. In contemplating the cost-effectiveness objectives of the RA segment, PG&E requests the Commission consider that non-energy benefits do not deliver avoided cost benefits to the electric and gas systems.

- *Policy Request: PG&E requests the Commission:*
  - *Undertake a stakeholder process within the EE Applications proceeding to ultimately adopt a quantifiable, implementable REN cost control policy that will inform the Commission's final budget disposition of the 2028-2031 EE Portfolio Plans effective January 1, 2028.*
  - *As part of the stakeholder process, issue a Ruling seeking comment to solicit stakeholder input on a REN cost control policy.*
  - *Place a moratorium on new RENs for 2028 and beyond, effective January 1, 2028, until an implementable REN cost control policy is adopted.*
  - *Require REN RA segment forecasts to be cost-effective for budget authorization, or further rationalize the RA segment objectives to clarify why non-cost-effective RA programs are warranted for RENs given the objectives of the MS and Equity segments.*

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16 D.21-05-031, pp. 14-15; D.23-06-055, pp. 58-59 and p. 34.

17 D.23-06-055, pp. 58-59.

18 D.21-05-031, pp. 14-15.

2. Promote CAEECC Reform to Streamline Engagement

PG&E proposes the Commission adopt a set of reforms to the CAEECC to streamline stakeholder engagement, reduce administrative costs, and better align the forum's activities with the Commission's oversight role. These reforms are intended to address the growing complexity and cost of the current CAEECC structure while preserving meaningful opportunities for stakeholder input and portfolio transparency.

Under the existing model, hybrid (in-person/virtual) meetings and CAEECC-facilitated statewide performance workshops require significant ratepayer-funded facilitation and PA staff resources, yet have generated limited actionable, program-level feedback. The timing of Potential and Goals decisions further constrains the ability of CAEECC-based consultations for TUALs and MCALs to materially influence portfolio design, often resulting in process overhead without corresponding benefits to customers or program outcomes.

PG&E proposes the following new CAEECC model: (1) a fully virtual, bi-annual CAEECC structure and (2) Energy Division-led annual performance workshops paired with direct PA-stakeholder engagement upon request by stakeholders. A fully virtual, bi-annual CAEECC structure will reduce travel and logistical burdens and make participation more practical for a broader range of stakeholders, including smaller community-based organizations. An Energy Division-led, consolidated annual performance workshop is expected to yield more focused discussion and clearer alignment with Commission priorities, as well as more actionable feedback. Stakeholders that would like to provide feedback to specific PAs would have the opportunity to engage directly with them. Clarifying role assignments between CAEECC and Energy Division should also be undertaken to reduce confusion about where decisions are made and how input is used, leading to a more efficient, predictable, and policy-driven engagement process that supports the Commission's broader portfolio and segmentation objectives. PG&E anticipates that these recommendations could lower administrative and facilitation costs, enabling more ratepayer funds to be directed to program delivery while maintaining or improving regulatory transparency and stakeholder access.

- *<u>Policy Request</u>: PG&E requests the Commission's Final Decision adopt the following policy proposals effective January 1, 2028:*
  - *Transition CAEECC to a fully virtual meeting model;*
  - *Reduce the frequency of CAEECC meetings from quarterly to bi-annual;*
  - *Eliminate formal CAEECC-led consultations on TUALs, MCALs, and Portfolio Applications in favor of encouraging stakeholders to coordinate directly with PAs;*
  - *Replace the current CAEECC-led annual and semiannual statewide portfolio performance workshops with a single annual, public workshop led by Energy Division; and,*
  - *Clarify and rationalize the role of CAEECC in the EE proceeding to ensure its activities are not better suited via other processes under Energy Division staff purview.*

C. Proposed Policy Changes to Scale Efficient BE and Enable the Energy System of Tomorrow

PG&E proposes the following policy changes in support of an evolving regulatory framework which is needed to enable the EE Portfolio to deliver on decarbonization, affordability, and energy goals.

1. Change the Third-Party Outsourced Budget Requirements and Definition

PG&E requests the Commission revise the third-party outsourcing requirement and definition to enable greater flexibility and nimbleness in program design and procurement, particularly as PG&E seeks to enable load flexibility and scale efficient BE in 2028 and beyond. The outsourcing requirement was originally adopted in D.18-01-004, OP 1 (and originated in D.16-08-019, OP 12) which requires IOUs to outsource at least 60 percent of their budgets to third-party programs according to the third-party definition in D.16-08-019, OP 10. PG&E proposes to change the target to a range of 50 to 60 percent, where 50 percent is a hard compliance minimum and 60 percent is a soft target. The Commission's original rationale for this

policy was to encourage innovation and produce program delivery cost savings.[19]

PG&E believes that its proposed policy revisions would bolster the intended outcomes of innovation and cost savings as it seeks to further develop complex program offerings such as load flexibility and BE. These program areas often require sophisticated planning and coordination with other PG&E departments outside of EE, as well as tight feedback loops to make program adjustments dictated by program outcomes, policy changes in other relevant CPUC load management and decarbonization proceedings, and market changes.[20] By moderately reducing the outsourcing budget minimum and revising the third-party program definition, PG&E would have more flexibility to design new programs, such as load flexibility or BE, where it is most practical for PG&E personnel to do so, and possibly to implement in some cases as well. PG&E anticipates continuing to seek partnership opportunities with the skilled implementer community for its EE portfolio to the extent that is practical and possible.

Further, PG&E anticipates some ratepayer savings resulting from moderately reduced reliance on the third-party procurement process for new third-party programs, which can take one to two years with associated costs of administration and facilitation, including a Procurement Review Group (PRG) and independent evaluator (IE) resources.

- *Policy Request: PG&E requests the Commission's Final Decision change the third-party outsourcing requirements to the following:*
  - *Require each IOU to outsource a minimum of 50 percent of their EE portfolio budget to third-party programs according to the third-party definition described in this proposal, with a soft target of 60 percent; and*

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19 D.16-08-019, p. 70.

20 For example, load flexibility interventions will require coordination with other load management-focused strategy teams and DER programs, as well as proceedings such as the new DR Order Instituting Rulemaking (if the scope is expanded to include load management). BE interventions will require coordination with PG&E's service planning and gas asset strategy organizations, and policies adopted in R.24-09-012 for long-term gas transition planning.

- *Change the definition of "third party" to require third-party programs to be implemented and delivered—but not proposed and designed—by non-utility personnel under contract to the IOU.*

2. Establish a New Innovation-Enabling Market Support Segment Program to Provide Supplemental Innovation Funding to Resource Acquisition Segment Programs

PG&E requests Commission approval to establish an innovation-enabling MS segment program that can selectively allocate funds to RA segment programs to pilot innovative technologies or interventions within their existing program design and implementation structures without adversely impacting the cost-effectiveness of the RA segment program. The new pilot program could support many of the existing MS segment strategies identified in Chapter 6, including: (1) increase demand (awareness); (2) strengthen supply (training and contractor support); (3) build strategic partnerships; (4) foster innovation; and (5) expand financing options, while also building a foundation for the long-term success of pilot objectives.

If allowed by the Commission, PG&E intends to file a Tier 2 Advice Letter (AL) in accordance with D.21-05-031, OP 12 for the new MS segment program describing the program's framework for determining eligibility, magnitude, and duration of funding allocation for an RA segment program; reporting mechanics to ensure coordination between the RA and MS segment programs to prevent cost-effectiveness impacts to the RA segment program, while tracking MS segment funds allotted to a given RA segment program; criteria for assessing efficacy of funding in supporting innovation; and other relevant logistics.

- *<u>Policy Request</u>: PG&E requests the Commission 's Final Decision affirmatively allow PAs to submit a Tier 2 AL requesting the establishment of an innovation-enabling MS segment program according to the following guidelines:*
  - *The MS segment program would consist of a budget that can be allocated to existing RA segment programs for implementation of innovative interventions under the existing RA segment program*

design, with expenditures reported under the MS segment program ID.

- *PG&E's Tier 2 AL would (a) adhere to the requirements of D.21-05-031, OP 12, and (b) describe the MS segment program's framework for determining eligibility, magnitude, and duration of funding allocation for an RA segment program; reporting of those funds to ensure coordination between the RA and MS segment programs to prevent cost-effectiveness impacts to the RA segment program, while tracking MS segment funds allotted to a given RA segment program; criteria for determining efficacy of funding in supporting innovation; and other relevant logistics.*
- *PAs would submit an Implementation Plan for the innovation-enabling program to be posted to CEDARS within 60 days after approval of the Tier 2 AL, describing the innovation-enabling MS segment program framework, and excluding any inapplicable Implementation Plan template sections.*

3. Allow Energy Efficiency Funding for Propane to Electric Fuel Switching

PG&E requests Commission approval for fuel switching in support of the BE goals outlined in Chapter 3. Fuel switching measures convert end-use appliances from non-regulated fuel sources (i.e., propane) to regulated fuel sources (i.e., electricity),[21] and are not currently funded through the EE portfolio.[22] Fuel switching could enable EE programs to better serve equity customers across PG&E's service area.

Propane-to-electric fuel switching measures serve to advance the Commission's building decarbonization and equity objectives through reduced GHGs, improved indoor air quality, and lower customer bills.[23] The Commission has previously stated that propane-to-electric fuel switching of

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21 D.19-08-009, FOF 2 at p. 50 defines fuel switching. An example of a fuel switching measure is replacing a propane powered furnace with an electric heat pump.

22 D.19-08-009, FOF 3 at p. 51 explains that fuel switching is not funded by utility ratepayer EE funding. D.19-08-009, COL 2 states that the Commission should not permit fuel switching within the portfolios of the EE PAs.

23 D.23-06-055 at p. 57 describes the EE equity segment objectives as including (but not limited to) improving EE access for underserved customers; promoting health, comfort, safety; and reducing GHG and criteria pollutant emissions.

customer end uses aligns with California's goals,[24] could improve indoor air quality and reduce GHGs,[25] and, for low-income households, could decrease customer bills and increase overall financial health.[26]

Fuel switching opportunities are particularly valuable for equity customers within HTR and DAC profiles across PG&E's service area because propane is a common fuel source in rural and remote areas without gas pipelines.[27] Support for fuel switching aligns with the equity strategy outlined in Chapter 6, Section C.4.a to "minimize barriers to participation through inclusive program design." If approved, PG&E intends to implement propane-to-electric fuel switching in select electrification-focused programs. If the Commission approves fuel switching in EE portfolios, PG&E requests Energy Division expand the fuel substitution calculator to incorporate fuel switching propane baselines, subject to the provisions of the Fuel Substitution Test described in D.19-08-009, OP1.

- *Policy Request: PG&E requests the Commission's Final Decision affirmatively allow EE PAs to immediately use EE funds for propane-to-electric fuel switching incentives and associated program costs to enable these incentives within the framework of current EE ex ante rules and subject to the provisions of the Fuel Substitution Test described in D.19-08-009, OP 1.*

4. Streamline and Clarify IDSM Policy From D.18-05-041 and D.23-06-055

EE-DR IDSM Funding

PG&E proposes eliminating the minimum annual portfolio budgeting requirements from D.18-05-041 for EE-DR IDSM integration activities because these minimum budget amounts established nearly a decade ago are unrealistically high relative to practical IDSM spending patterns since 2018. Instead, the PAs can simply forecast budget needed for IDSM

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24 D.19-08-009, pp. 11-12.

25 D.18-12-015, FOFs 7, 17, 36, pp. 151-154.

26 *Ibid*.

27 *California Building Decarbonization Assessment,* CEC, (August 13, 2021), p. 119. Available at: https://www.energy.ca.gov/publications/2021/california-building-decarbonization-assessment.

activities in their applications and associated budget ALs according to program needs and historical spending trends, without unnecessarily requiring millions of additional IDSM dollars to be made available through (a) fund shifting from other areas of the EE portfolio budget, or (b) demand response balancing account funds collected at budget levels specified in D.18-05-041.[28] Further, PG&E plans to fund all EE-DR IDSM integration activities through its EE program budgets. Previously, PG&E funded its nonresidential EE-DR IDSM integration budget through a DR balancing account, however no CPUC policy mandates this accounting practice. Eliminating the minimum budget requirements would provide IOUs the flexibility needed to address ongoing customer demand for IDSM offerings, while also simplifying and streamlining the EE-DR IDSM integration budget process.

EE-DER IDSM Funding

PG&E proposes the Commission allow PAs to continue leveraging EE funding for EE-DER IDSM activities that enable ongoing load shifting to reduce peak consumption for the 2028-2031 portfolio period (D.23-06-055, OP 29 only authorized this use of EE funding for the 2024-2027 portfolio period). Should the Commission authorize load shifting program activities in another proceeding as a more appropriate long-term venue than the EE proceeding,[29] PG&E requests the Commission issue new EE policy at that time to enable the ramp-down of EE load shifting activities with minimal disruption to program implementers and customers. As specified in D.23-06-055, any load shifting paid for via EE funds should not be used on

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[28] For PG&E, residential IDSM activities have been funded through its EE budget, and the need to shift funds from other areas of its portfolio to fund residential IDSM needs has not arisen since 2018 and is an improbable occurrence. PG&E's nonresidential IDSM activities are funded through a DR-based balancing account through 2027. For a discussion of PG&E's IDSM budget practices, see *Pacific Gas and Electric Company's (U 39 M) Response to San Diego Gas & Electric Company's Petition for Modification of Decision 23-06-055* (February 28, 2024). Available at: https://docs.cpuc.ca.gov/PublishedDocs/Efile/G000/M526/K147/526147056.PDF

[29] D.23-06-055, p.79 states, in reference to the Commission's allowance for EE portfolios to support peak load shifting, that "[l]onger-term plans for encouraging load shifting may be taken up in other Commission proceedings. As those plans are solidified, we will re-examine the use of energy efficiency funds in the energy efficiency rulemaking (R.13-11-005 or its successor) or another relevant proceeding, as appropriate."

event-based DR or rebates for capital costs of non-EE equipment. EE-DER IDSM program activities that leverage incentive funding from non-EE budget must adhere to the multi-DER framework policy adopted in Resolution (Res.) E-5387.

EE-DR IDSM and EE-DER IDSM Reporting

PG&E requests the Commission streamline IDSM reporting by allowing PAs to forecast and track spending on all IDSM activities (both EE-DR integration and EE-DER) under one umbrella, instead of tracking separately as EE-DR and EE-DER. This will minimize administrative burden and simplify the IDSM reporting process, while still capturing the overall intent of IDSM, which is to leverage EE program engagement with customers to identify and promote other Load Management and DER opportunities, where appropriate.

Tier 2 Advice Letter Regarding Load Flexibility IDSM

PG&E requests the Commission allow some EE-funded IDSM activities to be exempt from EE portfolio cost-effectiveness calculations, and allow PAs to propose criteria for making this determination via a Tier 2 advice letter. The advice letter should address how/when EE activities are categorized as IDSM, the criteria under which those IDSM funds should be exempt from cost-effectiveness requirements in the RA segment (and excluded from cost-effectiveness calculations for the whole portfolio), and how the PA will ensure costs are not exempted in cases where associated benefits are claimed by the EE portfolio. Cost-effectiveness exemptions for select IDSM funds would support PG&E's Portfolio strategy to enable load flexibility, without compromising RA segment cost-effectiveness. Chapter 3 Section D.3 notes that adding grid-responsive functionality to EE equipment at installation—to ensure grid responsiveness through subsequent enrollment in a DR or non-EE load flexibility offering—may increase incremental EE measure cost without increasing claimable EE TSB, which can reduce EE measure- and program-level cost effectiveness. Incentivizing load flexibility controls through EE programs to support load flexibility interventions deployed by non-EE programs aligns with the concept of IDSM. Thus, PG&E requests the ability to leverage a Tier 2

advice letter to propose the details of cost-effectiveness exemptions for these types of EE-funded IDSM expenditures.

- *Policy Request: PG&E requests the Commission's Final Decision adopt the following policy proposals effective January 1, 2028:*
  - *Eliminate the minimum annual portfolio budgeting requirement for IDSM ordered in D.18-05-041, OP 10, wherein electric IOUs must set aside at least $1 million for the residential sector, along with a load-share proportional amount of $20 million for the commercial sector for limited EE-DR integration as part of their annual portfolio budgets.*[30]
  - *Allow PAs to continue use of EE funding for ongoing load shifting that reduces peak consumption for the 2028-2031 portfolio period—or until the Commission authorizes load shifting program activities in another proceeding that supersedes EE load shifting policy—with the following provisions:*
    - *Incentives for these load shifting interventions (e.g., for heat pump water heater controls) can be funded with EE dollars as long as EE funding is not used for event-based DR or rebates for capital costs of non-EE equipment.*
    - *There will be no maximum funding cap for EE funding of load shifting activities.*
    - *IDSM program activities that leverage incentive funding from non-EE budget must adhere to the multi-DER framework policy adopted in Res.E-5387.*
    - *Load shifting intervention funding that does not leverage non-EE DER budgets (e.g., heat pump water heater controls)—and does not facilitate integration of multiple DERs—should not be classified as IDSM.*

[30] D.18-05-041, OP 10, p.184: "Pacific Gas and Electric Company, San Diego Gas & Electric Company, and Southern California Edison Company shall set aside a minimum annual amount from each of their integrated demand side management budgets to test and deploy strategies for integration of energy efficiency and demand response as further directed in this decision, as follows: at least $1 million for the residential sector and a load-share-proportional amount of $20 million for the commercial sector."

- *Allow PAs to forecast and track spending on all IDSM activities (both EE-DR integration and EE-DER) with one IDSM tracking field, instead of tracking separately as EE-DR and EE-DER.*
- *Allow some EE-funded IDSM activities to be exempt from cost-effectiveness requirements in the RA segment and excluded from portfolio cost-effectiveness calculations, and allow PAs to file a Tier 2 advice letter describing how/when EE activities are categorized as IDSM, the criteria under which those IDSM funds should be exempt from cost-effectiveness, and how the PA will ensure costs are not exempted in cases where associated benefits are claimed by the EE portfolio.*

D. Proposed Policy Changes to Optimize Delivery of Total System Benefit

PG&E proposes policy changes to optimize delivery of TSB. These changes address historical and recent challenges to portfolio administration by helping PA portfolios function more smoothly with greater predictability to better serve customers and meet regulatory goals.

1. Reaffirm Regulatory Timelines for the DEER Bus Stop Schedule, Measure Package Review, and Custom Project Reviews

PG&E requests the Commission reaffirm its commitment to ex ante regulatory schedules for DEER updates, measure package reviews, and custom project reviews to ensure ex ante accuracy, consistency, and timeliness. Delays in the DEER bus stop schedule established in D.21-05-031 and Res. E-5152 undermine the planning certainty that the bus stop construct was designed to provide and constrain PAs' abilities to incorporate updated measure assumptions into cost-effectiveness modeling and portfolio design. When measure package review timelines exceed the Commission's standard, PAs face increased risk of misalignment with Commission goals, reduced forecasting accuracy, and diminished confidence in the regulatory calendar.[31] Reaffirming the bus stop schedule

[31] For example, many DEER 2026 measures that were intended to align with the 2025 P&G study, MCAL forecasting, and 2026-2027 portfolio claims remained unauthorized as of October 2025, despite being scheduled for finalization in late 2025.

and the 35-day interim approval standard is therefore critical to preserving the integrity of the DEER update cycle.

A transparent, tiered review approach for measure packages will focus limited regulatory resources on the measures that matter most for the Potential & Goals Study (PGS) and TSB, while still ensuring that all approved measures are supported by robust documentation and subject to post-approval oversight. This balanced framework strengthens regulatory accountability, enhances market responsiveness, and ultimately improves ratepayer value.

Further, reaffirming the Commission's commitment to custom project review timelines would help PAs provide more timely updates to customers on project outcomes, and prevent participants from withdrawing from the program due to delays and uncertainty. PG&E suggests that projects should be prioritized for review such that any projects not reviewed within the 30-day timeframe should receive default approval.

- *Policy Request: PG&E requests the Commission's Final Decision adopt the following policy proposal effective immediately:*
  - *Reaffirm and enforce the DEER "bus stop" schedule and the workpaper review timelines established in D.21-05-031 and Res. E-5152, including the 35-calendar-day interim approval protocol for complete measure package resubmittals.*
  - *Clearly restate that measure packages resubmitted with all required documentation must receive a final disposition or default to interim approval within 35 days, as set forth in Res. E-5152.*
  - *Explicitly tie DEER bus stop milestones to this review standard.*
  - *Clearly restate that custom project reviews must be reviewed within 30 days, as set forth in the "California Public Utilities Commission (CPUC) Staff Selection and Response Timing Protocol for Energy Efficiency Custom Projects Review" published in 2019. Custom project reviews not completed within this timeframe will receive default approval.*
- *To implement this proposal, the Commission should direct the Energy Division to:*

1) *Publish and maintain an updated DEER bus stop schedule that explicitly identifies when each tranche of measures is expected to reach final or interim approval status for use in the PGS, MCAL, and portfolio filings;*
2) *Track and publicly report the timeliness of measure package dispositions relative to the 35-day standard, including the use of interim approvals; and,*
3) *Adopt a tiered review framework that calibrates the depth of review to each measure's expected impact on portfolio claims. Under this framework, measures with high adoption potential or significant TSB implications would receive elevated, early-engagement review, while low-impact or niche measures would follow an expedited pathway with greater reliance on the interim approval backstop.*
4) *Track and publicly report the timeliness of Custom Project dispositions relative to the 30-day standard, including the use of default approvals.*

2. Bifurcate the DEER Resolution into a Guidance and Update Resolution and a Locking Resolution

PG&E requests the Commission bifurcate the DEER Resolution into a two-step structure: a Guidance and Update Resolution and a Locking Resolution. This bifurcation would preserve the integrity of the measure package locking protocol established in D.21-05-031 while resolving timing conflicts that arise when a single resolution is expected to both approve current updates and instruct future revisions.

Under the current construct, the DEER Resolution simultaneously governs updates to EE measure packages and locks those same versions for planning, forecasting, and claims. Because it also often directs future revisions within the same document, PAs can face procedural ambiguity over when a measure version is truly final and appropriate for use in the PGS updates, business plan forecasts, and portfolio reporting. This uncertainty complicates compliance, undermines version control, and can delay the incorporation of new technologies or revised savings assumptions into program designs. Separating policy direction on future updates from the formal act of locking measure versions would provide clearer regulatory

signals and reduce the risk that late-stage changes disrupt established planning baselines.

A second DEER Resolution, adopted later in the year once these updates have been processed and all measure package updates finalized, would lock the relevant measure package versions for use in the PGS, business plan filings, and portfolio claims, and clearly document the version identifiers and effective dates that govern compliance and reporting. By bifurcating the DEER Resolution in this manner, the Commission can improve planning certainty for PAs and program implementers. In turn, this procedural clarity strengthens portfolio integrity and improves delivery efficiency for programs.

- *Policy Request: PG&E requests the Commission's Final Decision adopt the following policy proposal effective immediately: bifurcate the DEER Resolution into two separate but coordinated regulatory instruments:*
  1) *An early-year "guidance and update" DEER Resolution that directs methodological changes, data updates, and review protocols for measure packages; and,*
  2) *A subsequent "locking" DEER Resolution that formally finalizes measure package versions for use in PGS modeling, portfolio budget filings, and portfolio claims reporting.*
- *To implement this recommendation, the Commission should direct the Energy Division to:*
  - *Develop an annual schedule under which a first DEER Resolution is issued early in the year to specify methodological adjustments, data input updates, and review procedures for the upcoming DEER cycle;*
  - *Provide guidance to the CPUC's PGS vendor and PAs, respectively, on how those updates should inform PGS modeling and preliminary PA portfolio development.*

3. Change the C&S Goal Metric to TSB

PG&E requests the Commission change the C&S goal metric to TSB to align with the goal metric for the rest of the EE portfolio. Currently, the C&S goal metric is captured in terms of peak demand (megawatt) and energy savings (gigawatt-hour and MMtherms), as adopted in the most recent EE goals decision, D.25-08-034. Transitioning the C&S goal metric to TSB

would bring the same benefits and opportunities afforded the rest of the EE portfolio and described in D.21-05-031: to enable C&S programs to capture lifecycle energy, capacity, and GHG benefits in a single dollar-based metric that ties goals directly to the avoided cost value of EE interventions, regardless of fuel type.[32] This more comprehensive metric would better align C&S program offerings and accomplishments with multi-faceted state priorities to pursue EE, decarbonization, and grid reliability via load flexibility. PG&E recommends the TSB goals for the C&S and non-C&S portions of the EE portfolios remain separate.

- *Policy Request: PG&E requests the Commission's Final Decision change the C&S goal metric to TSB, consistent with the EE Portfolio non-C&S segments goal metric, for the PGS to be adopted in 2027, to enable EE portfolio reporting under the new metric starting January 1, 2028.*

E. Conclusion

If adopted, PG&E's proposed policy modifications would assist in shifting the EE portfolio towards the future envisioned in D.21-05-031, along with the goals outlined in Chapter 3: (1) Optimize Delivery of TSB; (2) Scale Efficient BE; (3) Enable the Energy System of Tomorrow; (4) and Facilitate Rate Affordability. These policy modifications would also improve the efficiency with which the EE portfolios function, while simultaneously adapting to the unique needs of California's diverse and evolving customer base and energy landscape.

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32 D.21-05-031, p. 9.

PACIFIC GAS AND ELECTRIC COMPANY

APPENDIX A

STATEMENT(S) OF QUALIFICATIONS

PACIFIC GAS AND ELECTRIC COMPANY
STATEMENT OF QUALIFICATIONS OF CLAIRE BRAICO

Q 1 Please state your name and business address.

A 1 My name is Claire Braico, and my business address is Pacific Gas and Electric Company (PG&E), 300 Lakeside Drive, Oakland, California.

Q 2 Briefly describe your responsibilities at PG&E.

A 2 I am the Senior Manager of the Energy Efficiency (EE) Policy Shaping and Technical Oversight team within the Building Electrification and Efficiency Programs Department. I oversee analysts who focus on policy, compliance matters, and data reporting, as well as engineers who focus on technical EE project review analysis, and Evaluation, Measurement and Verification for PG&E's EE Programs.

Q 3 Please summarize your educational and professional background.

A 3 I received a Bachelor of Science in Mechanical Engineering from California Polytechnic State University in San Luis Obispo, California in 2010 and my Mechanical Professional Engineering License in 2013. Since joining PG&E in 2010, I have held a variety of positions with increasing responsibility. I was hired as a Field Engineer with the EE Programs team, Supervisor of the EE Programs engineering team, Manager of PG&Es Non-Residential EE Programs Operations, and now Senior Manager of the Policy Shaping and Technical Oversight team. I have held my current position since September 2023.

A 4 I am sponsoring the following testimony in PG&E's Energy Efficiency 2028-2035 Business Plan and 2028-2031 Portfolio Plan:

- Exhibit (PG&E-1), "PG&E's Energy Efficiency 2028-2035 Business Plan and 2028-2031 Portfolio Plan":
  - Chapter 9, "Evaluation, Measurement & Verification"; and
  - Chapter 11, "Recommendations for New or Modified EE Policy."

Q 4 Does this conclude your statement of qualifications?

A 5 Yes, it does.

PACIFIC GAS AND ELECTRIC COMPANY
STATEMENT OF QUALIFICATIONS OF MICHAEL D. BURGER

Q 1 Please state your name and business address.

A 1 My name is Michael D. Burger, and my business address is Pacific Gas and Electric Company (PG&E), 300 Lakeside Drive, Oakland, California.

Q 2 Briefly describe your responsibilities at PG&E.

A 2 I am the senior manager of Customer Energy Solutions Program Management. I am responsible for strategy, optimization, delivery and oversight of PG&E's Energy Efficiency programs across residential and non-residential sectors, including Codes and Standards and Local Government Partnerships.

Q 3 Please summarize your educational and professional background.

A 3 I received a Bachelor of Arts degree in business administration from Niagara University in 2004. Before joining PG&E in 2006, I worked for PricewaterhouseCoopers in the Assurance and Business Advisory group. Since joining PG&E in 2006, I have held a variety of positions with increasing responsibility. I was a business finance analyst supporting Power Generation; senior business finance analyst supporting Risk and Regulatory Relations; supervisor/acting manager-business finance supporting Integrated Demand Side Management; manager of the Portfolio Data and Analysis group within Integrated Demand Side Management; manager of the Financial Reporting and Governance team within Customer Energy Solutions.

Q 4 What is the purpose of your testimony?

A 4 I am sponsoring the following testimony in PG&E's Energy Efficiency 2028-2035 Business Plan and 2028-2031 Portfolio Plan:

- Exhibit (PG&E-1), "PG&E's Energy Efficiency 2028-2035 Portfolio Plan and 2032-2035 Business Plan":
  - Chapter 2, "Portfolio Summary";
  - Chapter 5, "Portfolio Management";
  - Chapter 5, Attachment A, "OP 2 Statewide Assessment Framework";
  - Chapter 6, "Segmentation and Sector Strategy";

- Chapter 7, “Portfolio Coordination”; and

- Exhibit (PG&E-2), “PG&E'S Program Cards, Pursuant to Energy Division Template”:
  - Attachment A, “PG&E'S Program Cards, Pursuant to Energy Division Template.”

Q 5 Does this conclude your statement of qualifications?

A 5 Yes, it does.

PACIFIC GAS AND ELECTRIC COMPANY
STATEMENT OF QUALIFICATIONS OF MANANYA CHANSANCHAI

Q 1 Please state your name and business address.

A 1 My name is Mananya Chansanchai, and my business address is Pacific Gas and Electric Company (PG&E), 300 Lakeside Drive, Oakland, California.

Q 2 Briefly describe your responsibilities at PG&E.

A 2 I am a Senior Manager overseeing the Building Electrification and Efficiency Strategy team. I oversee coworkers who are responsible for enterprise building electrification strategy and policy and the energy efficiency (EE) portfolio strategy.

Q 3 Please summarize your educational and professional background.

A 3 I received a Bachelor of Arts degree in Business Management Economics from the University of California, Santa Cruz in 2001 and a Master of Business Administration from the University of California, Davis Graduate School of Management (UC Davis GSM) in 2009. At the UC Davis GSM, I was a PG&E EE Fellow during my final year. After business school, I joined a small EE company that implemented mostly energy efficient lighting projects. Since joining PG&E in 2012, I have held a variety of positions with increasing responsibility. I started as a contract project manager in the Emerging Technologies department and joined PG&E full time in 2013 as a Senior Product Manager; became a Supervisor and eventually Manager of the EE Product Management team; and Manager of the EE Portfolio Strategy & Optimization team. I have held my current position since March 2025 (temporarily from March through June 2025 and permanently since July 2025).

Q 4 What is the purpose of your testimony?

A 4 I am sponsoring the following testimony in PG&E's Energy Efficiency 2028-2035 Business Plan and 2028-2031 Portfolio Plan:

- Exhibit (PG&E-1), "PG&E's Energy Efficiency 2028-2035 Business Plan and 2028-2031 Portfolio Plan":
  - Chapter 3, "Portfolio Strategies"; and
  - Chapter 8, "Stakeholder Engagement."

Q 5 Does this conclude your statement of qualifications?

A 5 Yes, it does.

PACIFIC GAS AND ELECTRIC COMPANY
STATEMENT OF QUALIFICATIONS OF DAVID POSTER

Q 1 Please state your name and business address.

A 1 My name is David Poster, and my business address is Pacific Gas and Electric Company (PG&E), 300 Lakeside Drive, Oakland, California.

Q 2 Briefly describe your responsibilities at PG&E.

A 2 I am the Director of the Building Electrification (BE) and Efficiency organization at PG&E overseeing the company's portfolio of BE and Energy Efficiency (EE) solutions aimed at helping customers eliminate unnecessary energy use and supporting California in achieving a cleaner and more reliable energy future.

Q 3 Please summarize your educational and professional background.

A 3 Prior to my current role, I held several other important roles within PG&E including Senior Manager of EE Operations, Manager of Residential Programs and Manager of Policy and Strategy. I hold a Bachelor's degree in Economics from the University of Puget Sound.

Q 4 What is the purpose of your testimony?

A 4 I am sponsoring the following testimony in PG&E's Energy Efficiency 2028-2035 Business Plan and 2028-2031 Portfolio Plan:

- Exhibit (PG&E-1), "PG&E's Energy Efficiency 2028-2035 Business Plan and 2028-2031 Portfolio Plan":
  - Chapter 1, "Executive Summary."

Q 5 Does this conclude your statement of qualifications?

A 5 Yes, it does.

PACIFIC GAS AND ELECTRIC COMPANY
STATEMENT OF QUALIFICATIONS OF JAKE RICHARDSON

Q 1 Please state your name and business address.

A 1 My name is Jake Richardson, and my business address is Pacific Gas and Electric Company (PG&E), 705 P. Street, Fresno, California.

Q 2 Briefly describe your responsibilities at PG&E.

A 2 I am the Manager of PG&E's Building Electrification and Efficiency Programs Portfolio Planning and Reporting team. This team is responsible for regulatory reporting of PG&E's Building Electrification and Energy Efficiency (EE) programs, including both financial reporting and energy savings and benefits for both budgeting and actuals.

Q 3 Please summarize your educational and professional background.

A 3 I received a Bachelor of Science degree in Mechanical Engineering from California Polytechnic State University, San Luis Obispo in 2011. In 2015, I received my California professional engineer's license in Mechanical Engineering. In 2017, I received a Master's degree in Business Administration from California State University, Fresno. I have worked across multiple industries, including: Designer in the automotive industry from 2008-2012; Mechanical Engineer, Research & Development Engineer; Relentless Continuous Improvement & Operations Manager; Applications Engineering Manager in the food processing industry from 2012-2020; and now in my current role in the utility industry. I joined PG&E's EE team in 2020 as an Engineer on the Quality Control & Communications team, became the Supervisor of the EE Regulatory Reporting and Compliance team in 2021, and in 2025, became the Manager of the Building Electrification and Efficiency Programs Portfolio Planning and Reporting team. Since 2021, I have worked extensively with the California Energy Data and Reporting System (CEDARS) and Cost Effectiveness Tool—the official California Public Utilities Commission (CPUC) tools for using the avoided cost calculator values to determine EE Program electric and gas benefit allocations. I have also worked extensively with PG&E's EE financials to provide: monthly accounting reports, unspent and uncommitted

funds analysis, caps and targets reports, and monthly and quarterly CEDARS claims reports to the CPUC.

A 4 I am sponsoring the following testimony in PG&E's Energy Efficiency 2028-2035 Business Plan and 2028-2031 Portfolio Plan:

- Exhibit (PG&E-1), "PG&E's Energy Efficiency 2028-2035 Business Plan and 2028-2031 Portfolio Plan":
  - Chapter 4, "Forecast Methodology";
  - Chapter 10, "Cost and Cost Recovery";
- Exhibit (PG&E-3), "PG&E's Responses, Pursuant to Energy Division Template":
  - Attachment A, "Energy Efficiency 2028-2031 CEDARS Filing Submission Links and Receipts"; and
  - Attachment B, "Energy Efficiency 2028-2035 Application Tables, Pursuant to Energy Division Template."

Q 4 Does this conclude your statement of qualifications?

A 5 Yes, it does.