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PACIFIC GAS AND ELECTRIC COMPANY
ENERGY EFFICIENCY 2024 BUSINESS-PORTFOLIO PLAN
PG&E ENERGY EFFICIENCY 2024-2027 PORTFOLIO PLAN
PREPARED TESTIMONY
EXHIBIT 2



PACIFIC GAS AND ELECTRIC COMPANY
ENERGY EFFICIENCY 2024 BUSINESS-PORTFOLIO PLAN
PREPARED TESTIMONY

TABLE OF CONTENTS

Chapter	Title	Witness
Exhibit 1	PG&E ENERGY EFFICIENCY 2024-2031 STRATEGIC BUSINESS PLAN	
1	PG&E'S VISION FOR ENERGY EFFICIENCY IN CALIFORNIA: 2024-2031	David Poster
2	ANNUAL PORTFOLIO BUDGETS FOR 2024-2031	Michael D. Burger
3	RECOMMENDATIONS FOR NEW OR MODIFIED ENERGY EFFICIENCY POLICY	Caroline Massad Francis
Attachment A	SUMMARY LIST OF POLICY CHANGES	Caroline Massad Francis
Appendix A	STATEMENTS OF QUALIFICATIONS	Robert W. Bohn Ben Brown Michael D. Burger Caroline Massad Francis Rebecca Madsen David Poster
Exhibit 2	PG&E ENERGY EFFICIENCY 2024-2027 PORTFOLIO PLAN	
1	PORTFOLIO SUMMARY	David Poster
2	FORECAST METHODOLOGY	Robert W. Bohn
Attachment A	PG&E ENERGY EFFICIENCY 2024-2027 PROGRAM-LEVEL ANNUAL COST VARIANCE EXPLANATIONS	Robert W. Bohn
3	SEGMENTATION STRATEGY	Ben Brown
Attachment A	PROGRAM LEVEL AND SEGMENT LEVEL METRICS AND TARGETS	Ben Brown
4	SECTOR STRATEGY	Michael D. Burger
Attachment A	RESIDENTIAL PROGRAM CARDS	Michael D. Burger

PACIFIC GAS AND ELECTRIC COMPANY
ENERGY EFFICIENCY 2024 BUSINESS-PORTFOLIO PLAN
PREPARED TESTIMONY

TABLE OF CONTENTS
(CONTINUED)

Chapter	Title	Witness
Attachment B	COMMERCIAL PROGRAM CARDS	Michael D. Burger
Attachment C	PUBLIC PROGRAM CARDS	Michael D. Burger
Attachment D	AGRICULTURAL PROGRAM CARDS	Michael D. Burger
Attachment E	INDUSTRIAL PROGRAM CARDS	Michael D. Burger
Attachment F	CODES AND STANDARDS PROGRAM CARDS	Michael D. Burger
Attachment G	NEW CONSTRUCTION PROGRAM CARDS	Michael D. Burger
Attachment H	LOCAL GOVERNMENT PARTNERSHIPS PROGRAM CARDS	Michael D. Burger
Attachment I	WORKFORCE EDUCATION AND TRAINING PROGRAM CARDS	Michael D. Burger
Attachment J	FINANCE PROGRAM CARDS	Michael D. Burger
5	PORTFOLIO MANAGEMENT	Michael D. Burger
6	EVALUATION, MEASUREMENT AND VERIFICATION	Caroline Massad Francis
7	COST AND COST RECOVERY	Rebecca Madsen
Appendix A	PG&E ENERGY EFFICIENCY 2024-2027 CEDARS FILING SUBMISSION LINKS AND RECEIPTS	
Exhibit 3	PG&E'S RESPONSES, PURSUANT TO ENERGY DIVISION TEMPLATE	
1	PG&E'S ENERGY EFFICIENCY 2024-2031 APPLICATION TABLES, PURSUANT TO ENERGY DIVISION TEMPLATE	Michael D. Burger

PACIFIC GAS AND ELECTRIC COMPANY
ENERGY EFFICIENCY 2024 BUSINESS-PORTFOLIO PLAN
PREPARED TESTIMONY

TABLE OF CONTENTS
(CONTINUED)

Chapter	Title	Witness
2	PG&E'S ENERGY EFFICIENCY 2024-2027 SUPPLEMENTAL BUDGET NARRATIVE INFORMATION, PURSUANT TO ENERGY DIVISION TEMPLATE	Michael D. Burger

PACIFIC GAS AND ELECTRIC COMPANY
CHAPTER 1
PORTFOLIO SUMMARY

PACIFIC GAS AND ELECTRIC COMPANY
CHAPTER 1
PORTFOLIO SUMMARY

TABLE OF CONTENTS

A. Introduction.....	1-1
1. Portfolio Overview.....	1-1
2. Scope and Purpose	1-2
3. Summary of the Request	1-2
4. Support for the Request.....	1-3
5. Organization of the Remainder of this Chapter	1-3
B. Key Metrics, Outcomes, and Goals	1-3
1. Business Plan Outcomes and Key Metrics	1-3
2. Narrative on Portfolio Goals and Desired Outcomes to be Achieved in 2024-2027	1-7
a. Portfolio Goal: Optimize Delivery of Total System Benefit.....	1-7
b. Portfolio Goal: Support Economy-Wide Carbon Neutrality by 2045	1-8
c. Portfolio Goal: Shape Energy Demand to Match Supply	1-8
d. Portfolio Goal: Support Customer Resiliency.....	1-9
C. Portfolio Strategies	1-10
1. Strategy #1: Deliver Total System Benefit by Meeting Customers Where They Are	1-11
2. Strategy #2: Pursue a Multi-Pronged Approach to Building Decarbonization	1-11
a. Support Electrification in Existing and New Buildings.....	1-12
b. Technical Support and Advocacy Through Codes and Standards	1-12
c. Decarbonize through Equipment Support.....	1-12
3. Strategy #3: Deploy Technologies that are Grid-Responsive and Demand Flexible	1-13

PACIFIC GAS AND ELECTRIC COMPANY
CHAPTER 1
PORTFOLIO SUMMARY

TABLE OF CONTENTS
(CONTINUED)

a. Align EE Portfolio with PG&E's Enterprise-Wide Coordinated Supply and Load Strategy	1-14
b. Use Meter-Based Platform Throughout the Portfolio	1-14
4. Strategy #4: Contribute to Cost Saving Resiliency Solutions	1-14
5. Strategy #5: Properly Value the Benefits of Energy Efficiency	1-15
D. Application Summary Tables for 2024-2027	1-15
1. Annual Budget Request	1-15
2. Distribution of Budget Across Segments and Sectors	1-16
3. Projected Cost-Effectiveness	1-17
4. Resource Acquisition Segment: Forecasted Program-, Sector-, and Portfolio-Level Cost-Effectiveness	1-19
5. All Segments: Forecasted Total System Benefit, Net Energy Savings, and CO ₂	1-20
a. Comparison of Projected TSB to Adopted TSB Goals	1-22
6. Projected percentage of Portfolio Third Party Outsourced	1-22

PACIFIC GAS AND ELECTRIC COMPANY

CHAPTER 1

PORTFOLIO SUMMARY

A. Introduction

1. Portfolio Overview

Pacific Gas and Electric Company (PG&E) presents its Energy Efficiency (EE) portfolio for 2024-2027, which is the first four-year cycle of its eight-year strategic business plan described in Exhibit 1, Chapter 1 of this testimony. This EE portfolio plan continues PG&E's current EE portfolio as adapted to address the changing landscape of clean energy in California and responds to the major policy changes the California Public Utilities Commission (Commission or CPUC) adopted in Decision (D.) 21-05-031. In compliance with D.21-05-031, PG&E presents its testimony pursuant to an Energy Division template regarding the EE application.¹

PG&E's EE portfolio is designed to achieve its four main portfolio goals: (1) Optimize Delivery of Total System Benefit (TSB); (2) Support Economy-Wide Carbon Neutrality by 2045; (3) Shape Energy Demand to Match Supply; and (4) Support Customer Resiliency. PG&E intends to accomplish this through a diversified and balanced portfolio of programs and services that serve all five major customer sectors (Residential, Commercial, Public, Agricultural, Industrial). PG&E's portfolio of programs focuses on engaging customers through multiple channels, providing easy access and clear pathways to EE services, and building customer awareness around emerging opportunities on building decarbonization and flexible demand. PG&E will encourage customers, including those traditionally underserved by EE programs, in order to broaden the scope of conventional EE efforts by incorporating more comprehensive energy management strategies that will include participation in demand response programs, optimizing energy consumption on time of use rates, and aligning that consumption with times

¹ *Assessment of Energy Efficiency Potential and Goals and Modification of Portfolio Approval and Oversight Process*, D.21-05-031, p. 82, Ordering Paragraph (OP) 6. Where necessary, PG&E includes additional information and/or integrates similar sections.

of cleaner energy generation. PG&E's portfolio also includes a robust codes and standards portfolio of programs that provides technical support and advocacy with state, federal, and regional agencies to accelerate the transition to low-carbon buildings and the use of appliances that have the greatest EE and decarbonization potential.

2. Scope and Purpose

This chapter provides a summary of PG&E's EE portfolio plan for 2024 through 2027. As directed in D.21-05-031, PG&E provides a four-year program portfolio beginning with year 2024.² The chapter includes summaries of PG&E's proposed business plan outcomes, its portfolio strategies, budget, TSB, and cost-effectiveness forecasts at the portfolio, sector, and segment-level.

3. Summary of the Request

PG&E requests that the Commission approve its revenue requirement request for approximately \$1.4 billion for the first four-year portfolio cycle that covers 2024-2027. This includes approximately \$1.1 billion for PG&E's EE portfolio and approximately \$272.4 million requested on behalf of approved Regional Energy Networks (RENs) and Community Choice Aggregators (CCAs) within PG&E's territory.³ PG&E's annual budget request for 2024-2027 closely aligns with its 2023 portfolio spending budget⁴ request for two main reasons: (1) 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 (2) PG&E assumes many of its third-party implemented programs may be at their full program performance levels and the forecast reflects a steady-state.

² Assessment of Energy Efficiency Potential and Goals and Modification of Portfolio Approval and Oversight Process, D.21-05-031, pp. 81-82, OP 5.

³ This request reflects the budget needs of RENs and Community Choice Aggregators approved for PA status as of January 14, 2022 for 2024 - 2031. This includes Bay Area Regional Energy Network (BayREN), CleanPowerSF, Marin Clean Energy, San Jose Clean Energy (SJCE), and Tri County Regional Energy Network (3C-REN). Should REN or CCA filing budgets differ from what is provided, or should REN or CCA PA statuses change, PG&E's authorized budget cap request will need to be amended. PG&E's may need to submit supplemental or revised testimony. See Exhibit 1, Chapter 3 for PG&E's proposal to account for changes in REN and/or CCA PA status.

⁴ PG&E Advice Letter 4521-G-A/6385-E-A, (Jan. 7, 2022).

4. Support for the Request

PG&E's four-year revenue requirement request enables PG&E to achieve cumulative TSB of approximately \$932 million and a Total Resource Cost (TRC) ratio of 1.04 for its resource acquisition segment. It also enables PG&E to support legislative and climate priorities for California such as doubling EE, reducing greenhouse gas emissions (GHG), and executing on the portfolio strategies included in this chapter and others described throughout Exhibit 2.

5. Organization of the Remainder of this Chapter

- Section B: Key Metrics, Outcomes, and Goals
- Section C: Portfolio Strategies
- Section D: Application Summary Tables

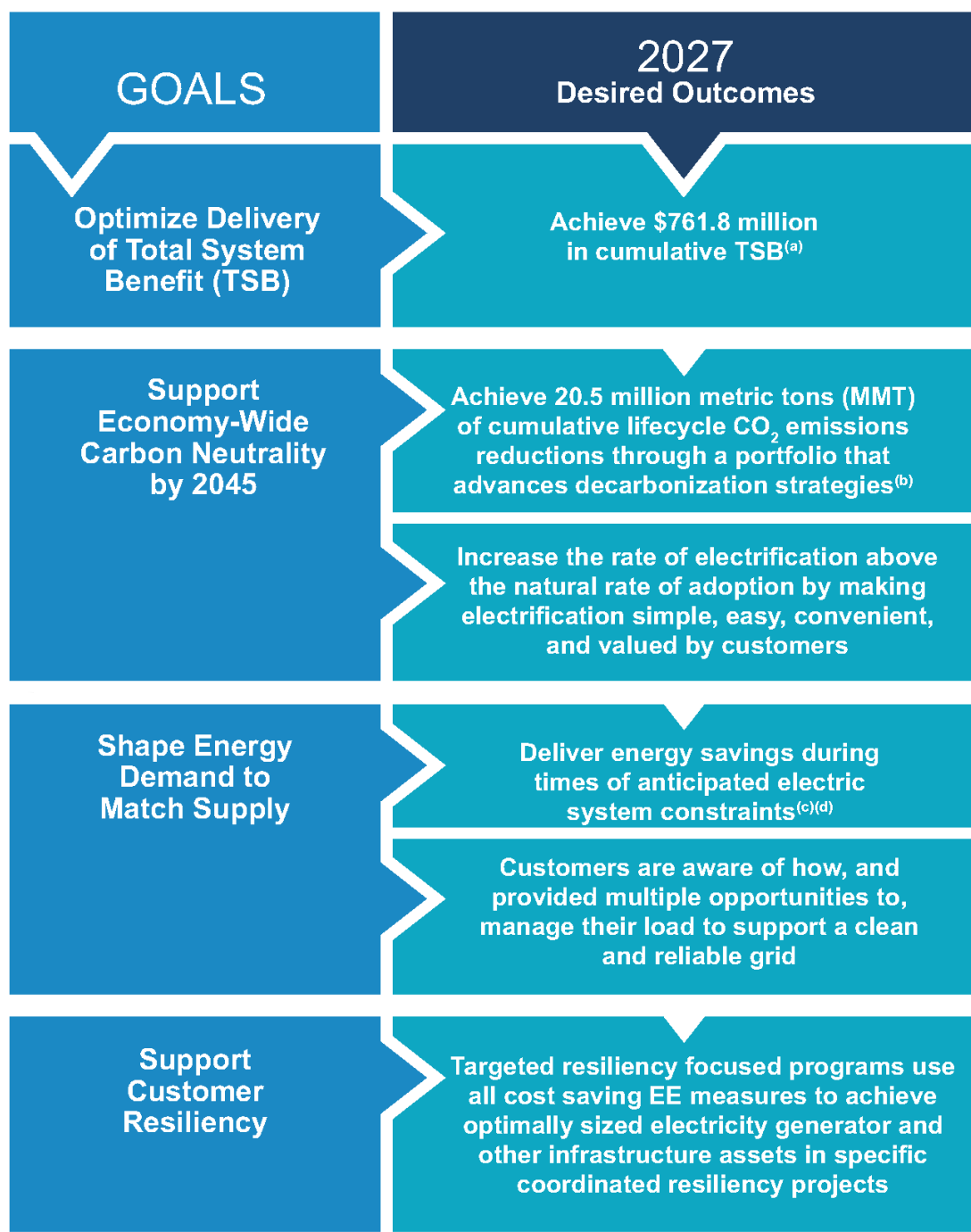
B. Key Metrics, Outcomes, and Goals

1. Business Plan Outcomes and Key Metrics

In May 2021, D.21-05-031 adopted major changes to policy issues related to EE goals metrics, portfolio segmentation, cost-effectiveness requirements, and revised portfolio processes. PG&E plans to track its progress by the end of its first four-year portfolio cycle using quantitative metrics based on CPUC-directed PA portfolio goals – cumulative TSB and cumulative TRC ratio for the resource acquisition (RA) segment. In addition, PG&E will use lifecycle carbon dioxide (CO₂) to represent the EE's portfolio's contribution to GHG reductions. PG&E includes these three metrics, along with qualitative metrics summarized here in Figure 1-1, as desired outcomes for the first four-year portfolio cycle. The three quantitative metrics are included in the Tables 1-1 through 1-3 below at the portfolio, sector, and segment level. While energy savings are no longer direct goal metrics for the EE portfolio, the PAs are still required to track them,⁵ therefore PG&E provides them here for reference.

⁵ D.21-05-031, p. 80, OP 1.

**FIGURE 1-1
PG&E'S EE PORTFOLIO DESIRED OUTCOMES BY 2027**



(a) PG&E's cumulative TSB goals for 2024 2027 adopted in D.21 09 037, p. 19.

(b) Cumulative lifecycle CO₂ emissions from PG&E's EE Application CET output forecast, converted from short tons to metric tons, including codes and standards.

(c) PG&E is defining this timeframe as the hours of 4pm to 9pm, every day to align with a frequently used peak pricing period of PG&E's electric rate plans. PG&E will measure progress towards this goal in watt-hours (Wh) as opposed to only DEER defined peak watts.

(d) PG&E is not including a target figure as the savings in watt hours for only the specific time periods of concern is not yet an available CET output. PG&E recommended improvements to CET outputs and overall EE benefit calculations are discussed in subsequent chapters throughout this application.

TABLE 1-1
2024-2027 PORTFOLIO FORECASTED CUMULATIVE METRICS

Line No.	Description	Total System Benefit	TRC Ratio	PAC Ratio	First-Year Net kW	First-Year Net kWh	First-Year Net Therm	Lifecycle Net kWh	Lifecycle Net Therm	Lifecycle CO ₂ (metric tons)
1	Portfolio	\$932,023,005 ^(a)	1.27 ^(b)	4.07	1,141,705	5,907,579,760	165,338,058	70,727,210,022	1,867,339,078	20,497,182

(a) TSB total does not include Codes & Standards (C&S).

(b) Emerging Technologies programs are not included in the TRC ratio.

TABLE 1-2
2024-2027 FORECASTED CUMULATIVE METRICS BY SECTOR

Line No.	Sector	Total System Benefit	TRC Ratio	PAC Ratio	First-Year Net kW	First-Year Net kWh	First-Year Net Therm	Lifecycle Net kWh	Lifecycle Net Therm	Lifecycle CO ₂ (metric tons)
1	Agricultural	\$46,758,665	0.95	1.10	10,342	68,193,839	464,232	795,912,780	6,815,268	170,044
2	Commercial	252,246,799	0.92	1.15	41,618	254,709,957	12,749,798	2,524,300,351	156,855,934	1,264,024
3	Industrial	243,133,698	1.25	1.63	26,058	193,837,389	26,646,098	1,587,464,178	185,073,521	1,274,326
4	Public	64,874,989	0.55	0.73	19,234	83,425,023	2,057,720	867,047,420	26,587,964	285,601
5	Residential	240,513,486	0.81	0.92	189,811	1,058,859,128	34,895,788	2,883,908,377	84,642,189	992,991
6	Codes and Standards ^(a)	0	1.51	23.62	846,818	4,150,502,477	87,738,374	60,603,313,743	1,391,592,804	16,121,577
7	Emerging Technologies ^{(a),(b)}	0	0.00	0.00	0	0	0	0	0	0
8	On Billing Finance	84,495,367	0.72	4.17	7,825	98,051,947	786,048	1,465,263,173	15,771,397	388,618
9	Workforce Education and Training ^(a)	0	0.00	0.00	0	0	0	0	0	0
10	EM&V ^(a)	0	0.00	0.00	0	0	0	0	0	0
11	Total	\$932,023,005	1.27	4.07	1,141,705	5,907,579,760	165,338,058	70,727,210,022	1,867,339,078	20,497,182

(a) These sectors do not contribute to TSB goals.

(b) Emerging Technologies programs are not included in the TRC ratio.

TABLE 1-3
2024-2027 FORECASTED CUMULATIVE METRICS BY SEGMENT

Line No.	Segment	Total System Benefit	TRC Ratio	PAC Ratio	First-Year Net kW	First-Year Net kWh	First-Year Net Therm	Lifecycle Net kWh	Lifecycle Net Therm	Lifecycle CO ₂ (metric tons)
1	Resource Acquisition	\$687,370,912	1.04	1.24	266,361	1,542,050,147	70,749,401	6,991,456,105	366,883,336	3,215,135
2	Market Support	244,652,093	0.65	1.13	28,526	215,027,136	6,850,283	3,132,440,175	108,862,938	1,160,470
3	Equity	0	0.00	0.00	0	0	0	0	0	0
4	Codes and Standards ^(a)	0	1.51	23.62	846,818	4,150,502,477	87,738,374	60,603,313,743	1,391,592,804	16,121,577
5	EM&V	0	0.00	0.00	0	0	0	0	0	0
6	Total	\$932,023,005	1.27	4.07	1,141,705	5,907,579,760	165,338,058	70,727,210,022	1,867,339,078	20,497,182

(a) Not included in TSB.

2. Narrative on Portfolio Goals and Desired Outcomes to be Achieved in 2024-2027

This section discusses in further detail PG&E's EE portfolio goals and portfolio performance metrics to be achieved in the first four-year cycle of its eight-year strategic business plan.

PG&E's goals for its EE portfolio for 2024-2027 are the same as those for the entire eight-year strategic business plan period because they are long-term goals that require time to achieve: (1) Optimize Delivery of TSB; (2) Support Economy-Wide Carbon Neutrality by 2045; (3) Shape Energy Demand to Match Supply, and (4) Support Customer Resiliency. PG&E believes its EE portfolio can make meaningful progress towards achieving these goals.

a. Portfolio Goal: Optimize Delivery of Total System Benefit

PG&E strives to optimize delivery of TSB in its EE portfolio. PG&E uses optimization to guide portfolio investments towards the most effective and impactful solutions and to address the wide range of needs of our energy systems, customers, environment, and the economy.

PG&E will administer a portfolio of programs and services at multiple interaction points and deploy a variety of program types, intervention⁶ approaches, and transaction structures to increase customer participation. PG&E believes this increased participation can help deliver on its TSB portfolio metric by generating benefits from all customer sectors across PG&E's diverse service territory.

PG&E will measure progress towards achieving this portfolio goal by delivering at least the cumulative TSB goal in our 2024-2027 portfolio period as required by D.21-09-037.⁷ This cumulative figure is provided in Table 1-1 and Figure 1-1.

⁶ PG&E uses intervention to broadly cover the various points at which our portfolio's funded activities influence a customer or other market actors' behavior or actions, and it is through this influence that we can generate value in the form of benefits for our customers.

⁷ D.21-09-037, p. 19.

b. Portfolio Goal: Support Economy-Wide Carbon Neutrality by 2045

PG&E is committed to helping California succeed in reaching its climate goals of reducing GHG emissions by 40 percent below 1990 levels by 2030,⁸ and ultimately reaching economy-wide carbon neutrality by 2045.⁹ While this goal extends beyond the timeframe of the eight-year portfolio period, PG&E believes its EE portfolio can make meaningful progress towards this goal by 2027. PG&E intends to measure progress towards this goal quantitatively and qualitatively. Quantitatively, to ensure that our EE portfolio is aligned with and contributing to California's decarbonization goals, PG&E sets a target of achieving 20.5 million metric tons of cumulative lifecycle CO₂ emissions reductions¹⁰ by 2027 (see Figure 1-1). PG&E's qualitative desired outcome by the end of 2027 is to increase the rate of building electrification above the natural rate of adoption by making building electrification simple, easy, convenient, and valued by customers.

c. Portfolio Goal: Shape Energy Demand to Match Supply

PG&E sets a goal for its EE portfolio to shape energy demand to match supply. PG&E recognizes that our energy system needs to evolve as we improve our efforts to deliver safe, reliable, affordable, and clean energy. PG&E understands the importance of implementing comprehensive demand side management (DSM) solutions to ensure customers continue to receive safe, reliable, affordable, and clean energy. DSM solutions can help to address existing and forecasted reliability issues because of energy supply constraints. Additionally,

⁸ See California Senate Bill 32 (2016).

⁹ See California Executive Order B-55-18 (2018).

¹⁰ PG&E selected this metric because it is available as an output from the CPUC's Cost Effectiveness Tool (CET) and GHG emissions is a common decarbonization metric. The EE portfolio's contribution toward carbon neutrality may be understated because lifecycle CO₂ emissions reduction only captures the emissions reductions associated with interventions in PG&E's EE portfolio that deliver energy savings, while additional activities that support GHG emissions reductions, but do not directly deliver energy savings such as workforce education and training programs are not captured through this metric. Additionally, GHG emissions reductions from low-GWP refrigerant measures are not captured in this metric. CO₂ equivalent may be a better metric however this is not available as a CET output.

1 DSM solutions can help customers power their homes and businesses
2 using a growing supply of renewable energy. PG&E's 2024-2027
3 portfolio can make progress towards shaping customer's energy
4 demand to match affordable and renewable energy supply. PG&E's EE
5 portfolio will focus on using TSB optimization throughout multiple
6 programs to deliver permanent load reducing solutions at times of
7 unavailable, high-cost, and non-renewable energy supply.

8 By reorienting our portfolio to optimize for TSB, the permanent load
9 reductions that our portfolio delivers can increasingly align with reducing
10 customer energy use during electric grid peak periods. Because TSB
11 allows us to consider both the time and location of the energy savings
12 our portfolio delivers, PG&E intends to increase investments in ways
13 that can reduce peak energy use and increase our electric grid's
14 reliability.

15 Beyond our deemed and custom program approaches, PG&E's
16 meter-based platform programs will be able to also support reducing
17 customer peak energy use. Because the meter-based platform provides
18 accelerated feedback on EE intervention performance (due to the
19 real-time analysis of EE project meter data) that can be coupled with
20 performance contracting, PG&E's meter-based programs will help
21 provide rapid response actions to address grid reliability concerns.

22 PG&E plans to quantitatively measure progress towards this goal by
23 tracking the delivered energy savings during periods of anticipated
24 electric system constraints. During the 2024-2027 portfolio period,
25 PG&E expects to qualitatively track customer's awareness of and
26 access to opportunities to manage their energy use to support a clean
27 and reliable electric grid.

28 **d. Portfolio Goal: Support Customer Resiliency**

29 PG&E strives to provide safe, reliable, affordable, and clean energy
30 to its customers. Customers are increasingly interested in energy
31 resiliency solutions such as backup generation, and PG&E's EE portfolio
32 can play a role to support customers' energy resiliency.

EE has long been placed first in the “loading order” of resources potentially available to meet energy needs.¹¹ Since EE products and services can both reduce customer load and provide customers the tools to manage their energy use on an ongoing basis, our EE portfolio can help reduce the amount of generation needed to power customers’ homes and businesses.

PG&E anticipates measuring progress towards this goal through our targeted EE resiliency support programs. These programs are designed and implemented to achieve cost savings on optimally sized electricity generator and other infrastructure assets in specific coordinated resiliency projects.

C. Portfolio Strategies

This section describes the key strategies for PG&E’s 2024-2027 EE portfolio: (1) deliver TSB by meeting customers where they are; (2) pursue a multi-pronged approach to building decarbonization; (3) deploy technologies that are grid-responsive and demand flexible; (4) contribute to cost saving resiliency solutions; and (5) properly value the benefits of EE. These strategies also drive the EE portfolio that PG&E is proposing for 2024-2031 in Exhibit 1, Chapter 1.

The following strategy prompts in italics requested by the CPUC in the application template¹² are mapped to the above five PG&E strategies, as shown in Table 1-4:

¹¹ First adopted in the California Energy Action Plan in 2003, and reaffirmed in State of California Energy Action Plan II, 2005. “As stated in EAP I and reiterated here, cost effective energy efficiency is the resource of first choice for meeting California’s energy needs. Energy efficiency is the least cost, most reliable, and most environmentally sensitive resource, and minimizes our contribution to climate change. California’s energy efficiency programs are the most successful in the nation and we want to continue to build upon those successes.” p.3.

¹² *EE Business Plan and Application Template – Final from ED with EMV*, received via Energy Efficiency Proceeding Service List R.13-11-005 on October 20, 2021.

**TABLE 1-4
CPUC STRATEGY PROMPT MAPPING**

Line No.	CPUC-Requested Strategy Prompts	PG&E Portfolio Strategy Addressing the CPUC Prompt
1	Strategy for application/use of various and new methods for savings forecasting and quantification methods (e.g., normalized metered energy consumption (NMEC) including requirements in Public Resources Code Section 25310(c)(5)).	Strategy #3
2	Strategies for market intervention and EE adoption: e.g., targeted points of intervention; delivery channels/platforms/methods.	Strategies #1-4
3	New strategies for spurring innovation: e.g., cultivating new, diverse, businesses to enter EE design/implementation, cultivating relationships with traditional actors in other markets to enter EE design/implementation, supporting the adoption of new and evolving GHG reducing technologies.	Strategies #1-4
4	Strategy for incorporating low global warming potential (gwp) refrigerants in the portfolio	Strategy #2

These strategies represent the core of PG&E's EE activities and are intended to guide, but not limit, PG&E's efforts during the first four-year cycle.

1. Strategy #1: Deliver Total System Benefit by Meeting Customers Where They Are

PG&E's EE Portfolio will deliver programs and services across multiple intervention types and at a variety of interaction points to meet our customers' needs across our service territory.¹³ As described in Exhibit 1, Chapter 1, Section E, PG&E proposes three key tactics supporting this strategy: (1) offer a diversified EE portfolio; (2) design a portfolio that meets customers where they are; and (3) enhance digital strategies and personalize customer journeys. Chapter 4 provides further detail on programs that will use these tactics to deliver TSB.

2. Strategy #2: Pursue a Multi-Pronged Approach to Building Decarbonization

PG&E is committed to supporting decarbonization while keeping energy affordable by managing an equitable and viable transition to zero carbon alternatives for customers. Within EE programs, PG&E's support for

¹³ PG&E describes its service territory in Exhibit 1, Chapter 1, Section B.

1 building decarbonization reflects the different needs of customers and
2 communities with programmatic approaches such as equipment incentive
3 and financing programs, customer education, workforce education and
4 training, and advocacy to improve appliance standards and building codes.
5 Chapter 4 describes the programs PG&E is proposing to support the
6 building decarbonization strategies below.

7 **a. Support Electrification in Existing and New Buildings**

8 PG&E recognizes the important role that building electrification
9 plays in meeting California's climate goals. PG&E's approach to
10 building electrification differs for existing and new buildings, however for
11 both building categories, PG&E is taking steps in its 2024-2027 portfolio
12 to influence the long-term outcome of all-electric or electric-ready
13 buildings.

14 As discussed in Exhibit 1, Chapter 1, PG&E's preferred approach to
15 existing building electrification is to focus on zonal electrification and
16 whole-building electrification retrofits where feasible. If it is not feasible,
17 PG&E prefers targeted efforts for harder-to-electrify technologies or
18 customer sectors. PG&E is proposing new programs that can support
19 these efforts. See PG&E Chapter 4 for additional details.

20 **b. Technical Support and Advocacy Through Codes and Standards**

21 PG&E has long been a leader in building codes and appliance
22 standards advocacy and in providing technical support to local
23 jurisdictions and state agencies. PG&E has expanded its codes and
24 standards support to other areas including decarbonization and water
25 efficiency.

26 PG&E is the lead program administrator for the statewide codes and
27 standards programs. See Chapter 4, Section E, for PG&E's strategies
28 through its codes and standards programs.

29 **c. Decarbonize through Equipment Support**

30 PG&E's EE portfolio provides financial assistance in the form of
31 incentives and financing to encourage the adoption of energy efficient
32 end-use appliances. With the increased focus on building
33 decarbonization and the need for a managed transition of gas systems,

PG&E intends to increase its focus on electrifying end-uses and achieving GHG reductions rather than energy savings alone.

PG&E will continue to incorporate fuel substitution measures into its building retrofit portfolio, where viable electric alternatives for natural gas end uses exist. PG&E anticipates being able to support building decarbonization and end-use electrification by assisting customer adoption of heat pump technologies for space conditioning and water heating. High efficiency heat pumps can replace natural gas fueled furnaces and water heaters in customer homes and businesses. Additionally, when these measures are equipped with or accompanied by smart control technologies, they provide additional benefits because they can shift and shape energy use to times of low cost and highly renewable energy supply.

When incorporating fuel substitution measures into its portfolio, PG&E acknowledges that any new restrictions on the upper GWP limit of refrigerants, such as California Air Resource Board's regulations restricting the use of high-GWP refrigerants (thereby requiring only low-GWP refrigerant use), may result in the need to revise eligible measures and/or exclude measures using high-GWP refrigerants from current and future portfolio efforts. If such restrictions result in situations where PG&E portfolio programs are left with no or few cost-effective low-GWP measure options available in the current market, PG&E will look for opportunities to incorporate low-GWP refrigerant measures into existing or future planned market support segmented programs (which are positioned to support the long-term success of the EE market and, in part, to move beneficial technologies towards greater cost-effectiveness) to encourage and support measure adoption in the long run. PG&E includes benefits from low-GWP interventions in its Commercial Sector Grocery Efficiency Program. See the Chapter 4, Section D.2.

3. Strategy #3: Deploy Technologies that are Grid-Responsive and Demand Flexible

PG&E understands the critical role that DSM and EE play in ensuring that our customers continue to receive safe, reliable, affordable, and clean electricity. PG&E's EE portfolio is positioned to support permanent load

reducing solutions that prioritize saving energy during times of unavailable, high-cost, or non-renewable energy supply, incorporate products and services that promote demand flexibility where customer load is shifted away from time of peak demand, and integrate DSM programs that combine multiple demand management solutions under a single customer offering.

a. Align EE Portfolio with PG&E's Enterprise-Wide Coordinated Supply and Load Strategy

With our portfolio's transition from first-year energy savings to TSB, PG&E is placing an even greater priority on providing energy savings solutions that reduce energy consumption during electric system peak times. Avoiding electric system peak times avoid the higher-cost and GHG emitting energy supply more prevalent during these times as opposed to the lower cost, and often renewable energy supply, used during off-peak periods. Moving to TSB provides PG&E the flexibility to prioritize delivering avoided cost benefits at times of higher value to the electric and gas systems. PG&E's approach to portfolio optimization of TSB is described in Chapter 5, Section B.

b. Use Meter-Based Platform Throughout the Portfolio

Pursuant to the Energy Division template, PG&E provides information on its strategies to use savings forecasting and quantification methods such as NMEC where cost-effective and feasible. PG&E refers to approaches to calculating savings and TSB using metered customer energy usage data (meter data) as the Meter-Based Platform. The Meter-Based Platform comprises three primary approaches: NMEC, Strategic Energy Management (SEM), and experimental or quasi-experimental methods. Meter-based approaches can play a key role in PG&E's EE portfolio in several ways that are described in Exhibit 1, Chapter 1, Section E.1. See also Chapter 4 of this Exhibit for further details.

4. Strategy #4: Contribute to Cost Saving Resiliency Solutions

PG&E intends to leverage its EE portfolio to support solutions that increase customer resiliency. The load reductions achieved when implementing EE interventions may be able to deliver cost savings to

individual participants and all customers when incorporated into the scope of a resiliency program. See Chapter 4, Section D.3 for information on the placeholder program for Resiliency Support in the Public sector. See Chapter 4, Section D.1 for information on the placeholder Resiliency Support program for partnering with microgrid and remote grid construction and operation programs to provide participating customers with permanent load reducing solutions.

5. Strategy #5: Properly Value the Benefits of Energy Efficiency

In Exhibit 1, Chapter 1, Section E, PG&E details three areas where EE investments are delivering additional benefits that extend beyond those that are currently measured and reported by EE. To begin collecting the data necessary to fully understand these additional energy system benefits and deliver them to our customers, PG&E is proposing the following approach in its 2024-2027 portfolio.

Offer programs to begin to understand the impact EE delivers in these areas

As described in Chapter 4, Sector Strategy chapters, PG&E intends to offer programs that deliver on the three additional benefit areas listed in Exhibit 1, Chapter 1, Section E: (1) localized distribution system benefits; (2) resiliency solution benefits; and (3) retrofit building electrification benefits. PG&E plans to use these programs to evaluate their impact, to collect data about them, and to inform future policy and benefit calculation recommendations.

D. Application Summary Tables for 2024-2027

1. Annual Budget Request

Table 1-5 shows PG&E's portfolio budget request for 2024-2027.

**TABLE 1-5
PORTFOLIO BUDGET REQUEST FOR 2024-2027**

Line No.	Description	2024	2025	2026	2027	Total
1	Portfolio	\$272,067,674	\$274,280,720	\$273,707,915	\$275,099,169	\$1,095,155,478

2. Distribution of Budget Across Segments and Sectors

Sectors included in Tables 1-6, 1-7, and 1-8 align with sectors as displayed in California Energy Data and Reporting System (CEDARS). In Chapter 4, sectors are included from the perspective of the programs and customers. For example, the non-residential New Construction programs have program IDs for each customer sector (Agricultural, Commercial, Industrial, Public, and Residential) and the tables below represent data from those programs distributed across the sectors to align with CEDARS. However, in Chapter 4, data is provided for the non-residential New Construction programs aggregated as its own sector.

**TABLE 1-6
PORTFOLIO- AND SECTOR-LEVEL BUDGET REQUEST FOR 2024-2027**

Line No.	Sector	2024	2025	2026	2027	Total
1	Agricultural	\$10,444,204	\$10,695,406	\$10,342,082	\$11,931,291	\$43,412,983
2	Commercial	56,158,741	55,230,687	55,876,515	56,123,816	223,389,759
3	Industrial	37,790,153	38,369,424	38,789,646	37,338,162	152,287,386
4	Public	23,427,201	23,403,281	22,175,180	22,197,959	91,203,621
5	Residential	65,217,388	66,317,573	66,503,669	68,123,955	266,162,584
6	Codes and Standards	33,105,417	33,839,153	34,637,544	33,771,305	135,353,418
7	Emerging Technologies	10,162,721	10,214,152	10,241,039	10,231,763	40,849,675
8	On-Bill Financing	5,242,767	5,520,530	4,696,593	4,800,122	20,260,011
9	Workforce Education and Training	9,636,376	9,719,285	9,497,332	9,576,829	38,429,821
10	<i>Subtotal</i>	<i>\$251,184,967</i>	<i>\$253,309,491</i>	<i>\$252,759,598</i>	<i>\$254,095,202</i>	<i>\$1,011,349,259</i>
11	EM&V	10,882,707	10,971,229	10,948,317	11,003,967	43,806,219
12	OBF Loan Pool	10,000,000	10,000,000	10,000,000	10,000,000	40,000,000
13	Total	\$272,067,674	\$274,280,720	\$273,707,915	\$275,099,169	\$1,095,155,478

**TABLE 1-7
SEGMENT LEVEL BUDGETS**

Line No.	Segment	2024	2025	2026	2027	Grand Total
1	Resource Acquisition	\$143,555,248	\$138,902,111	\$139,414,476	\$141,475,932	\$563,347,767
2	Codes and Standards	33,105,417	33,839,153	34,637,544	33,771,305	135,353,418
3	Market Support	62,414,150	67,344,222	64,755,197	64,887,142	259,400,711
4	Equity	12,110,152	13,224,006	13,952,382	13,960,823	53,247,362
5	<i>Subtotal</i>	<u>\$251,184,967</u>	<u>\$253,309,491</u>	<u>\$252,759,598</u>	<u>\$254,095,202</u>	<u>\$1,011,349,259</u>
6	EM&V	10,882,707	10,971,229	10,948,317	11,003,967	43,806,219
7	OBF Loan Pool	10,000,000	10,000,000	10,000,000	10,000,000	40,000,000
8	Total	\$272,067,674	\$274,280,720	\$273,707,915	\$275,099,169	\$1,095,155,478

1 **3. Projected Cost-Effectiveness**

**TABLE 1-8
2024-2027 PORTFOLIO- AND SECTOR-LEVEL COST-EFFECTIVENESS: TRC RATIO**

Line No.	Sector	2024	2025	2026	2027	Cumulative
1	Agricultural	0.88	0.93	0.95	1.04	0.95
2	Commercial	0.84	0.89	0.94	1.00	0.92
3	Industrial	1.18	1.21	1.29	1.33	1.25
4	Public	0.51	0.55	0.55	0.57	0.55
5	Residential	0.78	0.78	0.82	0.87	0.81
6	EM&V	0.00	0.00	0.00	0.00	0.00
7	Emerging Technologies	0.00	0.00	0.00	0.00	0.00
8	On-Bill Financing	0.65	0.68	0.75	0.79	0.72
9	Workforce Education and Training	<u>0.00</u>	<u>0.00</u>	<u>0.00</u>	<u>0.00</u>	<u>0.00</u>
10	<i>Portfolio w/out C&S</i>	<u>0.77</u>	<u>0.79</u>	<u>0.84</u>	<u>0.88</u>	<u>0.82</u>
11	Codes and Standards	<u>1.56</u>	<u>1.51</u>	<u>1.48</u>	<u>1.46</u>	<u>1.51</u>
12	Portfolio w/ C&S	1.29	1.26	1.25	1.25	1.27

TABLE 1-9
2024-2027 PORTFOLIO- AND SECTOR-LEVEL COST-EFFECTIVENESS: PAC RATIO

Line No.	Sector	2024	2025	2026	2027	Cumulative
1	Agricultural	1.00	1.09	1.10	1.19	1.10
2	Commercial	1.07	1.12	1.18	1.23	1.15
3	Industrial	1.55	1.60	1.66	1.70	1.63
4	Public	0.67	0.75	0.74	0.76	0.73
5	Residential	0.90	0.90	0.91	0.95	0.92
6	EM&V	0.00	0.00	0.00	0.00	0.00
7	Emerging Technologies	0.00	0.00	0.00	0.00	0.00
8	On-Bill Financing	3.53	3.53	4.75	5.03	4.17
9	Workforce Education and Training	0.00	0.00	0.00	0.00	0.00
10	<i>Portfolio w/out C&S</i>	<u>1.01</u>	<u>1.05</u>	<u>1.09</u>	<u>1.14</u>	<u>1.07</u>
11	Codes and Standards	<u>26.22</u>	<u>24.16</u>	<u>22.36</u>	<u>21.82</u>	<u>23.62</u>
12	Portfolio w/ C&S	4.32	4.12	3.99	3.87	4.07

TABLE 1-10
2024-2027 SEGMENT-LEVEL COST-EFFECTIVENESS: TRC RATIO

Line No.	Segment	2024	2025	2026	2027	Cumulative
1	Resource Acquisition	0.97	1.00	1.08	1.12	1.04
2	Market Support	0.61	0.65	0.65	0.69	0.65
3	Equity	0.00	0.00	0.00	0.00	0.00
4	EM&V	<u>0.00</u>	<u>0.00</u>	<u>0.00</u>	<u>0.00</u>	<u>0.00</u>
5	<i>Portfolio w/out C&S</i>	<u>0.77</u>	<u>0.79</u>	<u>0.84</u>	<u>0.88</u>	<u>0.82</u>
6	Codes and Standards	<u>1.56</u>	<u>1.51</u>	<u>1.48</u>	<u>1.46</u>	<u>1.51</u>
7	Portfolio w/ C&S	1.29	1.26	1.25	1.25	1.27

TABLE 1-11
2024-2027 SEGMENT-LEVEL COST-EFFECTIVENESS: PAC RATIO

Line No.	Segment	2024	2025	2026	2027	Cumulative
1	Resource Acquisition	1.15	1.19	1.28	1.34	1.24
2	Market Support	1.08	1.15	1.12	1.16	1.13
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	<i>Portfolio w/out C&S</i>	<u>1.01</u>	<u>1.05</u>	<u>1.09</u>	<u>1.14</u>	<u>1.07</u>
6	Codes and Standards	<u>26.22</u>	<u>24.16</u>	<u>22.36</u>	<u>21.82</u>	<u>23.62</u>
7	Portfolio w/ C&S	4.32	4.12	3.99	3.87	4.07

1 **4. Resource Acquisition Segment: Forecasted Program-, Sector-, and**
2 **Portfolio-Level Cost-Effectiveness**

TABLE 1-12
2024-2027 RESOURCE ACQUISITION PROGRAMS COST-EFFECTIVENESS: TRC RATIO

Line No.	Sector and Program	Program ID	2024	2025	2026	2027	Cumulative
1	<u><i>Agricultural</i></u>		<i>0.90</i>	<i>0.95</i>	<i>0.98</i>	<i>1.08</i>	<i>0.98</i>
2	Agricultural Calculated Incentives	PGE21031	0.65	0.74	0.84	0.90	0.78
3	Agricultural Deemed Incentives	PGE21032	0.17	0.18	0.19	0.21	0.19
4	Agricultural Efficiency Program	PGE_Ag_001	1.00	1.05	1.08	1.17	1.08
5	Agricultural Energy Advisor	PGE21034	0.00	0.00	0.00	0.00	0.00
6	<u><i>Commercial</i></u>		<i>0.94</i>	<i>1.01</i>	<i>1.07</i>	<i>1.14</i>	<i>1.04</i>
7	Commercial Calculated Incentives	PGE21011	0.14	0.20	0.24	0.27	0.20
8	Commercial Deemed Incentives	PGE21012	0.62	0.67	0.73	0.77	0.70
9	Commercial Efficiency Program	PGE_Com_003	1.10	1.15	1.20	1.25	1.17
10	Commercial Energy Advisor	PGE21014	0.00	0.00	0.00	0.00	0.00
11	Commercial Energy Management Placeholder	PGE_Com_EM	0.60	0.62	0.65	0.69	0.64
12	Food Service POS	PGE_SW_FS	0.91	0.97	1.02	1.07	0.99
13	Grocery Efficiency Program	PGE_Com_001	1.78	1.81	1.86	1.90	1.84
14	Healthcare Efficiency Program	PGE_Com_005	1.08	1.12	1.16	1.21	1.14
15	High Tech and Bio Tech Efficiency Program	PGE_Com_004	0.95	0.99	1.04	1.09	1.02
16	IOU REN/CCA Admin Costs	PGE_OtherPA_Admin	0.00	0.00	0.00	0.00	0.00
17	Laboratory Performance Efficiency Program	PGE_Com_002	0.49	0.51	0.53	0.56	0.52
18	Lighting (Upstream)	PGE_SW_UL	0.57	0.00	0.00	0.00	0.57
19	Midstream Comm Water Heating	PGE_SW_MCWH	1.19	1.31	1.44	1.58	1.38
20	SW HVAC Upstream Commercial	PGE_SW_HVAC_Up_Com	1.12	1.10	1.18	1.28	1.17

TABLE 1-13
2024-2027 RESOURCE ACQUISITION PROGRAMS COST-EFFECTIVENESS: TRC RATIO
(CONTINUED)

Line No.	Sector and Program	Program ID	2024	2025	2026	2027	Cumulative
21	<u>Industrial</u>		1.23	1.26	1.36	1.38	1.31
22	Compressed Air and Vacuum Optimization Program	PGE210212	0.87	0.93	0.99	1.04	0.96
23	Industrial Calculated Incentives	PGE21021	0.06	0.07	0.23	0.24	0.11
24	Industrial Deemed Incentives	PGE21022	2.13	2.16	2.25	2.33	2.22
25	Industrial Energy Advisor	PGE21024	0.00	0.00	0.00	0.00	0.00
26	Industrial SEM - Food Processing	PGE_Ind_001a	2.04	1.89	2.00	1.89	1.95
27	Industrial SEM - Manufacturing	PGE_Ind_001b	1.26	1.34	1.42	1.47	1.37
28	Manufacturing and Food Processing Efficiency Program	PGE_Ind_003	1.04	1.10	1.16	1.23	1.13
29	Petroleum and Chemical Efficiency Program	PGE_Ind_002	1.06	1.12	1.18	1.24	1.15
30	<u>Public</u>		0.62	0.64	0.68	0.68	0.65
31	Government and K-12 Comprehensive Program	PGE_Pub_009	0.68	0.70	0.73	0.76	0.72
32	Institutional Partnerships, UC/CSU/CCC	PGE_SW_IP_Colleges	1.01	1.01	1.01	1.04	1.02
33	Institutional Partnerships: DGS and DoC	PGE_SW_IP_Gov	0.58	0.58	0.63	0.60	0.60
34	Wastewater Process Efficiency Program	PGE_Pub_010	0.45	0.47	0.00	0.00	0.46
35	Water/wastewater pumping	PGE_SW_WP	1.00	1.04	1.01	1.01	1.02
36	<u>Residential</u>		0.94	0.95	1.05	1.10	1.01
37	Multifamily Program	PGE_Res_003	0.79	0.83	0.87	0.92	0.86
38	Plug Load and Appliance	PGE_SW_PLA	0.85	0.84	0.96	0.97	0.91
39	Residential Behavioral Program	PGE_Res_002d	1.14	1.18	1.33	1.41	1.26
40	SW HVAC Upstream Residential	PGE_SW_HVAC_Up_Res	1.69	1.05	1.07	1.07	1.27
41	Universal Audit Tool Program	PGE_Res_002a	0.52	0.53	0.47	0.51	0.51
42	<u>Virtual Energy Audit Program</u>	PGE_Res_001b	0.18	0.29	0.47	0.56	0.37
43	Total		0.97	1.00	1.08	1.12	1.04

1 **5. All Segments: Forecasted Total System Benefit, Net Energy Savings,**
2 **and CO₂**

TABLE 1-14
FIRST-YEAR NET ENERGY SAVINGS (GWH, MW, MThERM) AND LIFECYCLE CO₂

Line No.	Year	Metric	Resource Acquisition	Market Support	Equity	Portfolio w/out C&S	Codes and Standards	Portfolio w/ C&S
1	2024	GWh	387	52	-	440	1,203	1,643
2		MW	67	7	-	73	236	309
3		MTherm	18	2	-	20	25	45
4		CO ₂ (metric tons)	799,518	289,375	-	1,088,894	4,516,060	5,604,954
5	2025	GWh	382	54	-	435	1,080	1,515
6		MW	66	7	-	73	220	292
7		MTherm	18	2	-	20	24	44
8		CO ₂ (metric tons)	791,230	328,322	-	1,119,553	4,211,430	5,330,982
9	2026	GWh	385	55	-	440	984	1,424
10		MW	66	8	-	74	204	278
11		MTherm	18	1	-	19	21	40
12		CO ₂ (metric tons)	809,988	271,632	-	1,081,620	3,861,264	4,942,884
13	2027	GWh	388	54	-	442	884	1,326
14		MW	68	7	-	75	187	262
15		MTherm	17	1	-	19	18	36
16		CO ₂ (metric tons)	814,398	271,140	-	1,085,538	3,532,823	4,618,361

1

a. Comparison of Projected TSB to Adopted TSB Goals

TABLE 1-15
2024-2027 TOTAL SYSTEM BENEFIT FORECAST VS GOAL

Line No.	Year	Total System Benefit	Total System Benefit Goals	Percent of TSB Goal
1	2024	\$218,132,682	\$162,606,129	134%
2	2025	228,194,451	176,747,992	129%
3	2026	236,664,773	196,644,524	120%
4	2027	249,031,099	225,827,308	110%
5	Total	\$932,023,005	\$761,825,953	122%

2

6. Projected Percentage of Portfolio Third Party Outsourced

TABLE 1-16
THIRD-PARTY QUALIFYING PERCENTAGE OF BUDGET

Line No.	Third-Party Qualifying	2024	2025	2026	2027	Cumulative
1	No	39.2%	39.3%	39.5%	38.6%	39.1%
2	Yes	60.8%	60.7%	60.5%	61.4%	60.9%

PACIFIC GAS AND ELECTRIC COMPANY
CHAPTER 2
FORECAST METHODOLOGY

PACIFIC GAS AND ELECTRIC COMPANY
CHAPTER 2
FORECAST METHODOLOGY

TABLE OF CONTENTS

A. Introduction.....	2-1
1. Scope and Purpose	2-1
2. Summary of Request	2-2
3. Support for the Request.....	2-2
4. Organization of the Remainder of This Chapter	2-3
B. Forecast Methodology	2-3
1. Forecasts Provided by Third-Party Implementers	2-3
2. Statewide Program Forecasts Provided by Other IOUs	2-7
3. PG&E Forecasts	2-9
a. PG&E-Implemented Programs	2-9
b. Placeholder Forecasts for Prospective Programs.....	2-11
c. Portfolio Administrator Costs	2-13
C. Forecasts by Cost Category	2-13
1. Forecasted Performance Metrics	2-14
D. Program Modifications From 2023 Portfolio	2-15
E. Distributing Portfolio Administration and Program Implementation Costs.....	2-18

PACIFIC GAS AND ELECTRIC COMPANY

CHAPTER 2

FORECAST METHODOLOGY

A. Introduction

1. Scope and Purpose

This chapter presents Pacific Gas and Electric Company's (PG&E) Energy Efficiency (EE) portfolio budget for 2024-2027. PG&E describes its forecast methodology for the four-year portfolio cycle, 2024-2027, and includes a zero-based budgeting approach¹ that identifies forecasted expenses by cost category and functional group category before including them in the forecast. 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 budgets⁴ to statewide programs. To achieve

¹ Per Decision (D.) 21-05-031, p. 34, "zero-based" means that "all expenses must be justified for each year of the new four-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, p. 61, Ordering Paragraph (OP) 1.

⁴ D.18-05-041, p. 187, OP 23, 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."

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 2024-2027 of approximately \$1.1 billion (see Table 2-5 and Table 2-6 below).⁶ The details provided in this chapter pertain only to PG&E's EE portfolio.⁷

PG&E's annual budget request for each year between 2024-2027 closely aligned with its 2023 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. PG&E assumes many of its third-party implemented programs may be at their full program performance levels in 2024-2027 so the forecast reflects steady-state program operations.

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.

⁵ Statewide programs forecast information as submitted into the California Energy Data and Reporting System (CEDARS) on January 21, 2022.

⁶ PG&E discusses the eight-year total budget cap request for 2024-2031 in Exhibit 1, Chapter 2.

⁷ 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 January 14, 2022 within PG&E's territory.

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 2023 Portfolio; and
- Section E: Distributing Portfolio Administration and Program Implementation Costs.

B. Forecast Methodology

PG&E's 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.

1. Forecasts Provided by Third-Party Implementers

As directed in D.16-08-019 and re-affirmed 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 definition⁸ for 2024-2027. The contracts for these third-party programs were competitively solicited prior to the filing of this application and most were approved through the advice letter (AL) process.⁹ 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.¹⁰

PG&E requested program forecasts from its contracted vendors for third-party implemented programs (excluding Codes and Standards (C&S)

⁸ D.16-08-019, p. 111, OP 10; D.18-01-004, p. 61, OP 1; D.18-05-041, pp. 182-183, OP 4. 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."

⁹ Per D.18-01-004, p. 61, OP 2, 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 three years. PG&E's forecast includes programs that qualify as "third-party" that do not meet this threshold. Therefore, the solicitation procurement review group (PRG) and independent evaluators (IE) reviewed the contracts, but PG&E did not file ALs for those contracts.

¹⁰ D.21-05-031, p. 77, Conclusion of Law (COL) 21.

1 statewide advocacy programs as discussed below). PG&E asked third-party
2 implementers whose programs deliver savings and TSB to generate their
3 forecasts using the CPUC's Cost Effectiveness Tool (CET). For programs
4 that do not deliver savings or TSB (e.g., workforce education and training
5 (WE&T) programs and local government partnerships), the vendors
6 provided budget-only forecasts for contract costs.

7 The benefits and costs included in PG&E's forecast extend beyond the
8 current contract termination dates for the current vendors. The inclusion of
9 a program forecast does not necessarily mean that the program will be
10 implemented by the current vendor; PG&E does not guarantee that its
11 current vendor contracts will be extended. PG&E will evaluate vendor
12 performance to determine whether an extension is appropriate. See
13 Chapter 5, Section B for PG&E's approach for assessing vendor
14 performance. Table 2-1 below includes programs that include costs partially
15 based on forecasts provided by third-party implementers. More information
16 about these programs is provided in Chapter 4.

**TABLE 2-1
THIRD-PARTY IMPLEMENTED PROGRAMS**

Line No.	Program ID	Program Name	SW or Local
1	PGE_Ag_001	Agricultural Efficiency Program	Local
2	PGE_Com_001	Grocery Efficiency Program	Local
3	PGE_Com_002	Laboratory Performance Efficiency Program	Local
4	PGE_Com_003	Commercial Efficiency Program	Local
5	PGE_Com_004	High Tech and Bio Tech Efficiency Program	Local
6	PGE_Com_005	Healthcare Efficiency Program	Local
7	PGE_Ind_001a ^(a)	Industrial Strategic Energy Management (SEM) – Food Processing	Local
8	PGE_Ind_001b ^(a)	Industrial SEM – Manufacturing	Local
9	PGE_Ind_002	Petroleum and Chemical Efficiency Program	Local
10	PGE_Ind_003	Manufacturing and Food Processing Efficiency Program	Local
11	PGE_Pub_001	Central Coast Local Government Partnership	Local
12	PGE_Pub_002	Marin Local Government Partnership	Local
13	PGE_Pub_003	Redwood Local Government Partnership	Local
14	PGE_Pub_004	Central California Local Government Partnership	Local
15	PGE_Pub_005	San Mateo Local Government Partnership	Local
16	PGE_Pub_006	San Francisco Local Government Partnership	Local
17	PGE_Pub_007	Sierra Local Government Partnership	Local
18	PGE_Pub_008	Sonoma Local Government Partnership	Local
19	PGE_Pub_009	Government and K-12 Comprehensive Program	Local
20	PGE_Pub_010	Wastewater Process Efficiency Program	Local
21	PGE_Pub_011 ^(b)	California Analysis Tool for Locational Energy Assessment (CATALENA)	Local
22	PGE_Res_001b	Virtual Energy Audit Program	Local
23	PGE_Res_002a	Universal Audit Tool Program	Local
24	PGE_Res_002d	Residential Behavioral Program	Local
25	PGE_Res_002e ^(a)	Online Marketplace Program	Local
26	PGE_Res_003	Multifamily Program	Local
27	PGE21014	Commercial Energy Advisor	Local
28	PGE210212	Compressed Air and Vacuum Optimization Program	Local
29	PGE21024	Industrial Energy Advisor	Local
30	PGE21034	Agricultural Energy Advisor	Local

**TABLE 2-1
THIRD-PARTY IMPLEMENTED PROGRAMS
(CONTINUED)**

Line No.	Program ID	Program Name	SW or Local
31	SW_CSA_Appl	State Appliance Standards Advocacy	SW
32	SW_CSA_Bldg	State Building Codes Advocacy	SW
33	SW_CSA_Natl	National C&S Advocacy	SW
34	SW_IP_Gov	Institutional Partnerships: DGS and DoC	SW
35	SW_NC_NonRes_Ag_electric	SW New Construction Non-Res Ag – All Electric	SW
36	SW_NC_NonRes_Ag_mixed	SW New Construction Non-Res Ag – Mixed Fuel	SW
37	SW_NC_NonRes_Com_electric	SW New Construction Non-Res Com – All Electric	SW
38	SW_NC_NonRes_Com_mixed	SW New Construction Non-Res Com – Mixed Fuel	SW
39	SW_NC_NonRes_Ind_electric	SW New Construction Non-Res Ind – All Electric	SW
40	SW_NC_NonRes_Ind_mixed	SW New Construction Non-Res Ind – Mixed Fuel	SW
41	SW_NC_NonRes_Pub_electric	SW New Construction Non-Res Pub – All Electric	SW
42	SW_NC_NonRes_Pub_mixed	SW New Construction Non-Res Pub – Mixed Fuel	SW
43	SW_NC_NonRes_Res_electric	SW New Construction Non-Res Res – All Electric	SW
44	SW_NC_NonRes_Res_mixed	SW New Construction Non-Res Res – Mixed Fuel	SW
45	SW_NC_Res_electric	SW New Construction Residential – All Electric	SW
46	SW_NC_Res_mixed	SW New Construction Residential – Mixed Fuel	SW
47	SW_WET_CC	WET Career Connections	SW
48	SW_WET_Work	WET Career and Workforce Readiness	SW

- (a) These programs are implemented by a third-party vendor but do not qualify for PG&E's outsourcing requirement.
- (b) 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, is creating a program in CEDARS to report expenditures. PG&E is also creating 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.

1 PG&E reviewed the forecasts provided by third-party implementers and
2 optimized the programs against others in the EE portfolio for TSB, resource
3 acquisition segment cost-effectiveness, budgets required to deliver TSB and
4 cost-effectiveness, and adherence to the 30 percent budget cap for market
5 support and equity segments. PG&E adjusted program CET input files to
6 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, and five local programs, all further described in Chapter 4, Section E.1. The portfolio plan forecast increases the combined annual budget for the C&S statewide advocacy programs from the 2023 forecasted budget filed in PG&E's 2022-2023 Biennial Budget Advice Letter (BBAL)¹¹ to account for expected increases in advocacy activities during the period. PG&E prepared the CET forecast files for statewide C&S advocacy programs. A discussion on the forecast methodology for the local C&S programs is included 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.¹² Each lead program administrator provided the non-lead program administrators' CET forecast files at the statewide program level and the current proportional shared contribution percentages¹³ 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 for statewide programs are based on the methodology proposed by the Joint IOUs¹⁴ in 2018 and approved by the Commission in April 2019.¹⁵ The methodology for determining load share was based on "(1) the EE goals in each of their territories as developed in *Energy Efficiency Potential and Goals Study for 2018 and Beyond (EE Potential Study)* adopted in D.17-09-025, and (2) the corresponding portfolio budgets to meet these goals as adopted in

¹¹ PG&E AL 4521-G-A / 6385-E-A, (Jan. 7, 2022).

¹² D.18-05-041, pp. 185-186, OP 18.

¹³ Combined load share percentages used in portfolio plan forecast for 2024-2027 are from the Joint IOU Statewide in PG&E's BBAL, p. 21, Table 6. (PG&E AL 4521-G-A/6385-E-A, filed Jan. 7, 2022).

¹⁴ The Joint IOUs include PG&E, San Diego Gas & Electric Company (SDG&E), Southern California Gas (SoCalGas), and SCE. PG&E AL 5373-E-A/4009-G-A, (Nov. 15, 2018).

¹⁵ Non-standard disposition issued on April 9, 2019 approved PG&E AL 5373-E-A/4009-G-A, (Nov. 15, 2018).

D.18-05-041.”¹⁶ 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 2023 True-Up AL covering 2024-2027. The most current data should inform the shared funding among the IOUs for the 2024-2027 period. This method is prudent given the contribution percentages used in this application forecast are based upon goals that have since been superseded¹⁷ and portfolio budgets that were only approved through 2025.¹⁸ See Exhibit 1, Chapter 3, Section C) for PG&E’s recommended policy changes to address portfolio administration issues.

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.¹⁹ 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 2-2 below includes the statewide programs led by other IOUs.

¹⁶ PG&E AL 5373-E-A/4009-G-A, (November 15, 2018).

¹⁷ D.21-09-037, pp. 18-21, Section 3.2.3, OP 1, and p. 29, COL 7.

¹⁸ PG&E 2019 EE Annual Budget AL 4011-G-A/5375-E-A, p. 20, Table 12: PG&E Budget True-Up, (Submitted Sept. 4, 2018).

¹⁹ PG&E did not provide input on the forecasts for statewide programs led by other IOUs.

**TABLE 2-2
STATEWIDE PROGRAMS LED BY OTHER IOUS**

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 WP	Water and Wastewater Pumping	SCE
4	SW UL	Upstream Lighting	SCE
5	SW HVAC QIQM	SW HVAC QI/QM Program	SDG&E
6	SW PLA	SW Plug Load and Appliances	SDG&E
7	SW Up Res	SW HVAC Upstream Residential	SDG&E
8	SW Up Com	SW HVAC Upstream Commercial	SDG&E
9	SW FS	Food Service	SoCalGas
10	SW MCWH	Midstream Commercial Water Heating	SoCalGas
11	SW ETP Gas	Emerging Technologies Programs - Gas	SoCalGas
<p>Note: PG&E did not provide input to the budgets for statewide programs led by other program administrators.</p>			

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 2024-2027 includes costs for programs implemented by PG&E or through contracted vendors on behalf of PG&E. This includes approximately \$154.5 million²⁰ for 13 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.

²⁰ This amount includes PG&E costs in support of RENs and CCAs, reported in CEDARS as Program ID "PGE_OtherPA_Admin."

PG&E's budget request includes a forecast for the On-Bill Financing (OBF) Alternative Pathway Program²¹ and a contribution to PG&E's OBF loan pool,²² however the OBF loan pool contribution is not a forecasted expenditure. Unlike rebates, OBF uses a revolving loan pool; as OBF funds are repaid, they are re-issued in the form of new loans to new projects. This enables the delivery of TSB without requiring significant increases to the cost recovery request. PG&E's request to add \$10 million annually to the OBF loan pool is included in the 2024-2027 cost recovery request and supports the continuation of OBF's revolving loan pool. Please see Chapter 4, Section E.6 for further details.

PG&E's regional C&S programs are implemented by PG&E or vendors contracted on PG&E's behalf. The forecasted annual budgets for PG&E's local C&S programs for 2024-2027 are higher than the annual budgets filed in PG&E's 2022-2023 BBAL. This increase is due to increased support for building decarbonization goals through C&S, including a new program focused on decarbonization advocacy activities. PG&E describes its C&S programs in Chapter 4, Section E.1.

Table 2-3 below includes the PG&E-implemented programs included in this forecast.

²¹ Program ID PGE_OBFAP.

²² Program ID PGE_LoanPool.

**TABLE 2-3
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	Compliance Improvement
8	PGE21054	Reach Codes
9	PGE21055	Planning and Coordination
10	PGE21056	Code Readiness
11	PGE21071	WE&T Integrated Energy Education and Training
12	PGE_OBFAP	OBF Alternative Pathway
13	PGE_CS_Decarb	C&S Decarbonization Support Placeholder

b. Placeholder Forecasts for Prospective Programs

PG&E’s portfolio forecast includes placeholder budgets for ten prospective programs which PG&E plans to solicit, contract, and/or implement by 2024. As a PA, it is PG&E’s responsibility to determine EE portfolio “needs”²³ 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 load management, resiliency support, decarbonization support, and zonal electrification. PG&E intends to procure programs serving these needs. PG&E also includes placeholder residential programs in the equity and market support portfolio segments.

PG&E developed the forecasts for all placeholder programs. For the market support and equity 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

²³ D.16-08-019, p. 71.

1 be able to deliver TSB or if delivery of TSB would be included in the
2 third-party program design. At the time of this application, PG&E is in
3 an active solicitation for the new small/micro business equity program.
4 The forecasted budget levels for this program were informed by
5 solicitation PRG feedback. For the remainder of the prospective
6 programs listed in Table 2-4, PG&E plans to conduct solicitations in
7 2022-2023 and intends to launch these programs by 2024. The new
8 program placeholder forecasts include modest annual budgets with
9 gradual increases starting in 2024 through 2027 to reflect ramp up time
10 for those programs. For the one resource acquisition program
11 placeholder, Commercial Energy Management, PG&E leveraged the
12 existing industrial SEM programs to generate conservative TSB,
13 cost-effectiveness, and budget forecasts. The cost-effectiveness
14 forecasted for this placeholder program is lower than the existing
15 industrial SEM programs due to the uncertainty in expansion of this
16 program approach to the Commercial sector. Because there is limited
17 data available for estimating the benefits and costs for SEM in the
18 Commercial sector, PG&E used conservative estimates when creating
19 the EE measure forecast and CET inputs for the Commercial Energy
20 Management program placeholder.

21 Table 2-4 below lists the placeholders for prospective new programs
22 included in this forecast.

TABLE 2-4
PLACEHOLDERS FOR PROSPECTIVE NEW PROGRAMS

Line No.	Program ID	Placeholder Program Name	Portfolio Segment
1	PGE_Com_SmallBiz	New Small/Micro Business Placeholder	Equity
2	PGE_Com_ZE	Zonal Electrification Placeholder (Commercial)	Equity
3	PGE_Res_ZE	Zonal Electrification Placeholder (Residential)	Equity
4	PGE_Res_Equity	Residential Equity Placeholder	Equity
5	PGE_Res_Resiliency	Resiliency Support Placeholder (Residential)	Market Support
6	PGE_Res_Mkt_Spt	Residential Market Support Placeholder	Market Support
7	PGE_Res_LoadMgt	Residential Load Management Placeholder	Market Support
8	PGE_Pub_Resiliency	Resiliency Support Placeholder (Public)	Market Support
9	PGE_Com_EM	Commercial Energy Management Placeholder	Resource Acquisition
10	PGE_CS_Decarb	C&S Decarbonization Support Placeholder	C&S

c. Portfolio Administrator Costs

PG&E PA costs include portfolio administration costs and program implementation costs.²⁴ Section E below provides detail 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 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 2024-2027. PG&E forecasts a reduction in total PA costs for 2024-2027 ranging from 3 to 10 percent annually, compared to 2023 BBAL forecast levels adjusted for 3.52 percent forecast annual labor escalation.

C. Forecasts by Cost Category

This section provides PG&E's forecasted EE portfolio expenditures by cost category for 2024-2027 and by four program types: (1) local third-party

²⁴ 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.

1 implemented programs in PG&E territory; (2) PG&E-led statewide programs;
 2 (3) statewide programs administered by other IOUs; and (4) PG&E-implemented
 3 programs. Table 2-5 below summarizes the forecasts by cost category and
 4 Table 2-6 summarizes PG&E's budget forecast by program type.

**TABLE 2-5
SUMMARY OF COST FORECAST BY COST CATEGORY**

Line No.	Cost Category	2024	2025	2026	2027	Cumulative
1	Administrative Costs	\$30,994,416	\$31,243,577	\$31,799,296	\$31,259,516	\$125,296,804
2	Marketing and Outreach Costs	13,967,869	13,738,901	13,760,652	13,763,812	55,231,234
3	Direct Implementation Non-Incentives (DINI)	147,240,738	149,836,153	149,480,206	149,916,057	596,473,154
4	Incentives	58,981,945	58,490,861	57,719,445	59,155,816	234,348,067
5	EM&V (PA & CPUC)	10,882,707	10,971,229	10,948,317	11,003,967	43,806,219
6	Loan Pool	10,000,000	10,000,000	10,000,000	10,000,000	40,000,000
7	Total Portfolio Budget (includes PA Program and EM&V + Loan Pool)	\$272,067,674	\$274,280,720	\$273,707,915	\$275,099,169	\$1,095,155,478

**TABLE 2-6
BUDGET FORECASTS BY PROGRAM TYPE**

Line No.	Program Type	2024	2025	2026	2027	Cumulative
1	Local Third-Party Implemented Programs	\$120,653,178	\$122,776,154	\$125,473,457	\$125,782,910	\$494,685,700
2	PG&E-led Statewide Programs	39,104,848	42,193,640	38,673,799	38,766,627	158,738,914
3	Other IOU-led Statewide Programs	52,524,801	48,874,154	50,048,860	51,741,491	203,189,305
4	PG&E-Implemented Programs	38,902,141	39,465,543	38,563,482	37,804,173	154,735,339
5	EM&V (PA & CPUC)	10,882,707	10,971,229	10,948,317	11,003,967	43,806,219
6	Loan Pool	10,000,000	10,000,000	10,000,000	10,000,000	40,000,000
7	Total Portfolio Budget (includes PA Program and EM&V + Loan Pool)	\$272,067,674	\$274,280,720	\$273,707,915	\$275,099,169	\$1,095,155,478

5 **1. Forecasted Performance Metrics**

6 This section provides a summary of the forecasted performance metrics
 7 that the forecasted expenditures support. This includes PG&E's forecast of
 8 TSB (Table 2-7) and TRC ratio (Table 2-8) at the segment level.

TABLE 2-7
TSB BY SEGMENT (EXCLUDING C&S)

Line No.	Segment	2024	2025	2026	2027	Cumulative
1	Resource Acquisition	\$162,115,858	\$162,991,285	\$176,236,703	\$186,027,065	\$687,370,912
2	Market Support	56,016,824	65,203,166	60,428,069	63,004,034	244,652,093
3	Equity	—	—	—	—	—
4	Portfolio Total	<u>\$218,132,682</u>	<u>\$228,194,451</u>	<u>\$236,664,773</u>	<u>\$249,031,099</u>	<u>\$932,023,005</u>
5	Goal	\$162,606,129	\$176,747,992	\$196,644,524	\$225,827,308	\$761,825,953

TABLE 2-8
TRC RATIO BY SEGMENT

Line No.	Segment	2024	2025	2026	2027	Cumulative
1	Resource Acquisition	0.97	1.00	1.08	1.12	1.04
2	Market Support	0.61	0.65	0.65	0.69	0.65
3	Equity	—	—	—	—	—
4	EM&V	—	—	—	—	—
5	<i>Portfolio w/out C&S</i>	<i>0.77</i>	<i>0.79</i>	<i>0.84</i>	<i>0.88</i>	<i>0.82</i>
6	C&S	1.56	1.51	1.48	1.46	1.51
7	Portfolio w/ C&S	1.29	1.26	1.25	1.25	1.27

1 D. Program Modifications From 2023 Portfolio

2 This section provides descriptions of proposed program modifications from
3 the 2023 portfolio filed in PG&E's 2022-2023 BBAL. This includes program
4 budget changes of 40 percent or greater, new programs proposed as part of this
5 application, programs that PG&E intends to discontinue prior to the start of the
6 portfolio plan period, and a portfolio segmentation category change. Table 2-9
7 shows program budget changes greater than 40 percent from 2023.

TABLE 2-9
PROGRAM BUDGET CHANGES GREATER THAN 40 PERCENT FROM 2023

Line No.	Program ID	Program Name	2023	2024
1	PGE_Com_001	Grocery Efficiency Program	\$2,371,780	\$3,505,756
2	PGE_Ind_001a	Industrial SEM - Food Processing	\$3,903,932	\$6,338,617
3	PGE_SW_IP_Gov	Institutional Partnerships: DGS and DoC	\$1,929,021	\$3,123,836
4	PGE_SW_NC_NonRes_Res_electric	SW New Construction NonRes Res – All Electric	\$419,421	\$1,564,879
5	PGE_SW_NC_NonRes_Res_mixed	SW New Construction NonRes Res – Mixed Fuel	\$874,182	\$2,120,140
6	PGE_SW_NC_NonRes_Ag_electric	SW New Construction NonRes Ag – All Electric	\$108,365	\$464,598
7	PGE_SW_NC_NonRes_Ind_electric	SW New Construction NonRes Ind – All Electric	\$267,855	\$1,026,667
8	PGE_SW_NC_NonRes_Ind_mixed	SW New Construction NonRes Ind – Mixed Fuel	\$1,295,005	\$3,200,314
9	PGE_SW_NC_NonRes_Pub_electric	SW New Construction NonRes Public – All Electric	\$235,409	\$998,911
10	PGE_SW_NC_NonRes_Pub_mixed	SW New Construction NonRes Public – Mixed Fuel	\$308,606	\$721,171
11	PGE21055	Planning and Coordination	\$732,036	\$1,186,308
12	PGE21056	Code Readiness	\$7,044,322	\$10,982,764
13	PGE_SW_CSA_Appl	State Appliance Standards Advocacy	\$833,303	\$1,937,292
14	PGE21011	Commercial Calculated Incentives	\$4,171,984	\$1,418,261
15	PGE21012	Commercial Deemed Incentives	\$2,600,283	\$783,829
16	PGE_SW_UL	Lighting (Upstream)	\$6,235,039	\$1,911,771
17	PGE_Ag_001	Agricultural Efficiency Program	\$19,466,139	\$8,244,588
18	PGE21031	Agricultural Calculated Incentives	\$972,782	\$260,954
19	PGE21021	Industrial Calculated Incentives	\$3,534,321	\$723,882
20	PGE21091	OBF (excludes Loan Pool)	\$535,366	–
21	PGE_Pub_002	Marin Local Government Partnership	\$345,731	\$174,090
22	PGE_LoanPool	OBF Loan Pool	\$17,000,000	\$10,000,000

1 Table 2-10 shows new programs not included in PG&E's 2022-2023 BBAL.

**TABLE 2-10
NEW PROGRAMS FOR 2024 AND BEYOND**

Line No.	Program ID	Placeholder Program Name
1	PGE_Com_EM	Commercial Energy Management Placeholder
2	PGE_Com_ZE	Zonal Electrification Placeholder (Commercial)
3	PGE_Res_ZE	Zonal Electrification Placeholder (Residential)
4	PGE_Res_Mkt_Spt	Residential Market Support Placeholder
5	PGE_Res_LoadMgt	Residential Load Management Placeholder
6	PGE_Res_Resiliency	Resiliency Support Placeholder (Residential)
7	PGE_Pub_Resiliency	Resiliency Support Placeholder (Public)
8	PGE_CS_Decarb	C&S Decarbonization Support Placeholder
9	PGE_Pub_011	CATALENA

1 Table 2-11 lists programs which PG&E plans to discontinue by the end of
2 2023. These programs are not included in this application. With the exception
3 of Home Energy Rewards (PGE_Res_001c), the programs in Table 2-11 are
4 PG&E implemented programs which were listed for closure in PG&E's
5 2022-2023 BBAL.²⁵ Home Energy Rewards is a third-party program and does
6 not require a public webinar because its contract term is ending.²⁶

**TABLE 2-11
PROGRAMS PLANNED FOR DISCONTINUATION AFTER 2023**

Line No.	Program ID	Placeholder Program Name
1	PGE_Res_001c	Pay for Performance - Home Energy Rewards
2	PGE2110011	California Community Colleges
3	PGE2110012	University of California/California State University
4	PGE2110013	State of California
5	PGE2110014	Department of Corrections and Rehabilitation
6	PGE211025	Savings by Design

7 PG&E is proposing a change to the portfolio segment for a single program,
8 OBF Alternative Pathway, from Resource Acquisition to Market Support, as
9 listed in Table 2-12.

²⁵ PG&E AL 4521-G-A/6385-E-A, (Jan. 7, 2022), pp. 28-29, Table 9.

²⁶ D.21-05-031, pp. 83-84, OP 12.

TABLE 2-12
PROGRAM SEGMENT CATEGORY CHANGE

Line No.	Program Name	2023 Program ID	2023 Program Segment	2024-2027 Program ID	2024-2027 Program Segment
1	OBF Alternative Pathway	PGE210911	Resource Acquisition	PGE_OBFAP	Market Support

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. The detailed program showing for each year of the four-year portfolio cycle for these costs is included in Attachment A.

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.²⁷

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;²⁸
- Local/Government Partnerships Contracts;
- Program Implementation;
- Incentives--(PA-Implemented and Other Contracts Program Implementation) Programs; and
- Incentives--Third Party Program.²⁹

²⁷ 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. EE Policy Manual, version 6, Appendix C: Cost Categories and Related Cap and Targets April 2020, available at: <https://www.cpuc.ca.gov/-/media/cpuc-website/files/legacyfiles/e/6442465683-ee-policy-manual-revised-march-20-2020-b.pdf>. (as of Dec. 22, 2021).

²⁸ As defined per D.16-08-019, p. 111, OP 10.

²⁹ *Ibid.*

1 These functional group categories, including the additional five non-labor
 2 components, are from the standardized budget details resulting from a
 3 meet-and-confer process among the Public Advocates Office (formerly known as
 4 Office of Ratepayer Advocates) at the California Public Utilities Commission,
 5 The Utility Reform Network, and the PAs during the 2017 Business Plan
 6 Application proceeding. Showing costs by these functional group categories is
 7 required by the Energy Division, and all IOUs are required to provide this
 8 supplemental budget information in Exhibit 3, Chapter 1, Tables 10-16.³⁰

9 Each PG&E internal team and the costs they manage or oversee are further
 10 categorized as “Portfolio Administration” or “Program Implementation Costs”
 11 following the definitions adopted in D.21-05-031.³¹

12 **Program Implementation Costs:** All costs associated with delivering a
 13 program. With the use of 3rd party implementers, this is very
 14 straightforward; all costs associated with contracts for efficiency programs is
 15 program implementation. Should the PA [program administrator] be in the
 16 role of implementation, the PA should clearly identify all costs associated
 17 with that program. This should NOT be some level of “rule of thumb”
 18 allocations. PA employee time (including account reps) should be booked
 19 directly to a specific program being implemented in a manner that can be
 20 audited for accuracy. The PA could propose methods for tracking things like
 21 traditional “overhead” (such as rent, or IT [information technology] services)
 22 in a manner that appropriately links to employee charged time.

23 **Portfolio Administration** (i.e., Overhead): Everything else not in Program
 24 Implementation. Costs for things like managing a solicitation, negotiating a
 25 contract, and reviewing/paying invoices all are part of Administration (this
 26 should not be put into the “implementation” bucket).

27 To categorize costs into portfolio administration and program
 28 implementation, PG&E first differentiates between “PA Costs” and “Non-PA
 29 Costs”, as shown in Table 2-13 below. All costs identified in Table 2-13 as
 30 “Non-PA Costs” are categorized by PG&E as Program Implementation costs per
 31 the definition.³² Table 2-13 excludes OBF Loan Pool.

³⁰ D.18-05-041, p. 192, OP 44.

³¹ D.21-05-031, pp. 32-33, Section 5.2.3.

³² *Ibid.*

TABLE 2-13
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		ME&O (Local)	PA Costs
8		Account Management / Sales	PA Costs
9		IT	PA Costs
10		Call Center	PA Costs
11		EM&V	PA Costs
12	Non-Labor	Third-Party Implementer Contracts (as defined per D.16-08-019, OP 10)	<i>Non-PA Costs</i>
13		Local/Government Partnerships Contracts	<i>Non-PA Costs</i>
14		Other Contracts	
15		Program Implementation	<i>Non-PA Costs</i>
16		Policy, Strategy, and Regulatory Reporting Compliance	PA Costs
17		Program Management	PA Costs
18		Engineering Services	PA Costs
19		Customer Application/Rebate/Incentive Processing	PA Costs
20		Customer Project Inspections	PA Costs
21		Portfolio Analytics	PA Costs
22		ME&O (Local)	PA Costs
23		Account Management / Sales	PA Costs
24		IT	PA Costs
25		Call Center	PA Costs
26		EM&V	<i>n/a – EM&V contracts</i>
27		Facilities	PA Costs
28		Incentives – (PA-Implemented and Other Contracts Program Implementation) Programs	<i>Non-PA Costs</i>
29		Incentives – Third Party Program (as defined per D.16-08-019, OP 10)	<i>Non-PA Costs</i>
30	Other (litigated through GRC)	Labor Overheads	PA Costs

(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).

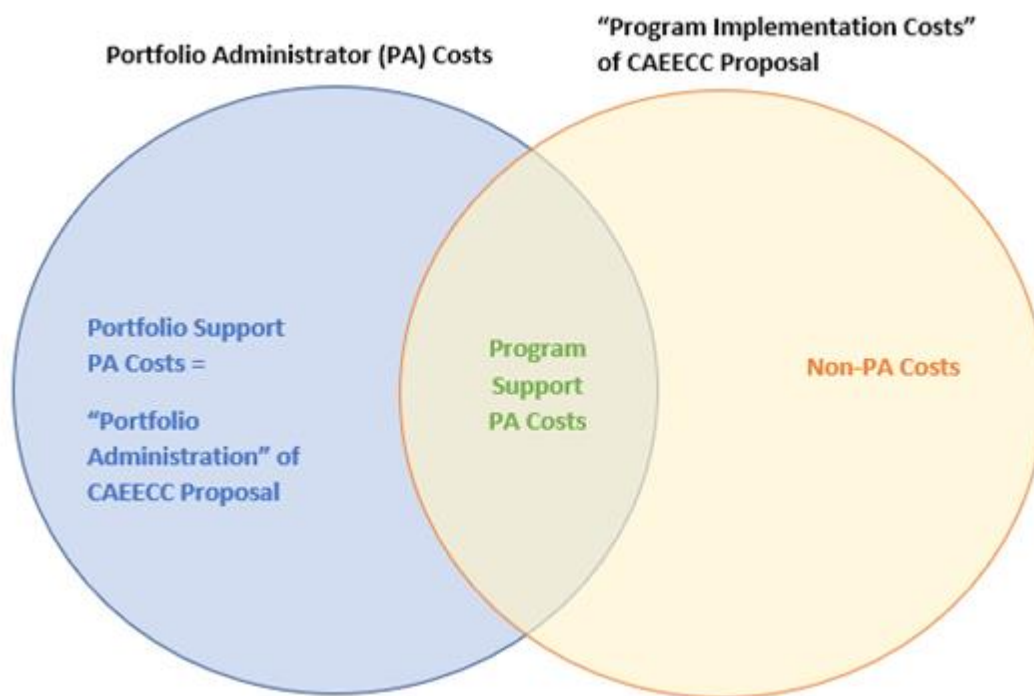
1 All costs identified in Table 2-13 as PA Costs are split between Program
2 Support and Portfolio Support:

- 3 • **Program Support** includes PA costs for all activities that directly support
4 individual programs and can be booked directly to a specific program or
5 follows a program-performance-based allocation (e.g., TSB). This portion of
6 PG&E's PA costs is what PG&E interprets as "Program Implementation
7 Costs" in the CAEECC categorization.
- 8 • **Portfolio Support** includes PA costs for all activities that support the entire
9 EE portfolio and use a "rule of thumb" allocation since the work cannot be
10 booked directly to a specific program. This portion of PG&E's PA costs is
11 what PG&E interprets as "Portfolio Administration" in the CAEECC
12 categorization.

13 Even though portfolio support PA costs are, by definition, costs that cannot
14 be directly associated with individual programs, current CEDARS reporting
15 standards do not allow portfolio support PA costs to be reported separately from
16 programs (with the exception of EM&V costs). Therefore, portfolio support PA
17 costs must be assigned to individual programs for CEDARS reporting. For all
18 programs other than statewide programs which PG&E is not the lead program
19 administrator (i.e., where PG&E is the funding program administrator), PG&E
20 used a program budget-based allocation to assign portfolio support PA costs.
21 For statewide programs led by another IOU, PG&E assigned portfolio support
22 PA costs to programs using an equal distribution based on the number of
23 programs in PG&E's portfolio.

24 Figure 2-1 illustrates the above categorization of costs, using a Venn
25 diagram, which shows the split and overlap between PA costs and Non-PA
26 costs, as well as the split and overlap between "Portfolio Support" and "Program
27 Support" PA costs. The non-overlapping section of the blue circle is categorized
28 as "Portfolio Administration" of the CAEECC Proposal, and the full orange circle
29 (which includes both Program Support PA costs and Non-PA costs) is
30 categorized as "Program Implementation Costs" of the CAEECC Proposal.

FIGURE 2-1
RELATIONSHIP BETWEEN CAEECC PROPOSAL COSTS AND PROGRAM VS PORTFOLIO
SUPPORT COSTS



- 1 Table 2-14 below shows which functional groups and which types of
- 2 activities are categorized by PG&E as "Portfolio Administration" or "Program
- 3 Implementation Cost".

TABLE 2-14
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 2-13 and Figure 2-1)	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
2	Program Management	Includes portfolio strategy and optimization, portfolio-level performance management and analysis and forecasts, and procurement of new local and statewide customer programs and other customer-facing support tools	DINI ^(b)	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 savings 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 ^(b)	Program Implementation
3	Engineering Services	Includes workpaper data, technical reviews, data quality reviews, and Applied Technology Services	DINI ^(b)	Program Implementation
4	Customer Application/Rebate/Incentive Processing	Includes application management and rebate and incentive processing	DINI ^(b)	Program Implementation
5	Customer Project Inspections	Includes inspection verification of programs and products	DINI ^(b)	Program Implementation
6	Portfolio Analytics	Includes analytics support	A	Portfolio Administration

TABLE 2-14
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 2-13 and Figure 2-1)	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 ^(b)	Program Implementation
8	Account Management / Sales	Includes account representatives and sales functions	DINI ^(b)	Program Implementation
		Includes responding to customer questions / complaints	DINI ^(b)	Portfolio Administration
		Includes performance management, quality assurance, process improvement, data mining, analysis, and reporting support for account representative teams and customer experience teams	A	Program Implementation
9	IT	Includes IT support for specific programs	DINI ^(b)	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 ^(b)	Portfolio Administration
<p>(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.</p> <p>(b) A portion of costs that are associated with DINI and Marketing labor costs (e.g., payroll taxes and facility-related costs) are reclassified to Admin for Caps and Targets reporting, to comply with the EE Policy Manual's definitions.</p>				

1 PG&E also includes cost categories (A, M, and DINI) from the EE Policy
2 Manual in Table 2-14 to illustrate that the terms Utility Administrative Costs and
3 Portfolio Administration are not equivalent, nor are the terms DINI and Program
4 Implementation.

5 Given that there are similar-sounding terms "Administrative",
6 "Administration", "Administrator", PG&E shares the diagram in Figure 2-2 and
7 Table 2-15 to illustrate the relationship among the utility administrative costs
8 definition from the EE Policy Manual, the data on PA costs in CEDARS, and the
9 CAEECC proposal categories. PA costs are a combination of portfolio
10 administration costs and program implementation costs.

FIGURE 2-2
PROGRAM COSTS BY TYPE WITH COST CATEGORIES



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

TABLE 2-15
SUMMARY OF ADMINISTRATIVE, ADMINISTRATION, ADMINISTRATOR DEFINITIONS AND
CONTEXTS

Line No.	Context	Term Name	Includes	Corresponding Figure 2-2 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).

PACIFIC GAS AND ELECTRIC COMPANY
CHAPTER 2
ATTACHMENT A
PG&E ENERGY EFFICIENCY 2024-2027 PROGRAM-LEVEL
ANNUAL COST VARIANCE EXPLANATIONS

Prg ID	PGE_Ag_001	Agricultural Efficiency Program			
Line No.	Cost Source	Year	Amount	Change from Prior Year	Description/Explanation
1	Program Implementation Non-PA Costs (implementer costs, incentives, program management-related contracts)	2023	\$16,452,929		
2		2024	\$6,662,101	-\$9,790,828	Reduction in budget to support other sectors and placeholder programs.
3		2025	\$6,662,101	\$0	PG&E analyzed these costs and does not expect any change compared to prior year
4		2026	\$6,185,383	-\$476,718	Budget changes are immaterial (<10% change)
5		2027	\$7,380,159	\$1,194,776	Increase in program budget to support large Agricultural sector customer participation with mature steady-state program
6	Program Support PA Costs	2023	\$1,056,118		
7		2024	\$860,331	-\$195,787	See Supplemental Budget Table
8		2025	\$860,240	-\$90	See Supplemental Budget Table
9		2026	\$857,843	-\$2,398	See Supplemental Budget Table
10		2027	\$954,238	\$96,395	See Supplemental Budget Table
11	Portfolio Support PA Costs	2023	\$1,957,092		
12		2024	\$722,156	-\$1,234,936	See Supplemental Budget Table
13		2025	\$712,719	-\$9,437	See Supplemental Budget Table
14		2026	\$682,290	-\$30,429	See Supplemental Budget Table
15		2027	\$793,733	\$111,444	See Supplemental Budget Table

Prg ID	PGE21031	Agricultural Calculated Incentives			
Line No.	Cost Source	Year	Amount	Change from Prior Year	Description/Explanation
1	Program Implementation Non-PA Costs (implementer costs, incentives, program management-related contracts)	2023	\$411,000		
2		2024	\$100,000	-\$311,000	Reducing PGE-led program as Third-Party engagement in sector increases
3		2025	\$100,000	\$0	PG&E analyzed these costs and does not expect any change compared to prior year
4		2026	\$100,000	\$0	PG&E analyzed these costs and does not expect any change compared to prior year
5		2027	\$100,000	\$0	PG&E analyzed these costs and does not expect any change compared to prior year
6	Program Support PA Costs	2023	\$512,893		
7		2024	\$150,114	-\$362,779	See Supplemental Budget Table
8		2025	\$122,859	-\$27,255	See Supplemental Budget Table
9		2026	\$102,897	-\$19,962	See Supplemental Budget Table
10		2027	\$99,318	-\$3,579	See Supplemental Budget Table
11	Portfolio Support PA Costs	2023	\$48,889		
12		2024	\$10,840	-\$38,049	See Supplemental Budget Table
13		2025	\$10,698	-\$142	See Supplemental Budget Table
14		2026	\$11,031	\$333	See Supplemental Budget Table
15		2027	\$10,755	-\$276	See Supplemental Budget Table

Prg ID	PGE21032	Agricultural Deemed Incentives			
Line No.	Cost Source	Year	Amount	Change from Prior Year	Description/Explanation
1	Program Implementation Non-PA Costs (implementer costs, incentives, program management-related contracts)	2023	\$230,800		
2		2024	\$173,120	-\$57,680	Reducing PGE-led program as Third-Party engagement in sector increases
3		2025	\$173,120	\$0	PG&E analyzed these costs and does not expect any change compared to prior year
4		2026	\$173,120	\$0	PG&E analyzed these costs and does not expect any change compared to prior year
5		2027	\$173,120	\$0	PG&E analyzed these costs and does not expect any change compared to prior year
6	Program Support PA Costs	2023	\$424,232		
7		2024	\$368,970	-\$55,262	See Supplemental Budget Table
8		2025	\$356,980	-\$11,990	See Supplemental Budget Table
9		2026	\$350,513	-\$6,466	See Supplemental Budget Table
10		2027	\$347,148	-\$3,366	See Supplemental Budget Table
11	Portfolio Support PA Costs	2023	\$27,454		
12		2024	\$18,766	-\$8,688	See Supplemental Budget Table
13		2025	\$18,521	-\$245	See Supplemental Budget Table
14		2026	\$19,096	\$576	See Supplemental Budget Table
15		2027	\$18,619	-\$477	See Supplemental Budget Table

Prg ID	PGE21034	Agricultural Energy Advisor			
Line No.	Cost Source	Year	Amount	Change from Prior Year	Description/Explanation
1	Program Implementation Non-PA Costs (implementer costs, incentives, program management-related contracts)	2023	\$102,817		
2		2024	\$102,817	\$0	PG&E analyzed these costs and does not expect any change compared to prior year
3		2025	\$102,817	\$0	PG&E analyzed these costs and does not expect any change compared to prior year
4		2026	\$102,817	\$0	PG&E analyzed these costs and does not expect any change compared to prior year
5		2027	\$102,817	\$0	PG&E analyzed these costs and does not expect any change compared to prior year
6	Program Support PA Costs	2023	\$146,105		
7		2024	\$87,562	-\$58,543	See Supplemental Budget Table
8		2025	\$87,362	-\$200	See Supplemental Budget Table
9		2026	\$83,778	-\$3,584	See Supplemental Budget Table
10		2027	\$84,190	\$412	See Supplemental Budget Table
11	Portfolio Support PA Costs	2023	\$12,230		
12		2024	\$11,145	-\$1,085	See Supplemental Budget Table
13		2025	\$10,999	-\$146	See Supplemental Budget Table
14		2026	\$11,341	\$342	See Supplemental Budget Table
15		2027	\$11,058	-\$283	See Supplemental Budget Table

Prg ID	PGE_Com_001	Grocery Efficiency Program			
Line No.	Cost Source	Year	Amount	Change from Prior Year	Description/Explanation
1	Program Implementation Non-PA Costs (implementer costs, incentives, program management-related contracts)	2023	\$1,876,499		
2		2024	\$2,722,273	\$845,774	Increase in budget in anticipation of market potential in Grocery sector
3		2025	\$2,722,273	\$0	PG&E analyzed these costs and does not expect any change compared to prior year
4		2026	\$2,972,273	\$250,000	Budget changes are immaterial (<10% change)
5		2027	\$2,972,273	\$0	PG&E analyzed these costs and does not expect any change compared to prior year
6	Program Support PA Costs	2023	\$272,069		
7		2024	\$488,395	\$216,325	See Supplemental Budget Table
8		2025	\$499,754	\$11,359	See Supplemental Budget Table
9		2026	\$525,895	\$26,141	See Supplemental Budget Table
10		2027	\$546,524	\$20,630	See Supplemental Budget Table
11	Portfolio Support PA Costs	2023	\$223,211		
12		2024	\$295,088	\$71,877	See Supplemental Budget Table
13		2025	\$291,232	-\$3,856	See Supplemental Budget Table
14		2026	\$327,862	\$36,630	See Supplemental Budget Table
15		2027	\$319,667	-\$8,195	See Supplemental Budget Table

Prg ID	PGE_Com_002	Laboratory Performance Efficiency Program			
Line No.	Cost Source	Year	Amount	Change from Prior Year	Description/Explanation
1	Program Implementation Non-PA Costs (implementer costs, incentives, program management-related contracts)	2023	\$1,276,224		
2		2024	\$1,177,912	-\$98,312	Budget changes are immaterial (<10% change)
3		2025	\$1,177,912	\$0	PG&E analyzed these costs and does not expect any change compared to prior year
4		2026	\$1,177,912	\$0	PG&E analyzed these costs and does not expect any change compared to prior year
5		2027	\$1,177,912	\$0	PG&E analyzed these costs and does not expect any change compared to prior year
6	Program Support PA Costs	2023	\$243,528		
7		2024	\$256,833	\$13,305	See Supplemental Budget Table
8		2025	\$265,618	\$8,786	See Supplemental Budget Table
9		2026	\$275,016	\$9,398	See Supplemental Budget Table
10		2027	\$287,514	\$12,498	See Supplemental Budget Table
11	Portfolio Support PA Costs	2023	\$151,808		
12		2024	\$127,683	-\$24,125	See Supplemental Budget Table
13		2025	\$126,014	-\$1,669	See Supplemental Budget Table
14		2026	\$129,932	\$3,917	See Supplemental Budget Table
15		2027	\$126,684	-\$3,248	See Supplemental Budget Table

Prg ID	PGE_Com_003	Commercial Efficiency Program			
Line No.	Cost Source	Year	Amount	Change from Prior Year	Description/Explanation
1	Program Implementation Non-PA Costs (implementer costs, incentives, program management-related contracts)	2023	\$4,074,375		
2		2024	\$4,499,846	\$425,471	Increase in program budget to support large commercial sector customer participation with mature steady-state program
3		2025	\$4,499,846	\$0	PG&E analyzed these costs and does not expect any change compared to prior year
4		2026	\$4,499,846	\$0	PG&E analyzed these costs and does not expect any change compared to prior year
5		2027	\$4,499,846	\$0	PG&E analyzed these costs and does not expect any change compared to prior year
6	Program Support PA Costs	2023	\$529,211		
7		2024	\$516,491	-\$12,720	See Supplemental Budget Table
8		2025	\$544,627	\$28,136	See Supplemental Budget Table
9		2026	\$622,595	\$77,968	See Supplemental Budget Table
10		2027	\$660,805	\$38,210	See Supplemental Budget Table
11	Portfolio Support PA Costs	2023	\$484,651		
12		2024	\$487,773	\$3,122	See Supplemental Budget Table
13		2025	\$481,399	-\$6,374	See Supplemental Budget Table
14		2026	\$496,364	\$14,965	See Supplemental Budget Table
15		2027	\$483,957	-\$12,407	See Supplemental Budget Table

Prg ID	PGE_Com_004	High Tech and Bio Tech Efficiency Program			
Line No.	Cost Source	Year	Amount	Change from Prior Year	Description/Explanation
1	Program Implementation Non-PA Costs (implementer costs, incentives, program management-related contracts)	2023	\$2,861,176		
2		2024	\$2,779,796	-\$81,380	Budget changes are immaterial (<10% change)
3		2025	\$2,779,796	\$0	PG&E analyzed these costs and does not expect any change compared to prior year
4		2026	\$2,779,796	\$0	PG&E analyzed these costs and does not expect any change compared to prior year
5		2027	\$2,779,796	\$0	PG&E analyzed these costs and does not expect any change compared to prior year
6	Program Support PA Costs	2023	\$511,870		
7		2024	\$531,804	\$19,934	See Supplemental Budget Table
8		2025	\$545,100	\$13,296	See Supplemental Budget Table
9		2026	\$569,244	\$24,144	See Supplemental Budget Table
10		2027	\$589,331	\$20,087	See Supplemental Budget Table
11	Portfolio Support PA Costs	2023	\$340,340		
12		2024	\$301,323	-\$39,016	See Supplemental Budget Table
13		2025	\$297,386	-\$3,938	See Supplemental Budget Table
14		2026	\$306,630	\$9,245	See Supplemental Budget Table
15		2027	\$298,966	-\$7,664	See Supplemental Budget Table

Prg ID	PGE_Com_005	Healthcare Efficiency Program			
Line No.	Cost Source	Year	Amount	Change from Prior Year	Description/Explanation
1	Program Implementation Non-PA Costs (implementer costs, incentives, program management-related contracts)	2023	\$2,457,887		
2		2024	\$2,311,179	-\$146,708	Budget changes are immaterial (<10% change)
3		2025	\$2,311,179	\$0	PG&E analyzed these costs and does not expect any change compared to prior year
4		2026	\$2,311,179	\$0	PG&E analyzed these costs and does not expect any change compared to prior year
5		2027	\$2,311,179	\$0	PG&E analyzed these costs and does not expect any change compared to prior year
6	Program Support PA Costs	2023	\$596,609		
7		2024	\$737,507	\$140,898	See Supplemental Budget Table
8		2025	\$750,535	\$13,028	See Supplemental Budget Table
9		2026	\$764,621	\$14,086	See Supplemental Budget Table
10		2027	\$774,074	\$9,452	See Supplemental Budget Table
11	Portfolio Support PA Costs	2023	\$292,368		
12		2024	\$250,526	-\$41,842	See Supplemental Budget Table
13		2025	\$247,253	-\$3,274	See Supplemental Budget Table
14		2026	\$254,939	\$7,686	See Supplemental Budget Table
15		2027	\$248,566	-\$6,372	See Supplemental Budget Table

Prg ID	PGE_Com_EM	Commercial Energy Management Placeholder			
Line No.	Cost Source	Year	Amount	Change from Prior Year	Description/Explanation
1	Program Implementation Non-PA Costs (implementer costs, incentives, program management-related contracts)	2023	\$0		
2		2024	\$2,500,000	\$2,500,000	New program launch
3		2025	\$2,500,000	\$0	PG&E analyzed these costs and does not expect any change compared to prior year
4		2026	\$2,500,000	\$0	PG&E analyzed these costs and does not expect any change compared to prior year
5		2027	\$2,500,000	\$0	PG&E analyzed these costs and does not expect any change compared to prior year
6	Program Support PA Costs	2023	\$0		
7		2024	\$572,978	\$572,978	See Supplemental Budget Table
8		2025	\$592,674	\$19,696	See Supplemental Budget Table
9		2026	\$620,405	\$27,731	See Supplemental Budget Table
10		2027	\$647,667	\$27,262	See Supplemental Budget Table
11	Portfolio Support PA Costs	2023	\$0		
12		2024	\$270,994	\$270,994	See Supplemental Budget Table
13		2025	\$267,453	-\$3,541	See Supplemental Budget Table
14		2026	\$275,767	\$8,314	See Supplemental Budget Table
15		2027	\$268,874	-\$6,893	See Supplemental Budget Table

Prg ID	PGE_Com_SmallBiz	New Small/Micro Business Placeholder			
Line No.	Cost Source	Year	Amount	Change from Prior Year	Description/Explanation
1	Program Implementation Non-PA Costs (implementer costs, incentives, program management-related contracts)	2023	\$4,500,000		
2		2024	\$4,500,000	\$0	New program not yet under contract
3		2025	\$4,500,000	\$0	PG&E analyzed these costs and does not expect any change compared to prior year
4		2026	\$4,500,000	\$0	PG&E analyzed these costs and does not expect any change compared to prior year
5		2027	\$4,500,000	\$0	PG&E analyzed these costs and does not expect any change compared to prior year
6	Program Support PA Costs	2023	\$228,052		
7		2024	\$520,671	\$292,620	See Supplemental Budget Table
8		2025	\$522,962	\$2,290	See Supplemental Budget Table
9		2026	\$560,331	\$37,369	See Supplemental Budget Table
10		2027	\$579,512	\$19,181	See Supplemental Budget Table
11	Portfolio Support PA Costs	2023	\$535,280		
12		2024	\$487,790	-\$47,490	See Supplemental Budget Table
13		2025	\$481,415	-\$6,374	See Supplemental Budget Table
14		2026	\$496,381	\$14,965	See Supplemental Budget Table
15		2027	\$483,973	-\$12,407	See Supplemental Budget Table

Prg ID	PGE_Com_ZE	Zonal Electrification Placeholder (Commercial)			
Line No.	Cost Source	Year	Amount	Change from Prior Year	Description/Explanation
1	Program Implementation Non-PA Costs (implementer costs, incentives, program management-related contracts)	2023	\$0		
2		2024	\$750,000	\$750,000	New program launch
3		2025	\$1,250,000	\$500,000	Program ramp up as customer are acquired and engaged in program
4		2026	\$1,500,000	\$250,000	Program spend increases as program maturity and steady state are achieved
5		2027	\$1,500,000	\$0	PG&E analyzed these costs and does not expect any change compared to prior year
6	Program Support PA Costs	2023	\$0		
7		2024	\$121,325	\$121,325	See Supplemental Budget Table
8		2025	\$125,596	\$4,271	See Supplemental Budget Table
9		2026	\$212,361	\$86,765	See Supplemental Budget Table
10		2027	\$219,836	\$7,475	See Supplemental Budget Table
11	Portfolio Support PA Costs	2023	\$0		
12		2024	\$81,298	\$81,298	See Supplemental Budget Table
13		2025	\$133,726	\$52,428	See Supplemental Budget Table
14		2026	\$165,460	\$31,734	See Supplemental Budget Table
15		2027	\$161,324	-\$4,136	See Supplemental Budget Table

Prg ID	PGE_OtherPA_Admin	IOU REN/CCA Admin Costs			
Line No.	Cost Source	Year	Amount	Change from Prior Year	Description/Explanation
1	Program Implementation Non-PA Costs (implementer costs, incentives, program management-related contracts)	2023	\$0		
2		2024	\$0	\$0	N/A
3		2025	\$0	\$0	N/A
4		2026	\$0	\$0	N/A
5		2027	\$0	\$0	N/A
6	Program Support PA Costs	2023	\$190,458		
7		2024	\$176,286	-\$14,172	See Supplemental Budget Table
8		2025	\$182,491	\$6,205	See Supplemental Budget Table
9		2026	\$188,915	\$6,424	See Supplemental Budget Table
10		2027	\$195,565	\$6,650	See Supplemental Budget Table
11	Portfolio Support PA Costs	2023	\$0		
12		2024	\$0	\$0	See Supplemental Budget Table
13		2025	\$0	\$0	See Supplemental Budget Table
14		2026	\$0	\$0	See Supplemental Budget Table
15		2027	\$0	\$0	See Supplemental Budget Table

Prg ID	PGE_SW_FS	Food Service POS			
Line No.	Cost Source	Year	Amount	Change from Prior Year	Description/Explanation
1	Program Implementation Non-PA Costs (implementer costs, incentives, program management-related contracts)	2023	\$8,804,748		
2		2024	\$7,464,625	-\$1,340,122	SW Program, non-lead: please refer to Southern California Gas Company's application for variance explanation
3		2025	\$7,464,625	\$0	SW Program, non-lead: please refer to Southern California Gas Company's application for variance explanation
4		2026	\$7,464,625	\$0	SW Program, non-lead: please refer to Southern California Gas Company's application for variance explanation
5		2027	\$7,464,625	\$0	SW Program, non-lead: please refer to Southern California Gas Company's application for variance explanation
6	Program Support PA Costs	2023	\$349,842		
7		2024	\$296,106	-\$53,736	See Supplemental Budget Table
8		2025	\$345,717	\$49,611	See Supplemental Budget Table
9		2026	\$339,755	-\$5,961	See Supplemental Budget Table
10		2027	\$332,477	-\$7,278	See Supplemental Budget Table
11	Portfolio Support PA Costs	2023	\$288,365		
12		2024	\$265,051	-\$23,314	See Supplemental Budget Table
13		2025	\$270,649	\$5,598	See Supplemental Budget Table
14		2026	\$280,974	\$10,325	See Supplemental Budget Table
15		2027	\$273,108	-\$7,866	See Supplemental Budget Table

Prg ID	PGE_SW_HVAC_Up	SW HVAC Upstream (Com and Res)			
Line No.	Cost Source	Year	Amount	Change from Prior Year	Description/Explanation
1	Program Implementation Non-PA Costs (implementer costs, incentives, program management-related contracts)	2023	\$6,238,877		
2		2024	\$6,238,878	\$1	SW Program, non-lead: please refer to San Diego Gas and Electric Company's application for variance explanation
3		2025	\$6,488,566	\$249,689	SW Program, non-lead: please refer to San Diego Gas and Electric Company's application for variance explanation
4		2026	\$6,795,687	\$307,121	SW Program, non-lead: please refer to San Diego Gas and Electric Company's application for variance explanation
5		2027	\$7,118,164	\$322,477	SW Program, non-lead: please refer to San Diego Gas and Electric Company's application for variance explanation
6	Program Support PA Costs	2023	\$218,936		
7		2024	\$419,855	\$200,920	See Supplemental Budget Table
8		2025	\$101,150	-\$318,705	See Supplemental Budget Table
9		2026	\$106,024	\$4,874	See Supplemental Budget Table
10		2027	\$109,762	\$3,738	See Supplemental Budget Table
11	Portfolio Support PA Costs	2023	\$288,365		
12		2024	\$530,102	\$241,737	See Supplemental Budget Table
13		2025	\$541,298	\$11,196	See Supplemental Budget Table
14		2026	\$561,948	\$20,650	See Supplemental Budget Table
15		2027	\$546,216	-\$15,731	See Supplemental Budget Table

(a) The budgets shown here are include both the residential and commercial Statewide Upstream HVAC program. This statewide program

Prg ID	PGE_SW_MCWH	Midstream Comm Water Heating			
Line No.	Cost Source	Year	Amount	Change from Prior Year	Description/Explanation
1	Program Implementation Non-PA Costs (implementer costs, incentives, program management-related contracts)	2023	\$8,281,177		
2		2024	\$7,093,476	-\$1,187,701	SW Program, non-lead: please refer to Southern California Gas Company's application for variance explanation
3		2025	\$7,088,136	-\$5,340	SW Program, non-lead: please refer to Southern California Gas Company's application for variance explanation
4		2026	\$7,082,555	-\$5,581	SW Program, non-lead: please refer to Southern California Gas Company's application for variance explanation
5		2027	\$7,076,687	-\$5,868	SW Program, non-lead: please refer to Southern California Gas Company's application for variance explanation
6	Program Support PA Costs	2023	\$275,609		
7		2024	\$281,155	\$5,546	See Supplemental Budget Table
8		2025	\$376,809	\$95,654	See Supplemental Budget Table
9		2026	\$382,583	\$5,774	See Supplemental Budget Table
10		2027	\$387,324	\$4,741	See Supplemental Budget Table
11	Portfolio Support PA Costs	2023	\$288,365		
12		2024	\$265,051	-\$23,314	See Supplemental Budget Table
13		2025	\$270,649	\$5,598	See Supplemental Budget Table
14		2026	\$280,974	\$10,325	See Supplemental Budget Table
15		2027	\$273,108	-\$7,866	See Supplemental Budget Table

Prg ID	PGE_SW_UL	Lighting (Upstream)			
Line No.	Cost Source	Year	Amount	Change from Prior Year	Description/Explanation
1	Program Implementation Non-PA Costs (implementer costs, incentives, program management-related contracts)	2023	\$6,235,039		
2		2024	\$1,911,771	-\$4,323,267	SW Program, non-lead: please refer to Southern California Edison's application for variance explanation
3		2025	\$0	-\$1,911,771	SW Program, non-lead: please refer to Southern California Edison's application for variance explanation
4		2026	\$0	\$0	SW Program, non-lead: please refer to Southern California Edison's application for variance explanation
5		2027	\$0	\$0	SW Program, non-lead: please refer to Southern California Edison's application for variance explanation
6	Program Support PA Costs	2023	\$122,723		
7		2024	\$62,596	-\$60,128	See Supplemental Budget Table
8		2025	\$0	-\$62,596	See Supplemental Budget Table
9		2026	\$0	\$0	See Supplemental Budget Table
10		2027	\$0	\$0	See Supplemental Budget Table
11	Portfolio Support PA Costs	2023	\$288,365		
12		2024	\$265,051	-\$23,314	See Supplemental Budget Table
13		2025	\$0	-\$265,051	See Supplemental Budget Table
14		2026	\$0	\$0	See Supplemental Budget Table
15		2027	\$0	\$0	See Supplemental Budget Table

Prg ID	PGE21011	Commercial Calculated Incentives			
Line No.	Cost Source	Year	Amount	Change from Prior Year	Description/Explanation
1	Program Implementation Non-PA Costs (implementer costs, incentives, program management-related contracts)	2023	\$349,711		
2		2024	\$200,000	-\$149,711	Reducing PGE-led program as Third-Party engagement in sector increases
3		2025	\$200,000	\$0	PG&E analyzed these costs and does not expect any change compared to prior year
4		2026	\$200,000	\$0	PG&E analyzed these costs and does not expect any change compared to prior year
5		2027	\$200,000	\$0	PG&E analyzed these costs and does not expect any change compared to prior year
6	Program Support PA Costs	2023	\$3,780,675		
7		2024	\$1,196,582	-\$2,584,093	See Supplemental Budget Table
8		2025	\$752,970	-\$443,612	See Supplemental Budget Table
9		2026	\$671,357	-\$81,613	See Supplemental Budget Table
10		2027	\$615,749	-\$55,609	See Supplemental Budget Table
11	Portfolio Support PA Costs	2023	\$41,598		
12		2024	\$21,680	-\$19,919	See Supplemental Budget Table
13		2025	\$21,396	-\$283	See Supplemental Budget Table
14		2026	\$22,061	\$665	See Supplemental Budget Table
15		2027	\$21,510	-\$551	See Supplemental Budget Table

Prg ID	PGE21012	Commercial Deemed Incentives			
Line No.	Cost Source	Year	Amount	Change from Prior Year	Description/Explanation
1	Program Implementation Non-PA Costs (implementer costs, incentives, program management-related contracts)	2023	\$749,277		
2		2024	\$247,000	-\$502,277	Reducing PGE-led program as Third-Party engagement in sector increases
3		2025	\$247,000	\$0	PG&E analyzed these costs and does not expect any change compared to prior year
4		2026	\$247,000	\$0	PG&E analyzed these costs and does not expect any change compared to prior year
5		2027	\$247,000	\$0	PG&E analyzed these costs and does not expect any change compared to prior year
6	Program Support PA Costs	2023	\$1,761,879		
7		2024	\$510,055	-\$1,251,824	See Supplemental Budget Table
8		2025	\$476,940	-\$33,115	See Supplemental Budget Table
9		2026	\$453,745	-\$23,196	See Supplemental Budget Table
10		2027	\$433,605	-\$20,140	See Supplemental Budget Table
11	Portfolio Support PA Costs	2023	\$89,127		
12		2024	\$26,774	-\$62,353	See Supplemental Budget Table
13		2025	\$26,424	-\$350	See Supplemental Budget Table
14		2026	\$27,246	\$821	See Supplemental Budget Table
15		2027	\$26,565	-\$681	See Supplemental Budget Table

Prg ID	PGE21014	Commercial Energy Advisor			
Line No.	Cost Source	Year	Amount	Change from Prior Year	Description/Explanation
1	Program Implementation Non-PA Costs (implementer costs, incentives, program management-related contracts)	2023	\$616,900		
2		2024	\$616,900	\$0	PG&E analyzed these costs and does not expect any change compared to prior year
3		2025	\$616,900	\$0	PG&E analyzed these costs and does not expect any change compared to prior year
4		2026	\$616,900	\$0	PG&E analyzed these costs and does not expect any change compared to prior year
5		2027	\$616,900	\$0	PG&E analyzed these costs and does not expect any change compared to prior year
6	Program Support PA Costs	2023	\$576,724		
7		2024	\$574,099	-\$2,625	See Supplemental Budget Table
8		2025	\$578,765	\$4,666	See Supplemental Budget Table
9		2026	\$568,634	-\$10,131	See Supplemental Budget Table
10		2027	\$576,780	\$8,146	See Supplemental Budget Table
11	Portfolio Support PA Costs	2023	\$73,381		
12		2024	\$66,871	-\$6,510	See Supplemental Budget Table
13		2025	\$65,997	-\$874	See Supplemental Budget Table
14		2026	\$68,048	\$2,052	See Supplemental Budget Table
15		2027	\$66,347	-\$1,701	See Supplemental Budget Table

Prg ID	PGE_Ind_001a	Industrial Strategic Energy Management - Food Processing			
Line No.	Cost Source	Year	Amount	Change from Prior Year	Description/Explanation
1	Program Implementation Non-PA Costs (implementer costs, incentives, program management-related contracts)	2023	\$2,938,660		
2		2024	\$4,834,147	\$1,895,487	Program expansion to include more Customers participants in two-year cohort cycle
3		2025	\$4,837,409	\$3,261	Budget changes are immaterial (<10% change)
4		2026	\$5,337,409	\$500,000	Program expansion to include more Customers participants in two-year cohort cycle
5		2027	\$5,259,055	-\$78,354	Budget changes are immaterial (<10% change)
6	Program Support PA Costs	2023	\$615,716		
7		2024	\$980,460	\$364,744	See Supplemental Budget Table
8		2025	\$953,548	-\$26,911	See Supplemental Budget Table
9		2026	\$1,026,126	\$72,578	See Supplemental Budget Table
10		2027	\$1,017,267	-\$8,859	See Supplemental Budget Table
11	Portfolio Support PA Costs	2023	\$349,557		
12		2024	\$524,010	\$174,454	See Supplemental Budget Table
13		2025	\$517,511	-\$6,499	See Supplemental Budget Table
14		2026	\$588,752	\$71,241	See Supplemental Budget Table
15		2027	\$565,609	-\$23,143	See Supplemental Budget Table

Prg ID	PGE_Ind_001b	Industrial Strategic Energy Management - Manufacturing			
Line No.	Cost Source	Year	Amount	Change from Prior Year	Description/Explanation
1	Program Implementation Non-PA Costs (implementer costs, incentives, program management-related contracts)	2023	\$4,008,194		
2		2024	\$5,686,375	\$1,678,181	Program expansion to include more Customers participants in two-year cohort cycle
3		2025	\$5,686,375	\$0	PG&E analyzed these costs and does not expect any change compared to prior year
4		2026	\$5,936,375	\$250,000	Budget changes are immaterial (<10% change)
5		2027	\$4,811,375	-\$1,125,000	Reduction in budget to support other sectors and placeholder programs.
6	Program Support PA Costs	2023	\$900,913		
7		2024	\$703,054	-\$197,859	See Supplemental Budget Table
8		2025	\$707,893	\$4,839	See Supplemental Budget Table
9		2026	\$757,242	\$49,349	See Supplemental Budget Table
10		2027	\$731,372	-\$25,870	See Supplemental Budget Table
11	Portfolio Support PA Costs	2023	\$476,779		
12		2024	\$616,390	\$139,611	See Supplemental Budget Table
13		2025	\$608,335	-\$8,055	See Supplemental Budget Table
14		2026	\$654,822	\$46,488	See Supplemental Budget Table
15		2027	\$517,462	-\$137,361	See Supplemental Budget Table

Prg ID	PGE_Ind_002	Petroleum and Chemical Efficiency Program			
Line No.	Cost Source	Year	Amount	Change from Prior Year	Description/Explanation
1	Program Implementation Non-PA Costs (implementer costs, incentives, program management-related contracts)	2023	\$8,319,509		
2		2024	\$9,536,193	\$1,216,683	Increase in program budget to support large industrial sector customer participation with mature steady-state program
3		2025	\$9,536,193	\$0	PG&E analyzed these costs and does not expect any change compared to prior year
4		2026	\$9,536,193	\$0	PG&E analyzed these costs and does not expect any change compared to prior year
5		2027	\$9,536,193	\$0	PG&E analyzed these costs and does not expect any change compared to prior year
6	Program Support PA Costs	2023	\$1,524,947		
7		2024	\$1,180,182	-\$344,764	See Supplemental Budget Table
8		2025	\$1,170,293	-\$9,889	See Supplemental Budget Table
9		2026	\$1,226,575	\$56,281	See Supplemental Budget Table
10		2027	\$1,252,402	\$25,827	See Supplemental Budget Table
11	Portfolio Support PA Costs	2023	\$989,614		
12		2024	\$1,033,701	\$44,087	See Supplemental Budget Table
13		2025	\$1,020,193	-\$13,508	See Supplemental Budget Table
14		2026	\$1,051,907	\$31,714	See Supplemental Budget Table
15		2027	\$1,025,614	-\$26,293	See Supplemental Budget Table

Prg ID	PGE_Ind_003	Manufacturing and Food Processing Efficiency Program			
Line No.	Cost Source	Year	Amount	Change from Prior Year	Description/Explanation
1	Program Implementation Non-PA Costs (implementer costs, incentives, program management-related contracts)	2023	\$5,046,120		
2		2024	\$4,218,545	-\$827,575	Program reduction to allow expansion in other programs
3		2025	\$4,218,545	\$0	PG&E analyzed these costs and does not expect any change compared to prior year
4		2026	\$4,218,545	\$0	PG&E analyzed these costs and does not expect any change compared to prior year
5		2027	\$4,218,545	\$0	PG&E analyzed these costs and does not expect any change compared to prior year
6	Program Support PA Costs	2023	\$895,289		
7		2024	\$939,652	\$44,363	See Supplemental Budget Table
8		2025	\$930,570	-\$9,082	See Supplemental Budget Table
9		2026	\$934,532	\$3,961	See Supplemental Budget Table
10		2027	\$940,610	\$6,079	See Supplemental Budget Table
11	Portfolio Support PA Costs	2023	\$600,241		
12		2024	\$457,280	-\$142,960	See Supplemental Budget Table
13		2025	\$451,305	-\$5,976	See Supplemental Budget Table
14		2026	\$465,334	\$14,029	See Supplemental Budget Table
15		2027	\$453,703	-\$11,631	See Supplemental Budget Table

Prg ID	PGE21021	Industrial Calculated Incentives			
Line No.	Cost Source	Year	Amount	Change from Prior Year	Description/Explanation
1	Program Implementation Non-PA Costs (implementer costs, incentives, program management-related contracts)	2023	\$2,009,348		
2		2024	\$100,000	-\$1,909,348	Reducing PGE-led program as Third-Party engagement in sector increases
3		2025	\$100,000	\$0	PG&E analyzed these costs and does not expect any change compared to prior year
4		2026	\$100,000	\$0	PG&E analyzed these costs and does not expect any change compared to prior year
5		2027	\$100,000	\$0	PG&E analyzed these costs and does not expect any change compared to prior year
6	Program Support PA Costs	2023	\$1,285,959		
7		2024	\$613,042	-\$672,917	See Supplemental Budget Table
8		2025	\$592,373	-\$20,669	See Supplemental Budget Table
9		2026	\$116,282	-\$476,091	See Supplemental Budget Table
10		2027	\$118,060	\$1,778	See Supplemental Budget Table
11	Portfolio Support PA Costs	2023	\$239,014		
12		2024	\$10,840	-\$228,174	See Supplemental Budget Table
13		2025	\$10,698	-\$142	See Supplemental Budget Table
14		2026	\$11,031	\$333	See Supplemental Budget Table
15		2027	\$10,755	-\$276	See Supplemental Budget Table

Prg ID	PGE210212	Compressed Air and Vacuum Optimization Program			
Line No.	Cost Source	Year	Amount	Change from Prior Year	Description/Explanation
1	Program Implementation Non-PA Costs (implementer costs, incentives, program management-related contracts)	2023	\$430,000		
2		2024	\$451,500	\$21,500	Budget changes are immaterial (<10% change)
3		2025	\$474,076	\$22,576	Budget changes are immaterial (<10% change)
4		2026	\$497,779	\$23,703	Budget changes are immaterial (<10% change)
5		2027	\$525,754	\$27,975	Budget changes are immaterial (<10% change)
6	Program Support PA Costs	2023	\$225,356		
7		2024	\$174,600	-\$50,755	See Supplemental Budget Table
8		2025	\$176,523	\$1,922	See Supplemental Budget Table
9		2026	\$181,414	\$4,891	See Supplemental Budget Table
10		2027	\$187,193	\$5,779	See Supplemental Budget Table
11	Portfolio Support PA Costs	2023	\$51,149		
12		2024	\$48,942	-\$2,207	See Supplemental Budget Table
13		2025	\$50,717	\$1,776	See Supplemental Budget Table
14		2026	\$54,908	\$4,191	See Supplemental Budget Table
15		2027	\$56,545	\$1,636	See Supplemental Budget Table

Prg ID	PGE21022	Industrial Deemed Incentives			
Line No.	Cost Source	Year	Amount	Change from Prior Year	Description/Explanation
1	Program Implementation Non-PA Costs (implementer costs, incentives, program management-related contracts)	2023	\$62,556		
2		2024	\$46,937	-\$15,619	Reducing PGE-led program as Third-Party engagement in sector increases
3		2025	\$46,937	\$0	PG&E analyzed these costs and does not expect any change compared to prior year
4		2026	\$46,937	\$0	PG&E analyzed these costs and does not expect any change compared to prior year
5		2027	\$46,937	\$0	PG&E analyzed these costs and does not expect any change compared to prior year
6	Program Support PA Costs	2023	\$331,612		
7		2024	\$282,222	-\$49,390	See Supplemental Budget Table
8		2025	\$299,460	\$17,238	See Supplemental Budget Table
9		2026	\$304,851	\$5,391	See Supplemental Budget Table
10		2027	\$311,603	\$6,752	See Supplemental Budget Table
11	Portfolio Support PA Costs	2023	\$7,441		
12		2024	\$5,088	-\$2,353	See Supplemental Budget Table
13		2025	\$5,021	-\$66	See Supplemental Budget Table
14		2026	\$5,177	\$156	See Supplemental Budget Table
15		2027	\$5,048	-\$129	See Supplemental Budget Table

Prg ID	PGE21024	Industrial Energy Advisor			
Line No.	Cost Source	Year	Amount	Change from Prior Year	Description/Explanation
1	Program Implementation Non-PA Costs (implementer costs, incentives, program management-related contracts)	2023	\$102,817		
2		2024	\$102,817	\$0	PG&E analyzed these costs and does not expect any change compared to prior year
3		2025	\$102,817	\$0	PG&E analyzed these costs and does not expect any change compared to prior year
4		2026	\$102,817	\$0	PG&E analyzed these costs and does not expect any change compared to prior year
5		2027	\$102,817	\$0	PG&E analyzed these costs and does not expect any change compared to prior year
6	Program Support PA Costs	2023	\$75,386		
7		2024	\$34,855	-\$40,531	See Supplemental Budget Table
8		2025	\$33,445	-\$1,410	See Supplemental Budget Table
9		2026	\$27,775	-\$5,670	See Supplemental Budget Table
10		2027	\$28,117	\$342	See Supplemental Budget Table
11	Portfolio Support PA Costs	2023	\$12,230		
12		2024	\$11,145	-\$1,085	See Supplemental Budget Table
13		2025	\$10,999	-\$146	See Supplemental Budget Table
14		2026	\$11,341	\$342	See Supplemental Budget Table
15		2027	\$11,058	-\$283	See Supplemental Budget Table

Prg ID	PGE_Pub_009	Government and K-12 Comprehensive Program			
Line No.	Cost Source	Year	Amount	Change from Prior Year	Description/Explanation
1	Program Implementation Non-PA Costs (implementer costs, incentives, program management-related contracts)	2023	\$3,175,692		
2		2024	\$3,175,692	\$0	PG&E analyzed these costs and does not expect any change compared to prior year
3		2025	\$3,175,692	\$0	PG&E analyzed these costs and does not expect any change compared to prior year
4		2026	\$3,175,692	\$0	PG&E analyzed these costs and does not expect any change compared to prior year
5		2027	\$3,175,692	\$0	PG&E analyzed these costs and does not expect any change compared to prior year
6	Program Support PA Costs	2023	\$549,454		
7		2024	\$609,303	\$59,849	See Supplemental Budget Table
8		2025	\$634,320	\$25,017	See Supplemental Budget Table
9		2026	\$655,277	\$20,957	See Supplemental Budget Table
10		2027	\$674,306	\$19,029	See Supplemental Budget Table
11	Portfolio Support PA Costs	2023	\$377,752		
12		2024	\$344,238	-\$33,514	See Supplemental Budget Table
13		2025	\$339,739	-\$4,499	See Supplemental Budget Table
14		2026	\$350,300	\$10,561	See Supplemental Budget Table
15		2027	\$341,545	-\$8,756	See Supplemental Budget Table

Prg ID	PGE_Pub_010	Wastewater Process Efficiency Program			
Line No.	Cost Source	Year	Amount	Change from Prior Year	Description/Explanation
1	Program Implementation Non-PA Costs (implementer costs, incentives, program management-related contracts)	2023	\$2,115,756		
2		2024	\$1,419,824	-\$695,932	Program Ramping down for SW Third-Party Program
3		2025	\$727,368	-\$692,456	Program Ramping down for SW Third-Party Program
4		2026	\$0	-\$727,368	Program Expected to Close
5		2027	\$0	\$0	Program Expected to Close
6	Program Support PA Costs	2023	\$485,987		
7		2024	\$323,306	-\$162,681	See Supplemental Budget Table
8		2025	\$286,325	-\$36,982	See Supplemental Budget Table
9		2026	\$0	-\$286,325	See Supplemental Budget Table
10		2027	\$0	\$0	See Supplemental Budget Table
11	Portfolio Support PA Costs	2023	\$251,671		
12		2024	\$153,906	-\$97,766	See Supplemental Budget Table
13		2025	\$77,815	-\$76,091	See Supplemental Budget Table
14		2026	\$0	-\$77,815	See Supplemental Budget Table
15		2027	\$0	\$0	See Supplemental Budget Table

Prg ID	PGE_Pub_011	California Analysis Tool for Locational Energy Assessment (CATALANA)			
Line No.	Cost Source	Year	Amount	Change from Prior Year	Description/Explanation
1	Program Implementation Non-PA Costs (implementer costs, incentives, program management-related contracts)	2023	\$0		
2		2024	\$150,000	\$150,000	New Program ID created for 2024 and beyond to track program expenditures for tool development and maintenance led by Southern California Edison.
3		2025	\$150,000	\$0	PG&E analyzed these costs and does not expect any change compared to prior year
4		2026	\$150,000	\$0	PG&E analyzed these costs and does not expect any change compared to prior year
5		2027	\$150,000	\$0	PG&E analyzed these costs and does not expect any change compared to prior year
6	Program Support PA Costs	2023	\$0		
7		2024	\$11,598	\$11,598	See Supplemental Budget Table
8		2025	\$12,006	\$408	See Supplemental Budget Table
9		2026	\$12,429	\$423	See Supplemental Budget Table
10		2027	\$12,866	\$437	See Supplemental Budget Table
11	Portfolio Support PA Costs	2023	\$0		
12		2024	\$16,260	\$16,260	See Supplemental Budget Table
13		2025	\$16,047	-\$212	See Supplemental Budget Table
14		2026	\$16,546	\$499	See Supplemental Budget Table
15		2027	\$16,132	-\$414	See Supplemental Budget Table

Prg ID	PGE_Pub_Resiliency	Resiliency Support Placeholder (Public)			
Line No.	Cost Source	Year	Amount	Change from Prior Year	Description/Explanation
1	Program Implementation Non-PA Costs (implementer costs, incentives, program management-related contracts)	2023	\$0		
2		2024	\$750,000	\$750,000	New program launch
3		2025	\$750,000	\$0	PG&E analyzed these costs and does not expect any change compared to prior year
4		2026	\$1,250,000	\$500,000	Program ramp up and continued customer enrollment/project completion requiring additional budget
5		2027	\$1,250,000	\$0	PG&E analyzed these costs and does not expect any change compared to prior year
6	Program Support PA Costs	2023	\$0		
7		2024	\$377,904	\$377,904	See Supplemental Budget Table
8		2025	\$354,397	-\$23,507	See Supplemental Budget Table
9		2026	\$364,672	\$10,276	See Supplemental Budget Table
10		2027	\$366,572	\$1,900	See Supplemental Budget Table
11	Portfolio Support PA Costs	2023	\$0		
12		2024	\$81,298	\$81,298	See Supplemental Budget Table
13		2025	\$80,236	-\$1,062	See Supplemental Budget Table
14		2026	\$137,883	\$57,648	See Supplemental Budget Table
15		2027	\$134,437	-\$3,446	See Supplemental Budget Table

Prg ID	PGE_SW_IP_Colleges	Institutional Partnerships, UC/CSU/CCC			
Line No.	Cost Source	Year	Amount	Change from Prior Year	Description/Explanation
1	Program Implementation Non-PA Costs (implementer costs, incentives, program management-related contracts)	2023	\$2,797,702		
2		2024	\$1,824,000	-\$973,702	SW Program, non-lead: please refer to Southern California Edison's application for variance explanation
3		2025	\$1,824,000	\$0	SW Program, non-lead: please refer to Southern California Edison's application for variance explanation
4		2026	\$1,824,000	\$0	SW Program, non-lead: please refer to Southern California Edison's application for variance explanation
5		2027	\$1,824,000	\$0	SW Program, non-lead: please refer to Southern California Edison's application for variance explanation
6	Program Support PA Costs	2023	\$125,871		
7		2024	\$190,644	\$64,773	See Supplemental Budget Table
8		2025	\$199,431	\$8,787	See Supplemental Budget Table
9		2026	\$199,105	-\$326	See Supplemental Budget Table
10		2027	\$203,993	\$4,888	See Supplemental Budget Table
11	Portfolio Support PA Costs	2023	\$288,365		
12		2024	\$265,051	-\$23,314	See Supplemental Budget Table
13		2025	\$270,649	\$5,598	See Supplemental Budget Table
14		2026	\$280,974	\$10,325	See Supplemental Budget Table
15		2027	\$273,108	-\$7,866	See Supplemental Budget Table

Prg ID	PGE_SW_IP_Gov	Institutional Partnerships: DGS and DoC			
Line No.	Cost Source	Year	Amount	Change from Prior Year	Description/Explanation
1	Program Implementation Non-PA Costs (implementer costs, incentives, program management-related contracts)	2023	\$1,929,021		
2		2024	\$3,123,836	\$1,194,815	SW Program, lead PA: Increase in program budget to support large industrial sector customer participation with mature steady-state program
3		2025	\$3,145,432	\$21,597	Budget changes are immaterial (<10% change)
4		2026	\$3,133,530	-\$11,902	Budget changes are immaterial (<10% change)
5		2027	\$3,155,245	\$21,714	Budget changes are immaterial (<10% change)
6	Program Support PA Costs	2023	\$519,032		
7		2024	\$557,937	\$38,905	See Supplemental Budget Table
8		2025	\$574,422	\$16,485	See Supplemental Budget Table
9		2026	\$648,991	\$74,568	See Supplemental Budget Table
10		2027	\$639,463	-\$9,527	See Supplemental Budget Table
11	Portfolio Support PA Costs	2023	\$229,459		
12		2024	\$338,617	\$109,158	See Supplemental Budget Table
13		2025	\$336,502	-\$2,115	See Supplemental Budget Table
14		2026	\$345,650	\$9,148	See Supplemental Budget Table
15		2027	\$339,345	-\$6,304	See Supplemental Budget Table

Prg ID	PGE_SW_WP	Water/wastewater pumping			
Line No.	Cost Source	Year	Amount	Change from Prior Year	Description/Explanation
1	Program Implementation Non-PA Costs (implementer costs, incentives, program management-related contracts)	2023	\$2,797,702		
2		2024	\$2,416,800	-\$380,902	SW Program, non-lead: please refer to Southern California Edison's application for variance explanation
3		2025	\$2,416,800	\$0	SW Program, non-lead: please refer to Southern California Edison's application for variance explanation
4		2026	\$2,416,800	\$0	SW Program, non-lead: please refer to Southern California Edison's application for variance explanation
5		2027	\$2,416,800	\$0	SW Program, non-lead: please refer to Southern California Edison's application for variance explanation
6	Program Support PA Costs	2023	\$114,223		
7		2024	\$180,770	\$66,547	See Supplemental Budget Table
8		2025	\$210,614	\$29,844	See Supplemental Budget Table
9		2026	\$228,658	\$18,044	See Supplemental Budget Table
10		2027	\$254,107	\$25,450	See Supplemental Budget Table
11	Portfolio Support PA Costs	2023	\$288,365		
12		2024	\$265,051	-\$23,314	See Supplemental Budget Table
13		2025	\$270,649	\$5,598	See Supplemental Budget Table
14		2026	\$280,974	\$10,325	See Supplemental Budget Table
15		2027	\$273,108	-\$7,866	See Supplemental Budget Table

Prg ID	PGE_Pub_001	Central Coast Local Government Partnership			
Line No.	Cost Source	Year	Amount	Change from Prior Year	Description/Explanation
1	Program Implementation Non-PA Costs (implementer costs, incentives, program management-related contracts)	2023	\$230,653		
2		2024	\$300,000	\$69,348	Expanding reach to more HTR communities
3		2025	\$329,000	\$29,000	Budget changes are immaterial (<10% change)
4		2026	\$339,000	\$10,000	Budget changes are immaterial (<10% change)
5		2027	\$241,000	-\$98,000	Program efficiencies
6	Program Support PA Costs	2023	\$107,050		
7		2024	\$69,072	-\$37,978	See Supplemental Budget Table
8		2025	\$70,939	\$1,867	See Supplemental Budget Table
9		2026	\$73,566	\$2,627	See Supplemental Budget Table
10		2027	\$76,159	\$2,593	See Supplemental Budget Table
11	Portfolio Support PA Costs	2023	\$27,436		
12		2024	\$32,519	\$5,083	See Supplemental Budget Table
13		2025	\$35,197	\$2,677	See Supplemental Budget Table
14		2026	\$37,394	\$2,197	See Supplemental Budget Table
15		2027	\$25,919	-\$11,475	See Supplemental Budget Table

Prg ID	PGE_Pub_002	Marin Local Government Partnership			
Line No.	Cost Source	Year	Amount	Change from Prior Year	Description/Explanation
1	Program Implementation Non-PA Costs (implementer costs, incentives, program management-related contracts)	2023	\$235,511		
2		2024	\$94,747	-\$140,764	Reduction in scope of projects
3		2025	\$94,747	\$0	PG&E analyzed these costs and does not expect any change compared to prior year
4		2026	\$94,747	\$0	PG&E analyzed these costs and does not expect any change compared to prior year
5		2027	\$94,747	\$0	PG&E analyzed these costs and does not expect any change compared to prior year
6	Program Support PA Costs	2023	\$82,206		
7		2024	\$69,072	-\$13,133	See Supplemental Budget Table
8		2025	\$70,939	\$1,867	See Supplemental Budget Table
9		2026	\$73,566	\$2,627	See Supplemental Budget Table
10		2027	\$76,159	\$2,593	See Supplemental Budget Table
11	Portfolio Support PA Costs	2023	\$28,014		
12		2024	\$10,270	-\$17,744	See Supplemental Budget Table
13		2025	\$10,136	-\$134	See Supplemental Budget Table
14		2026	\$10,451	\$315	See Supplemental Budget Table
15		2027	\$10,190	-\$261	See Supplemental Budget Table

Prg ID	PGE_Pub_003	Redwood Local Government Partnership			
Line No.	Cost Source	Year	Amount	Change from Prior Year	Description/Explanation
1	Program Implementation Non-PA Costs (implementer costs, incentives, program management-related contracts)	2023	\$259,348		
2		2024	\$370,000	\$110,652	Expanding reach to more HTR communities
3		2025	\$370,000	\$0	PG&E analyzed these costs and does not expect any change compared to prior year
4		2026	\$370,000	\$0	PG&E analyzed these costs and does not expect any change compared to prior year
5		2027	\$370,000	\$0	PG&E analyzed these costs and does not expect any change compared to prior year
6	Program Support PA Costs	2023	\$82,206		
7		2024	\$69,072	-\$13,133	See Supplemental Budget Table
8		2025	\$70,939	\$1,867	See Supplemental Budget Table
9		2026	\$73,566	\$2,627	See Supplemental Budget Table
10		2027	\$76,159	\$2,593	See Supplemental Budget Table
11	Portfolio Support PA Costs	2023	\$30,850		
12		2024	\$40,107	\$9,257	See Supplemental Budget Table
13		2025	\$39,583	-\$524	See Supplemental Budget Table
14		2026	\$40,814	\$1,230	See Supplemental Budget Table
15		2027	\$39,793	-\$1,020	See Supplemental Budget Table

Prg ID	PGE_Pub_004	Central California Local Government Partnership			
Line No.	Cost Source	Year	Amount	Change from Prior Year	Description/Explanation
1	Program Implementation Non-PA Costs (implementer costs, incentives, program management-related contracts)	2023	\$649,525		
2		2024	\$674,087	\$24,562	Budget changes are immaterial (<10% change)
3		2025	\$674,087	\$0	PG&E analyzed these costs and does not expect any change compared to prior year
4		2026	\$674,087	\$0	PG&E analyzed these costs and does not expect any change compared to prior year
5		2027	\$654,842	-\$19,245	Budget changes are immaterial (<10% change)
6	Program Support PA Costs	2023	\$103,664		
7		2024	\$69,072	-\$34,592	See Supplemental Budget Table
8		2025	\$70,939	\$1,867	See Supplemental Budget Table
9		2026	\$73,566	\$2,627	See Supplemental Budget Table
10		2027	\$76,159	\$2,593	See Supplemental Budget Table
11	Portfolio Support PA Costs	2023	\$77,262		
12		2024	\$73,069	-\$4,192	See Supplemental Budget Table
13		2025	\$72,115	-\$955	See Supplemental Budget Table
14		2026	\$74,356	\$2,242	See Supplemental Budget Table
15		2027	\$70,428	-\$3,928	See Supplemental Budget Table

Prg ID	PGE_Pub_005	San Mateo Local Government Partnership			
Line No.	Cost Source	Year	Amount	Change from Prior Year	Description/Explanation
1	Program Implementation Non-PA Costs (implementer costs, incentives, program management-related contracts)	2023	\$474,368		
2		2024	\$461,500	-\$12,868	Budget changes are immaterial (<10% change)
3		2025	\$450,650	-\$10,850	Budget changes are immaterial (<10% change)
4		2026	\$450,650	\$0	PG&E analyzed these costs and does not expect any change compared to prior year
5		2027	\$450,500	-\$150	Budget changes are immaterial (<10% change)
6	Program Support PA Costs	2023	\$109,545		
7		2024	\$69,072	-\$40,473	See Supplemental Budget Table
8		2025	\$70,939	\$1,867	See Supplemental Budget Table
9		2026	\$73,566	\$2,627	See Supplemental Budget Table
10		2027	\$76,159	\$2,593	See Supplemental Budget Table
11	Portfolio Support PA Costs	2023	\$56,427		
12		2024	\$50,026	-\$6,401	See Supplemental Budget Table
13		2025	\$48,211	-\$1,814	See Supplemental Budget Table
14		2026	\$49,710	\$1,499	See Supplemental Budget Table
15		2027	\$48,451	-\$1,259	See Supplemental Budget Table

Prg ID	PGE_Pub_006	San Francisco Local Government Partnership			
Line No.	Cost Source	Year	Amount	Change from Prior Year	Description/Explanation
1	Program Implementation Non-PA Costs (implementer costs, incentives, program management-related contracts)	2023	\$811,784		
2		2024	\$946,045	\$134,261	Expanding reach to more HTR communities
3		2025	\$961,109	\$15,064	Budget changes are immaterial (<10% change)
4		2026	\$986,691	\$25,582	Budget changes are immaterial (<10% change)
5		2027	\$1,000,988	\$14,297	Budget changes are immaterial (<10% change)
6	Program Support PA Costs	2023	\$82,206		
7		2024	\$69,072	-\$13,133	See Supplemental Budget Table
8		2025	\$70,939	\$1,867	See Supplemental Budget Table
9		2026	\$73,566	\$2,627	See Supplemental Budget Table
10		2027	\$76,159	\$2,593	See Supplemental Budget Table
11	Portfolio Support PA Costs	2023	\$96,563		
12		2024	\$102,549	\$5,987	See Supplemental Budget Table
13		2025	\$102,821	\$271	See Supplemental Budget Table
14		2026	\$108,839	\$6,018	See Supplemental Budget Table
15		2027	\$107,656	-\$1,183	See Supplemental Budget Table

Prg ID	PGE_Pub_007	Sierra Local Government Partnership			
Line No.	Cost Source	Year	Amount	Change from Prior Year	Description/Explanation
1	Program Implementation Non-PA Costs (implementer costs, incentives, program management-related contracts)	2023	\$635,550		
2		2024	\$608,985	-\$26,565	Budget changes are immaterial (<10% change)
3		2025	\$608,985	\$0	PG&E analyzed these costs and does not expect any change compared to prior year
4		2026	\$608,985	\$0	PG&E analyzed these costs and does not expect any change compared to prior year
5		2027	\$608,985	\$0	PG&E analyzed these costs and does not expect any change compared to prior year
6	Program Support PA Costs	2023	\$102,060		
7		2024	\$69,072	-\$32,988	See Supplemental Budget Table
8		2025	\$70,939	\$1,867	See Supplemental Budget Table
9		2026	\$73,566	\$2,627	See Supplemental Budget Table
10		2027	\$76,159	\$2,593	See Supplemental Budget Table
11	Portfolio Support PA Costs	2023	\$75,599		
12		2024	\$66,013	-\$9,587	See Supplemental Budget Table
13		2025	\$65,150	-\$863	See Supplemental Budget Table
14		2026	\$67,175	\$2,025	See Supplemental Budget Table
15		2027	\$65,496	-\$1,679	See Supplemental Budget Table

Prg ID	PGE_Pub_008	Sonoma Local Government Partnership			
Line No.	Cost Source	Year	Amount	Change from Prior Year	Description/Explanation
1	Program Implementation Non-PA Costs (implementer costs, incentives, program management-related contracts)	2023	\$277,000		
2		2024	\$315,000	\$38,000	Expanding reach to more HTR communities
3		2025	\$315,000	\$0	PG&E analyzed these costs and does not expect any change compared to prior year
4		2026	\$315,000	\$0	PG&E analyzed these costs and does not expect any change compared to prior year
5		2027	\$295,000	-\$20,000	Budget changes are immaterial (<10% change)
6	Program Support PA Costs	2023	\$102,060		
7		2024	\$69,072	-\$32,988	See Supplemental Budget Table
8		2025	\$70,939	\$1,867	See Supplemental Budget Table
9		2026	\$73,566	\$2,627	See Supplemental Budget Table
10		2027	\$76,159	\$2,593	See Supplemental Budget Table
11	Portfolio Support PA Costs	2023	\$32,949		
12		2024	\$34,145	\$1,196	See Supplemental Budget Table
13		2025	\$33,699	-\$446	See Supplemental Budget Table
14		2026	\$34,747	\$1,048	See Supplemental Budget Table
15		2027	\$31,727	-\$3,019	See Supplemental Budget Table

Prg ID	PGE_Res_001b	Virtual Energy Audit Program			
Line No.	Cost Source	Year	Amount	Change from Prior Year	Description/Explanation
1	Program Implementation Non-PA Costs (implementer costs, incentives, program management-related contracts)	2023	\$1,358,560		
2		2024	\$1,500,000	\$141,440	Budget changes are immaterial (<10% change)
3		2025	\$1,500,000	\$0	PG&E analyzed these costs and does not expect any change compared to prior year
4		2026	\$1,500,000	\$0	PG&E analyzed these costs and does not expect any change compared to prior year
5		2027	\$1,500,000	\$0	PG&E analyzed these costs and does not expect any change compared to prior year
6	Program Support PA Costs	2023	\$386,469		
7		2024	\$291,579	-\$94,890	See Supplemental Budget Table
8		2025	\$292,118	\$540	See Supplemental Budget Table
9		2026	\$299,355	\$7,236	See Supplemental Budget Table
10		2027	\$304,770	\$5,415	See Supplemental Budget Table
11	Portfolio Support PA Costs	2023	\$161,602		
12		2024	\$162,597	\$994	See Supplemental Budget Table
13		2025	\$160,472	-\$2,125	See Supplemental Budget Table
14		2026	\$165,460	\$4,988	See Supplemental Budget Table
15		2027	\$161,324	-\$4,136	See Supplemental Budget Table

Prg ID	PGE_Res_002a	Universal Audit Tool Program			
Line No.	Cost Source	Year	Amount	Change from Prior Year	Description/Explanation
1	Program Implementation Non-PA Costs (implementer costs, incentives, program management-related contracts)	2023	\$1,233,800		
2		2024	\$1,233,800	\$0	PG&E analyzed these costs and does not expect any change compared to prior year
3		2025	\$1,233,800	\$0	PG&E analyzed these costs and does not expect any change compared to prior year
4		2026	\$1,233,800	\$0	PG&E analyzed these costs and does not expect any change compared to prior year
5		2027	\$1,233,800	\$0	PG&E analyzed these costs and does not expect any change compared to prior year
6	Program Support PA Costs	2023	\$1,146,204		
7		2024	\$1,185,099	\$38,895	See Supplemental Budget Table
8		2025	\$1,210,105	\$25,006	See Supplemental Budget Table
9		2026	\$1,221,864	\$11,759	See Supplemental Budget Table
10		2027	\$1,235,194	\$13,330	See Supplemental Budget Table
11	Portfolio Support PA Costs	2023	\$146,762		
12		2024	\$133,741	-\$13,021	See Supplemental Budget Table
13		2025	\$131,993	-\$1,748	See Supplemental Budget Table
14		2026	\$136,097	\$4,103	See Supplemental Budget Table
15		2027	\$132,695	-\$3,402	See Supplemental Budget Table

Prg ID	PGE_Res_002d	Residential Behavioral Program			
Line No.	Cost Source	Year	Amount	Change from Prior Year	Description/Explanation
1	Program Implementation Non-PA Costs (implementer costs, incentives, program management-related contracts)	2023	\$16,681,602		
2		2024	\$15,681,602	-\$1,000,000	Budget changes are immaterial (<10% change)
3		2025	\$15,681,602	\$0	PG&E analyzed these costs and does not expect any change compared to prior year
4		2026	\$15,181,602	-\$500,000	Budget changes are immaterial (<10% change)
5		2027	\$15,181,602	\$0	PG&E analyzed these costs and does not expect any change compared to prior year
6	Program Support PA Costs	2023	\$1,847,592		
7		2024	\$1,824,046	-\$23,546	See Supplemental Budget Table
8		2025	\$1,838,782	\$14,735	See Supplemental Budget Table
9		2026	\$1,853,016	\$14,234	See Supplemental Budget Table
10		2027	\$1,868,908	\$15,892	See Supplemental Budget Table
11	Portfolio Support PA Costs	2023	\$1,984,293		
12		2024	\$1,699,849	-\$284,444	See Supplemental Budget Table
13		2025	\$1,677,636	-\$22,214	See Supplemental Budget Table
14		2026	\$1,674,634	-\$3,002	See Supplemental Budget Table
15		2027	\$1,632,776	-\$41,858	See Supplemental Budget Table

Prg ID	PGE_Res_002e	Online Marketplace Program			
Line No.	Cost Source	Year	Amount	Change from Prior Year	Description/Explanation
1	Program Implementation Non-PA Costs (implementer costs, incentives, program management-related contracts)	2023	\$500,000		
2		2024	\$500,000	\$0	PG&E analyzed these costs and does not expect any change compared to prior year
3		2025	\$500,000	\$0	PG&E analyzed these costs and does not expect any change compared to prior year
4		2026	\$250,000	-\$250,000	Budget reduced as it moves from build out to maintenance phase
5		2027	\$250,000	\$0	PG&E analyzed these costs and does not expect any change compared to prior year
6	Program Support PA Costs	2023	\$758,751		
7		2024	\$661,368	-\$97,383	See Supplemental Budget Table
8		2025	\$676,246	\$14,878	See Supplemental Budget Table
9		2026	\$685,001	\$8,755	See Supplemental Budget Table
10		2027	\$694,064	\$9,063	See Supplemental Budget Table
11	Portfolio Support PA Costs	2023	\$59,476		
12		2024	\$54,199	-\$5,277	See Supplemental Budget Table
13		2025	\$53,491	-\$708	See Supplemental Budget Table
14		2026	\$27,577	-\$25,914	See Supplemental Budget Table
15		2027	\$26,887	-\$689	See Supplemental Budget Table

Prg ID	PGE_Res_003	Multifamily Program			
Line No.	Cost Source	Year	Amount	Change from Prior Year	Description/Explanation
1	Program Implementation Non-PA Costs (implementer costs, incentives, program management-related contracts)	2023	\$4,016,414		
2		2024	\$3,711,474	-\$304,940	Budget changes are immaterial (<10% change)
3		2025	\$3,947,128	\$235,654	Budget changes are immaterial (<10% change)
4		2026	\$4,197,585	\$250,457	Budget changes are immaterial (<10% change)
5		2027	\$4,465,328	\$267,744	Budget changes are immaterial (<10% change)
6	Program Support PA Costs	2023	\$568,966		
7		2024	\$494,218	-\$74,748	See Supplemental Budget Table
8		2025	\$552,403	\$58,184	See Supplemental Budget Table
9		2026	\$572,258	\$19,856	See Supplemental Budget Table
10		2027	\$591,550	\$19,291	See Supplemental Budget Table
11	Portfolio Support PA Costs	2023	\$477,756		
12		2024	\$402,315	-\$75,441	See Supplemental Budget Table
13		2025	\$422,268	\$19,953	See Supplemental Budget Table
14		2026	\$463,022	\$40,754	See Supplemental Budget Table
15		2027	\$480,244	\$17,222	See Supplemental Budget Table

Prg ID	PGE_Res_Equity	Residential Equity Placeholder			
Line No.	Cost Source	Year	Amount	Change from Prior Year	Description/Explanation
1	Program Implementation Non-PA Costs (implementer costs, incentives, program management-related contracts)	2023	\$3,000,000		
2		2024	\$3,000,000	\$0	PG&E analyzed these costs and does not expect any change compared to prior year
3		2025	\$3,000,000	\$0	PG&E analyzed these costs and does not expect any change compared to prior year
4		2026	\$3,000,000	\$0	PG&E analyzed these costs and does not expect any change compared to prior year
5		2027	\$3,000,000	\$0	PG&E analyzed these costs and does not expect any change compared to prior year
6	Program Support PA Costs	2023	\$92,052		
7		2024	\$147,950	\$55,898	See Supplemental Budget Table
8		2025	\$153,158	\$5,208	See Supplemental Budget Table
9		2026	\$158,549	\$5,391	See Supplemental Budget Table
10		2027	\$164,130	\$5,581	See Supplemental Budget Table
11	Portfolio Support PA Costs	2023	\$356,853		
12		2024	\$325,193	-\$31,660	See Supplemental Budget Table
13		2025	\$320,943	-\$4,250	See Supplemental Budget Table
14		2026	\$330,920	\$9,977	See Supplemental Budget Table
15		2027	\$322,649	-\$8,271	See Supplemental Budget Table

Prg ID	PGE_Res_LoadMgt	Residential Load Management Placeholder			
Line No.	Cost Source	Year	Amount	Change from Prior Year	Description/Explanation
1	Program Implementation Non-PA Costs (implementer costs, incentives, program management-related contracts)	2023	\$0		
2		2024	\$750,000	\$750,000	New program launch
3		2025	\$1,250,000	\$500,000	Program ramp up and anticipated increased program participation
4		2026	\$1,750,000	\$500,000	Program ramp up and anticipated increased program participation
5		2027	\$1,750,000	\$0	PG&E analyzed these costs and does not expect any change compared to prior year
6	Program Support PA Costs	2023	\$0		
7		2024	\$238,517	\$238,517	See Supplemental Budget Table
8		2025	\$244,310	\$5,792	See Supplemental Budget Table
9		2026	\$248,246	\$3,937	See Supplemental Budget Table
10		2027	\$252,322	\$4,075	See Supplemental Budget Table
11	Portfolio Support PA Costs	2023	\$0		
12		2024	\$81,298	\$81,298	See Supplemental Budget Table
13		2025	\$133,726	\$52,428	See Supplemental Budget Table
14		2026	\$193,037	\$59,310	See Supplemental Budget Table
15		2027	\$188,212	-\$4,825	See Supplemental Budget Table

Prg ID	PGE_Res_Mkt_Spt	Residential Market Support Placeholder			
Line No.	Cost Source	Year	Amount	Change from Prior Year	Description/Explanation
1	Program Implementation Non-PA Costs (implementer costs, incentives, program management-related contracts)	2023	\$0		
2		2024	\$2,250,000	\$2,250,000	New program launch
3		2025	\$3,000,000	\$750,000	Program ramp up and anticipated increased program participation
4		2026	\$3,500,000	\$500,000	Program ramp up and anticipated increased program participation
5		2027	\$3,500,000	\$0	PG&E analyzed these costs and does not expect any change compared to prior year
6	Program Support PA Costs	2023	\$0		
7		2024	\$794,110	\$794,110	See Supplemental Budget Table
8		2025	\$810,229	\$16,119	See Supplemental Budget Table
9		2026	\$817,553	\$7,324	See Supplemental Budget Table
10		2027	\$825,135	\$7,582	See Supplemental Budget Table
11	Portfolio Support PA Costs	2023	\$0		
12		2024	\$243,895	\$243,895	See Supplemental Budget Table
13		2025	\$320,943	\$77,049	See Supplemental Budget Table
14		2026	\$386,074	\$65,130	See Supplemental Budget Table
15		2027	\$376,424	-\$9,650	See Supplemental Budget Table

Prg ID	PGE_Res_Resiliency	Resiliency Support Placeholder (Residential)			
Line No.	Cost Source	Year	Amount	Change from Prior Year	Description/Explanation
1	Program Implementation Non-PA Costs (implementer costs, incentives, program management-related contracts)	2023	\$0		
2		2024	\$750,000	\$750,000	New program launch
3		2025	\$750,000	\$0	PG&E analyzed these costs and does not expect any change compared to prior year
4		2026	\$1,250,000	\$500,000	Program ramp up and anticipated increased program participation
5		2027	\$1,250,000	\$0	PG&E analyzed these costs and does not expect any change compared to prior year
6	Program Support PA Costs	2023	\$0		
7		2024	\$712,926	\$712,926	See Supplemental Budget Table
8		2025	\$726,187	\$13,261	See Supplemental Budget Table
9		2026	\$730,553	\$4,366	See Supplemental Budget Table
10		2027	\$735,072	\$4,519	See Supplemental Budget Table
11	Portfolio Support PA Costs	2023	\$0		
12		2024	\$81,298	\$81,298	See Supplemental Budget Table
13		2025	\$80,236	-\$1,062	See Supplemental Budget Table
14		2026	\$137,883	\$57,648	See Supplemental Budget Table
15		2027	\$134,437	-\$3,446	See Supplemental Budget Table

Prg ID	PGE_Res_ZE	Zonal Electrification Placeholder (Residential)			
Line No.	Cost Source	Year	Amount	Change from Prior Year	Description/Explanation
1	Program Implementation Non-PA Costs (implementer costs, incentives, program management-related contracts)	2023	\$0		
2		2024	\$750,000	\$750,000	New program launch
3		2025	\$1,250,000	\$500,000	Program ramp up and anticipated increased program participation
4		2026	\$1,500,000	\$250,000	Program ramp up and anticipated increased program participation
5		2027	\$1,500,000	\$0	PG&E analyzed these costs and does not expect any change compared to prior year
6	Program Support PA Costs	2023	\$0		
7		2024	\$238,517	\$238,517	See Supplemental Budget Table
8		2025	\$244,310	\$5,792	See Supplemental Budget Table
9		2026	\$248,246	\$3,937	See Supplemental Budget Table
10		2027	\$252,322	\$4,075	See Supplemental Budget Table
11	Portfolio Support PA Costs	2023	\$0		
12		2024	\$81,298	\$81,298	See Supplemental Budget Table
13		2025	\$133,726	\$52,428	See Supplemental Budget Table
14		2026	\$165,460	\$31,734	See Supplemental Budget Table
15		2027	\$161,324	-\$4,136	See Supplemental Budget Table

Prg ID	PGE_SW_HVAC_QIQM	Statewide Residential QI/QM			
Line No.	Cost Source	Year	Amount	Change from Prior Year	Description/Explanation
1	Program Implementation Non-PA Costs (implementer costs, incentives, program management-related contracts)	2023	\$3,146,400		
2		2024	\$3,146,400	\$0	SW Program, non-lead: please refer to San Diego Gas and Electric Company's application for variance explanation
3		2025	\$3,146,400	\$0	SW Program, non-lead: please refer to San Diego Gas and Electric Company's application for variance explanation
4		2026	\$3,146,400	\$0	SW Program, non-lead: please refer to San Diego Gas and Electric Company's application for variance explanation
5		2027	\$3,146,400	\$0	SW Program, non-lead: please refer to San Diego Gas and Electric Company's application for variance explanation
6	Program Support PA Costs	2023	\$0		
7		2024	\$86,906	\$86,906	See Supplemental Budget Table
8		2025	\$115,352	\$28,446	See Supplemental Budget Table
9		2026	\$122,523	\$7,171	See Supplemental Budget Table
10		2027	\$129,982	\$7,459	See Supplemental Budget Table
11	Portfolio Support PA Costs	2023	\$288,365		
12		2024	\$265,051	-\$23,314	See Supplemental Budget Table
13		2025	\$270,649	\$5,598	See Supplemental Budget Table
14		2026	\$280,974	\$10,325	See Supplemental Budget Table
15		2027	\$273,108	-\$7,866	See Supplemental Budget Table

Prg ID	PGE_SW_PLA	Plug Load and Appliance			
Line No.	Cost Source	Year	Amount	Change from Prior Year	Description/Explanation
1	Program Implementation Non-PA Costs (implementer costs, incentives, program management-related contracts)	2023	\$6,959,307		
2		2024	\$8,099,749	\$1,140,442	SW Program, non-lead: please refer to San Diego Gas and Electric Company's application for variance explanation
3		2025	\$6,481,768	-\$1,617,981	SW Program, non-lead: please refer to San Diego Gas and Electric Company's application for variance explanation
4		2026	\$7,186,035	\$704,267	SW Program, non-lead: please refer to San Diego Gas and Electric Company's application for variance explanation
5		2027	\$8,574,117	\$1,388,082	SW Program, non-lead: please refer to San Diego Gas and Electric Company's application for variance explanation
6	Program Support PA Costs	2023	\$176,666		
7		2024	\$262,888	\$86,222	See Supplemental Budget Table
8		2025	\$235,443	-\$27,446	See Supplemental Budget Table
9		2026	\$265,280	\$29,838	See Supplemental Budget Table
10		2027	\$286,423	\$21,143	See Supplemental Budget Table
11	Portfolio Support PA Costs	2023	\$288,365		
12		2024	\$265,051	-\$23,314	See Supplemental Budget Table
13		2025	\$270,649	\$5,598	See Supplemental Budget Table
14		2026	\$280,974	\$10,325	See Supplemental Budget Table
15		2027	\$273,108	-\$7,866	See Supplemental Budget Table

Prg ID	PGE_SW_NC_NonRes_electric	SW New Construction NonRes - All Electric			
Line No.	Cost Source	Year	Amount	Change from Prior Year	Description/Explanation
1	Program Implementation Non-PA Costs (implementer costs, incentives, program management-related contracts)	2023	\$1,513,619		
2		2024	\$4,647,158	\$3,133,540	Increasing number of projects being paid as projects enrolled in previous years complete
3		2025	\$7,283,912	\$2,636,754	Increasing number of projects being paid as projects enrolled in previous years complete
4		2026	\$5,909,651	-\$1,374,262	2025 building codes reduce savings and incentives
5		2027	\$7,387,063	\$1,477,413	Expect increase in number of projects
6	Program Support PA Costs	2023	\$368,977		
7		2024	\$595,209	\$226,233	See Supplemental Budget Table
8		2025	\$775,379	\$180,170	See Supplemental Budget Table
9		2026	\$667,167	-\$108,212	See Supplemental Budget Table
10		2027	\$782,256	\$115,089	See Supplemental Budget Table
11	Portfolio Support PA Costs	2023	\$180,046		
12		2024	\$503,741	\$323,695	See Supplemental Budget Table
13		2025	\$779,241	\$275,500	See Supplemental Budget Table
14		2026	\$651,875	-\$127,367	See Supplemental Budget Table
15		2027	\$794,476	\$142,601	See Supplemental Budget Table
(a) The budgets shown here are the sum of each sector-specific PrgID for the all-electric non-residential new construction program: PGE_SW_NC_NonRes_Ag_electric; PGE_SW_NC_NonRes_Com_electric; PGE_SW_NC_NonRes_Ind_electric; PGE_SW_NC_NonRes_Pub_electric; PGE_SW_NC_NonRes_Res_electric.					

Prg ID	PGE_SW_NC_NonRes_mixed	SW New Construction NonRes - Mixed Fuel			
Line No.	Cost Source	Year	Amount	Change from Prior Year	Description/Explanation
1	Program Implementation Non-PA Costs (implementer costs, incentives, program management-related contracts)	2023	\$3,988,588		
2		2024	\$7,582,214	\$3,593,626	Increasing number of projects being paid as projects enrolled in previous years complete
3		2025	\$7,489,240	-\$92,973	Budget changes are immaterial (<10% change)
4		2026	\$5,751,094	-\$1,738,147	2025 building codes reduce savings and incentives
5		2027	\$4,336,578	-\$1,414,516	Impacts of 2025 building codes and commencing program rampdown
6	Program Support PA Costs	2023	\$552,226		
7		2024	\$1,003,607	\$451,381	See Supplemental Budget Table
8		2025	\$1,008,164	\$4,557	See Supplemental Budget Table
9		2026	\$884,215	-\$123,949	See Supplemental Budget Table
10		2027	\$766,623	-\$117,592	See Supplemental Budget Table
11	Portfolio Support PA Costs	2023	\$474,447		
12		2024	\$821,894	\$347,448	See Supplemental Budget Table
13		2025	\$801,207	-\$20,687	See Supplemental Budget Table
14		2026	\$634,385	-\$166,823	See Supplemental Budget Table
15		2027	\$466,397	-\$167,987	See Supplemental Budget Table
(a) The budgets shown here are the sum of each sector-specific PrgID for the mixed fuel non-residential new construction program: PGE_SW_NC_NonRes_Ag_mixed; PGE_SW_NC_NonRes_Com_mixed; PGE_SW_NC_NonRes_Ind_mixed; PGE_SW_NC_NonRes_Pub_mixed; PGE_SW_NC_NonRes_Res_mixed.					

Prg ID	PGE_SW_NC_Res_electric	SW New Construction Res - All Electric			
Line No.	Cost Source	Year	Amount	Change from Prior Year	Description/Explanation
1	Program Implementation Non-PA Costs (implementer costs, incentives, program management-related contracts)	2023	\$3,001,234		
2		2024	\$3,839,607	\$838,373	Increasing number of projects being paid as projects enrolled in previous years complete
3		2025	\$3,818,808	-\$20,798	Budget changes are immaterial (<10% change)
4		2026	\$3,803,927	-\$14,882	Budget changes are immaterial (<10% change)
5		2027	\$3,739,598	-\$64,329	Budget changes are immaterial (<10% change)
6	Program Support PA Costs	2023	\$368,586		
7		2024	\$436,479	\$67,893	See Supplemental Budget Table
8		2025	\$455,123	\$18,644	See Supplemental Budget Table
9		2026	\$464,689	\$9,566	See Supplemental Budget Table
10		2027	\$470,053	\$5,364	See Supplemental Budget Table
11	Portfolio Support PA Costs	2023	\$357,000		
12		2024	\$416,204	\$59,205	See Supplemental Budget Table
13		2025	\$408,540	-\$7,664	See Supplemental Budget Table
14		2026	\$419,599	\$11,059	See Supplemental Budget Table
15		2027	\$402,192	-\$17,407	See Supplemental Budget Table

Prg ID	PGE_SW_NC_Res_mixed	SW New Construction Res - Mixed Fuel			
Line No.	Cost Source	Year	Amount	Change from Prior Year	Description/Explanation
1	Program Implementation Non-PA Costs (implementer costs, incentives, program management-related contracts)	2023	\$1,160,767		
2		2024	\$1,410,432	\$249,666	Increasing number of projects being paid as projects enrolled in previous years complete
3		2025	\$1,439,180	\$28,748	Budget changes are immaterial (<10% change)
4		2026	\$1,415,217	-\$23,963	Budget changes are immaterial (<10% change)
5		2027	\$1,525,768	\$110,551	Budget changes are immaterial (<10% change)
6	Program Support PA Costs	2023	\$355,106		
7		2024	\$334,291	-\$20,815	See Supplemental Budget Table
8		2025	\$367,208	\$32,917	See Supplemental Budget Table
9		2026	\$368,457	\$1,249	See Supplemental Budget Table
10		2027	\$372,034	\$3,577	See Supplemental Budget Table
11	Portfolio Support PA Costs	2023	\$138,074		
12		2024	\$152,888	\$14,813	See Supplemental Budget Table
13		2025	\$153,965	\$1,078	See Supplemental Budget Table
14		2026	\$156,108	\$2,143	See Supplemental Budget Table
15		2027	\$164,096	\$7,988	See Supplemental Budget Table

Prg ID	PGE_CS_Decarb	C&S Decarbonization Support Placeholder			
Line No.	Cost Source	Year	Amount	Change from Prior Year	Description/Explanation
1	Program Implementation Non-PA Costs (implementer costs, incentives, program management-related contracts)	2023	\$0		
2		2024	\$750,000	\$750,000	New program launch
3		2025	\$750,000	\$0	PG&E analyzed these costs and does not expect any change compared to prior year
4		2026	\$750,000	\$0	PG&E analyzed these costs and does not expect any change compared to prior year
5		2027	\$750,000	\$0	PG&E analyzed these costs and does not expect any change compared to prior year
6	Program Support PA Costs	2023	\$0		
7		2024	\$50,954	\$50,954	See Supplemental Budget Table
8		2025	\$52,587	\$1,633	See Supplemental Budget Table
9		2026	\$54,278	\$1,690	See Supplemental Budget Table
10		2027	\$56,027	\$1,750	See Supplemental Budget Table
11	Portfolio Support PA Costs	2023	\$0		
12		2024	\$81,298	\$81,298	See Supplemental Budget Table
13		2025	\$80,236	-\$1,062	See Supplemental Budget Table
14		2026	\$82,730	\$2,494	See Supplemental Budget Table
15		2027	\$80,662	-\$2,068	See Supplemental Budget Table

Prg ID	PGE_SW_CSA_Appl	State Appliance Standards Advocacy			
Line No.	Cost Source	Year	Amount	Change from Prior Year	Description/Explanation
1	Program Implementation Non-PA Costs (implementer costs, incentives, program management-related contracts)	2023	\$833,303		
2		2024	\$1,937,292	\$1,103,989	Expanding technical support for CASE study development and vendor rate increases.
3		2025	\$1,276,092	-\$661,200	PG&E expects research expenditures to decrease as CASE studies are completed.
4		2026	\$1,070,892	-\$205,200	PG&E expects a further decrease in research costs near the end of rulemakings.
5		2027	\$1,823,292	\$752,400	PG&E expects research expenditures to increase to support development of new CASE studies.
6	Program Support PA Costs	2023	\$445,106		
7		2024	\$563,422	\$118,316	See Supplemental Budget Table
8		2025	\$567,913	\$4,491	See Supplemental Budget Table
9		2026	\$572,561	\$4,649	See Supplemental Budget Table
10		2027	\$577,374	\$4,812	See Supplemental Budget Table
11	Portfolio Support PA Costs	2023	\$99,122		
12		2024	\$209,998	\$110,876	See Supplemental Budget Table
13		2025	\$136,518	-\$73,480	See Supplemental Budget Table
14		2026	\$118,127	-\$18,391	See Supplemental Budget Table
15		2027	\$196,094	\$77,968	See Supplemental Budget Table

Prg ID	PGE_SW_CSA_Bldg	State Building Codes Advocacy			
Line No.	Cost Source	Year	Amount	Change from Prior Year	Description/Explanation
1	Program Implementation Non-PA Costs (implementer costs, incentives, program management-related contracts)	2023	\$2,735,280		
2		2024	\$3,716,210	\$980,930	Expanding technical support for CASE study development and vendor rate increases.
3		2025	\$4,377,410	\$661,200	Expenditures fluctuate due to triennial cycle. In 2025, finishing work on both 2025 cycle and commencing work on the 2028 cycle.
4		2026	\$4,582,610	\$205,200	Expenditures fluctuate due to triennial cycle. 2026 will be a peak research year for developing CASE reports.
5		2027	\$3,830,210	-\$752,400	Expenditures for technical research decrease after CASE reports are complete.
6	Program Support PA Costs	2023	\$2,179,547		
7		2024	\$1,545,731	-\$633,816	See Supplemental Budget Table
8		2025	\$1,555,529	\$9,798	See Supplemental Budget Table
9		2026	\$1,565,672	\$10,143	See Supplemental Budget Table
10		2027	\$1,576,172	\$10,500	See Supplemental Budget Table
11	Portfolio Support PA Costs	2023	\$325,364		
12		2024	\$402,829	\$77,464	See Supplemental Budget Table
13		2025	\$468,300	\$65,472	See Supplemental Budget Table
14		2026	\$505,493	\$37,193	See Supplemental Budget Table
15		2027	\$411,938	-\$93,555	See Supplemental Budget Table

Prg ID	PGE_SW_CSA_Natl	National Codes & Standards Advocacy			
Line No.	Cost Source	Year	Amount	Change from Prior Year	Description/Explanation
1	Program Implementation Non-PA Costs (implementer costs, incentives, program management-related contracts)	2023	\$2,430,097		
2		2024	\$2,320,505	-\$109,592	Budget changes are immaterial (<10% change)
3		2025	\$2,320,505	\$0	PG&E analyzed these costs and does not expect any change compared to prior year
4		2026	\$2,320,505	\$0	PG&E analyzed these costs and does not expect any change compared to prior year
5		2027	\$2,320,505	\$0	PG&E analyzed these costs and does not expect any change compared to prior year
6	Program Support PA Costs	2023	\$307,140		
7		2024	\$679,400	\$372,260	See Supplemental Budget Table
8		2025	\$687,973	\$8,573	See Supplemental Budget Table
9		2026	\$696,848	\$8,875	See Supplemental Budget Table
10		2027	\$706,035	\$9,187	See Supplemental Budget Table
11	Portfolio Support PA Costs	2023	\$289,062		
12		2024	\$251,537	-\$37,525	See Supplemental Budget Table
13		2025	\$248,250	-\$3,287	See Supplemental Budget Table
14		2026	\$255,967	\$7,717	See Supplemental Budget Table
15		2027	\$249,569	-\$6,398	See Supplemental Budget Table

Prg ID	PGE21053	Compliance Improvement			
Line No.	Cost Source	Year	Amount	Change from Prior Year	Description/Explanation
1	Program Implementation Non-PA Costs (implementer costs, incentives, program management-related contracts)	2023	\$4,500,000		
2		2024	\$5,450,000	\$950,000	Increases in training , tools, and resources to support new building codes and appliance standards
3		2025	\$5,956,798	\$506,798	Budget changes are immaterial (<10% change)
4		2026	\$5,956,798	\$0	PG&E analyzed these costs and does not expect any change compared to prior year
5		2027	\$5,450,000	-\$506,798	Budget changes are immaterial (<10% change)
6	Program Support PA Costs	2023	\$262,327		
7		2024	\$252,033	-\$10,294	See Supplemental Budget Table
8		2025	\$260,198	\$8,165	See Supplemental Budget Table
9		2026	\$268,650	\$8,452	See Supplemental Budget Table
10		2027	\$277,400	\$8,750	See Supplemental Budget Table
11	Portfolio Support PA Costs	2023	\$535,280		
12		2024	\$590,767	\$55,488	See Supplemental Budget Table
13		2025	\$637,265	\$46,498	See Supplemental Budget Table
14		2026	\$657,075	\$19,810	See Supplemental Budget Table
15		2027	\$586,145	-\$70,930	See Supplemental Budget Table

Prg ID	PGE21054	Reach Codes			
Line No.	Cost Source	Year	Amount	Change from Prior Year	Description/Explanation
1	Program Implementation Non-PA Costs (implementer costs, incentives, program management-related contracts)	2023	\$1,750,000		
2		2024	\$1,834,276	\$84,276	Budget changes are immaterial (<10% change)
3		2025	\$1,984,006	\$149,730	Budget changes are immaterial (<10% change)
4		2026	\$2,584,006	\$600,000	Additional budget to develop new benefit-cost analyses based on 2025 code changes which support adoption of reach codes by local governments
5		2027	\$2,333,736	-\$250,270	Budget changes are immaterial (<10% change)
6	Program Support PA Costs	2023	\$116,682		
7		2024	\$101,262	-\$15,421	See Supplemental Budget Table
8		2025	\$104,119	\$2,858	See Supplemental Budget Table
9		2026	\$107,078	\$2,958	See Supplemental Budget Table
10		2027	\$110,140	\$3,062	See Supplemental Budget Table
11	Portfolio Support PA Costs	2023	\$208,164		
12		2024	\$198,831	-\$9,333	See Supplemental Budget Table
13		2025	\$212,251	\$13,420	See Supplemental Budget Table
14		2026	\$285,033	\$72,782	See Supplemental Budget Table
15		2027	\$250,992	-\$34,041	See Supplemental Budget Table

Prg ID	PGE21055	Planning and Coordination			
Line No.	Cost Source	Year	Amount	Change from Prior Year	Description/Explanation
1	Program Implementation Non-PA Costs (implementer costs, incentives, program management-related contracts)	2023	\$600,000		
2		2024	\$1,031,250	\$431,250	Increasing planning and coordination with New Construction, Emerging Technologies, Market Transformation and other efforts
3		2025	\$1,031,250	\$0	PG&E analyzed these costs and does not expect any change compared to prior year
4		2026	\$1,031,250	\$0	PG&E analyzed these costs and does not expect any change compared to prior year
5		2027	\$1,031,250	\$0	PG&E analyzed these costs and does not expect any change compared to prior year
6	Program Support PA Costs	2023	\$60,665		
7		2024	\$43,273	-\$17,392	See Supplemental Budget Table
8		2025	\$44,089	\$816	See Supplemental Budget Table
9		2026	\$44,934	\$845	See Supplemental Budget Table
10		2027	\$45,809	\$875	See Supplemental Budget Table
11	Portfolio Support PA Costs	2023	\$71,371		
12		2024	\$111,785	\$40,415	See Supplemental Budget Table
13		2025	\$110,324	-\$1,461	See Supplemental Budget Table
14		2026	\$113,754	\$3,430	See Supplemental Budget Table
15		2027	\$110,911	-\$2,843	See Supplemental Budget Table

Prg ID	PGE21056	Code Readiness			
Line No.	Cost Source	Year	Amount	Change from Prior Year	Description/Explanation
1	Program Implementation Non-PA Costs (implementer costs, incentives, program management-related contracts)	2023	\$5,322,714		
2		2024	\$8,587,366	\$3,264,652	Expanding scope to conduct metering on new construction projects and vendor rate increases.
3		2025	\$8,587,366	\$0	PG&E analyzed these costs and does not expect any change compared to prior year
4		2026	\$8,587,366	\$0	PG&E analyzed these costs and does not expect any change compared to prior year
5		2027	\$8,587,366	\$0	PG&E analyzed these costs and does not expect any change compared to prior year
6	Program Support PA Costs	2023	\$1,088,466		
7		2024	\$1,464,547	\$376,081	See Supplemental Budget Table
8		2025	\$1,471,487	\$6,940	See Supplemental Budget Table
9		2026	\$1,478,671	\$7,184	See Supplemental Budget Table
10		2027	\$1,486,109	\$7,437	See Supplemental Budget Table
11	Portfolio Support PA Costs	2023	\$633,142		
12		2024	\$930,851	\$297,708	See Supplemental Budget Table
13		2025	\$918,686	-\$12,164	See Supplemental Budget Table
14		2026	\$947,245	\$28,559	See Supplemental Budget Table
15		2027	\$923,568	-\$23,677	See Supplemental Budget Table

Prg ID	PGE_SW_ETP_Elec	Emerging Technologies Program, Electric			
Line No.	Cost Source	Year	Amount	Change from Prior Year	Description/Explanation
1	Program Implementation Non-PA Costs (implementer costs, incentives, program management-related contracts)	2023	\$8,386,780		
2		2024	\$7,912,056	-\$474,723	SW Program, non-lead: please refer to Southern California Edison's application for variance explanation
3		2025	\$7,946,268	\$34,211	SW Program, non-lead: please refer to Southern California Edison's application for variance explanation
4		2026	\$7,946,268	\$0	SW Program, non-lead: please refer to Southern California Edison's application for variance explanation
5		2027	\$7,946,268	\$0	SW Program, non-lead: please refer to Southern California Edison's application for variance explanation
6	Program Support PA Costs	2023	\$103,204		
7		2024	\$106,563	\$3,359	See Supplemental Budget Table
8		2025	\$109,575	\$3,012	See Supplemental Budget Table
9		2026	\$112,693	\$3,118	See Supplemental Budget Table
10		2027	\$115,921	\$3,228	See Supplemental Budget Table
11	Portfolio Support PA Costs	2023	\$288,365		
12		2024	\$265,051	-\$23,314	See Supplemental Budget Table
13		2025	\$270,649	\$5,598	See Supplemental Budget Table
14		2026	\$280,974	\$10,325	See Supplemental Budget Table
15		2027	\$273,108	-\$7,866	See Supplemental Budget Table

Prg ID	PGE_SW_ETP_Gas	Emerging Technologies Program, Gas			
Line No.	Cost Source	Year	Amount	Change from Prior Year	Description/Explanation
1	Program Implementation Non-PA Costs (implementer costs, incentives, program management-related contracts)	2023	\$2,187,247		
2		2024	\$1,512,000	-\$675,247	SW Program, non-lead: please refer to Southern California Gas Company's application for variance explanation
3		2025	\$1,512,000	\$0	SW Program, non-lead: please refer to Southern California Gas Company's application for variance explanation
4		2026	\$1,512,000	\$0	SW Program, non-lead: please refer to Southern California Gas Company's application for variance explanation
5		2027	\$1,512,000	\$0	SW Program, non-lead: please refer to Southern California Gas Company's application for variance explanation
6	Program Support PA Costs	2023	\$98,641		
7		2024	\$102,000	\$3,359	See Supplemental Budget Table
8		2025	\$105,012	\$3,012	See Supplemental Budget Table
9		2026	\$108,130	\$3,118	See Supplemental Budget Table
10		2027	\$111,358	\$3,228	See Supplemental Budget Table
11	Portfolio Support PA Costs	2023	\$288,365		
12		2024	\$265,051	-\$23,314	See Supplemental Budget Table
13		2025	\$270,649	\$5,598	See Supplemental Budget Table
14		2026	\$280,974	\$10,325	See Supplemental Budget Table
15		2027	\$273,108	-\$7,866	See Supplemental Budget Table

Prg ID	PGE_OBFAP	On-Bill Financing Alternative Pathway			
Line No.	Cost Source	Year	Amount	Change from Prior Year	Description/Explanation
1	Program Implementation Non-PA Costs (implementer costs, incentives, program management-related contracts)	2023	\$1,160,000		Budget from PGE210911 shown here because program is changing PrgID from 2023 to 2024
2		2024	\$900,000	-\$260,000	Decrease in quality assurance (QA) contract costs
3		2025	\$900,000	\$0	PG&E analyzed these costs and does not expect any change compared to prior year
4		2026	\$400,000	-\$500,000	Decrease in legal support for financing tools
5		2027	\$400,000	\$0	PG&E analyzed these costs and does not expect any change compared to prior year
6	Program Support PA Costs	2023	\$0		
7		2024	\$4,245,209	\$4,245,209	See Supplemental Budget Table
8		2025	\$4,524,247	\$279,038	See Supplemental Budget Table
9		2026	\$4,252,470	-\$271,777	See Supplemental Budget Table
10		2027	\$4,357,102	\$104,632	See Supplemental Budget Table
11	Portfolio Support PA Costs	2023	\$0		
12		2024	\$97,558	\$97,558	See Supplemental Budget Table
13		2025	\$96,283	-\$1,275	See Supplemental Budget Table
14		2026	\$44,123	-\$52,160	See Supplemental Budget Table
15		2027	\$43,020	-\$1,103	See Supplemental Budget Table

Prg ID	PGE_SW_WET_CC	WET Career Connections			
Line No.	Cost Source	Year	Amount	Change from Prior Year	Description/Explanation
1	Program Implementation Non-PA Costs (implementer costs, incentives, program management-related contracts)	2023	\$456,000		
2		2024	\$456,000	\$0	PG&E analyzed these costs and does not expect any change compared to prior year
3		2025	\$456,000	\$0	PG&E analyzed these costs and does not expect any change compared to prior year
4		2026	\$456,000	\$0	PG&E analyzed these costs and does not expect any change compared to prior year
5		2027	\$456,000	\$0	PG&E analyzed these costs and does not expect any change compared to prior year
6	Program Support PA Costs	2023	\$116,504		
7		2024	\$102,271	-\$14,232	See Supplemental Budget Table
8		2025	\$105,871	\$3,600	See Supplemental Budget Table
9		2026	\$109,598	\$3,727	See Supplemental Budget Table
10		2027	\$113,456	\$3,858	See Supplemental Budget Table
11	Portfolio Support PA Costs	2023	\$54,242		
12		2024	\$49,429	-\$4,812	See Supplemental Budget Table
13		2025	\$48,783	-\$646	See Supplemental Budget Table
14		2026	\$50,300	\$1,516	See Supplemental Budget Table
15		2027	\$49,043	-\$1,257	See Supplemental Budget Table

Prg ID	PGE_SW_WET_Work	WET Career and Workforce Readiness			
Line No.	Cost Source	Year	Amount	Change from Prior Year	Description/Explanation
1	Program Implementation Non-PA Costs (implementer costs, incentives, program management-related contracts)	2023	\$862,427		
2		2024	\$912,000	\$49,573	Budget changes are immaterial (<10% change)
3		2025	\$912,000	\$0	PG&E analyzed these costs and does not expect any change compared to prior year
4		2026	\$912,000	\$0	PG&E analyzed these costs and does not expect any change compared to prior year
5		2027	\$912,000	\$0	PG&E analyzed these costs and does not expect any change compared to prior year
6	Program Support PA Costs	2023	\$110,041		
7		2024	\$95,250	-\$14,791	See Supplemental Budget Table
8		2025	\$98,603	\$3,353	See Supplemental Budget Table
9		2026	\$102,073	\$3,471	See Supplemental Budget Table
10		2027	\$105,666	\$3,593	See Supplemental Budget Table
11	Portfolio Support PA Costs	2023	\$102,587		
12		2024	\$98,859	-\$3,728	See Supplemental Budget Table
13		2025	\$97,567	-\$1,292	See Supplemental Budget Table
14		2026	\$100,600	\$3,033	See Supplemental Budget Table
15		2027	\$98,085	-\$2,515	See Supplemental Budget Table

Prg ID	PGE21071	Integrated Energy Education and Training			
Line No.	Cost Source	Year	Amount	Change from Prior Year	Description/Explanation
1	Program Implementation Non-PA Costs (implementer costs, incentives, program management-related contracts)	2023	\$4,750,000		
2		2024	\$4,500,000	-\$250,000	Budget changes are immaterial (<10% change)
3		2025	\$4,500,000	\$0	PG&E analyzed these costs and does not expect any change compared to prior year
4		2026	\$4,200,000	-\$300,000	Budget changes are immaterial (<10% change)
5		2027	\$4,200,000	\$0	PG&E analyzed these costs and does not expect any change compared to prior year
6	Program Support PA Costs	2023	\$2,840,225		
7		2024	\$2,934,777	\$94,552	See Supplemental Budget Table
8		2025	\$3,019,046	\$84,269	See Supplemental Budget Table
9		2026	\$3,103,472	\$84,426	See Supplemental Budget Table
10		2027	\$3,190,870	\$87,398	See Supplemental Budget Table
11	Portfolio Support PA Costs	2023	\$565,017		
12		2024	\$487,790	-\$77,228	See Supplemental Budget Table
13		2025	\$481,415	-\$6,374	See Supplemental Budget Table
14		2026	\$463,289	-\$18,127	See Supplemental Budget Table
15		2027	\$451,708	-\$11,580	See Supplemental Budget Table

PACIFIC GAS AND ELECTRIC COMPANY
CHAPTER 3
SEGMENTATION STRATEGY

PACIFIC GAS AND ELECTRIC COMPANY
CHAPTER 3
SEGMENTATION STRATEGY

TABLE OF CONTENTS

A. Introduction.....	3-1
1. Scope and Purpose	3-1
2. Strategies Driving Distribution of Budget Among Segments and Alignment with Broader Portfolio Objectives	3-2
3. Segmentation Strategies.....	3-3
4. Portfolio Segmentation Budget Forecasts.....	3-4
B. Resource Acquisition Segment	3-4
1. Preliminary Distribution of Forecast Budget for 2024-2027	3-4
2. Segment-Specific Strategies, Goals, and Outcomes	3-4
3. Segment-Specific Coordination.....	3-6
a. Market Support Segmentation Coordination.....	3-6
b. Equity Segment Coordination	3-6
C. Codes and Standards Segment	3-6
1. Preliminary Distribution of Budget for 2024-2027.....	3-6
2. Segment-Specific Strategies, Goals, and Outcomes	3-6
3. Projected Annual Portfolio- and Sector-Level Performance Metrics	3-7
D. Market Support Segment.....	3-7
1. Preliminary Distribution of Forecast Budget for 2024-2027	3-7
2. Segment-Specific Strategies, Goals, and Outcomes	3-9
a. Market Support Segment Goal	3-9
b. Market Support Segment Strategies.....	3-11
1) Local Government Partnership Programs: Partnering With Local Governments and Supporting EE Adoption Within Communities and Public Facilities.....	3-11

PACIFIC GAS AND ELECTRIC COMPANY
CHAPTER 3
SEGMENTATION STRATEGY

TABLE OF CONTENTS
(CONTINUED)

2) New Construction Programs: Partnering With Market Actors to Enable All-Electric or Electric-Ready Buildings and Accelerate Adoption of Advanced EE Technologies	3-12
3) Workforce Education and Training Programs: Training Contractors and Supplying the Future Energy Workforce	3-18
4) On-Bill Financing Alternative Pathway (OBF AP): Providing Access to Capital for EE Projects.....	3-18
5) Placeholder Programs.....	3-19
c. Market Support Segment Outcomes:	3-22
d. Projected Annual Portfolio, Sector, and Segment-Level Performance Metrics	3-23
1) California Energy Efficiency Coordinating Committee Metrics Working Group Recommended Metrics	3-23
3. Segment-Specific Coordination.....	3-25
a. Interaction with Market Transformation Activities	3-27
E. Equity	3-27
1. Preliminary Distribution of Forecast Budget for 2024-2027	3-27
2. Segment-Specific Strategies, Goals, and Outcomes	3-28
a. Equity Segment Goal.....	3-28
b. Equity Segment Strategies	3-29
1) Small-Micro Business Placeholder Program: Improved Access to EE Among Underserved Business Customers	3-29
2) Residential Equity Placeholder Program: Improved Access to EE and Electrification for Underserved Residential Customers...	3-30
3) Residential and Non-Residential Zonal Electrification Programs: Targeted Electrification of Low-Income and Disadvantaged Communities Where Natural Gas Assets Can Be Retired	3-31

PACIFIC GAS AND ELECTRIC COMPANY
CHAPTER 3
SEGMENTATION STRATEGY

TABLE OF CONTENTS
(CONTINUED)

4) WE&T CWR Program: EE Training and Job Placement for Disadvantaged Workers	3-32
c. Equity Segment Outcomes:	3-32
d. Projected Annual Portfolio-, Sector-, and Segment-Level Performance Metrics	3-32
1) CAEECC Equity Metrics Working Group Recommended Metrics.....	3-33
3. Segment-Specific Coordination.....	3-34

PACIFIC GAS AND ELECTRIC COMPANY

CHAPTER 3

SEGMENTATION STRATEGY

A. Introduction

1. Scope and Purpose

In 2021, the California Public Utilities Commission (CPUC or Commission) issued Decision (D.) 21-05-031 directing Energy Efficiency (EE) portfolio administrators (PA) to segment their portfolios into four portfolio segment types: resource acquisition,¹ market support,² equity,³ and codes and standards (C&S).⁴ Prior to 2022, there were two primary program category types for energy efficiency portfolios, resource and non-resource, in addition to C&S, which had historically already been treated separately. This chapter describes Pacific Gas and Electric Company's (PG&E or the Company) portfolio segmentation for its portfolio to (1) achieve short-term delivery of cost-effective energy savings; and (2) align EE program objectives with broader policy objectives such as equity, long-term support for the energy efficiency market, clean energy and building decarbonization.

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- ¹ D.21-05-031, p. 14 defines the resource acquisition segment: "Programs with a primary purpose of, and a short-term ability to, deliver cost-effective avoided cost benefits to the electricity and natural gas systems. Short-term is defined as during the approved budget period for the portfolio, which will be discussed further later in this decision."
 - ² D.21-05-031, p. 14 defines the market support segment: "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."
 - ³ D.21-05-031, pp. 14-15 defines the equity segment: "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."
 - ⁴ D.21-05-031, p. 16, "C&S programs will remain separate as well, as previously defined in D.12-05-015," p. 81, Ordering Paragraph (OP) 2.

2. Strategies Driving Distribution of Budget Among Segments and Alignment with Broader Portfolio Objectives

PG&E distributes its 2024-2027 portfolio budget forecast among segments to achieve the broader portfolio goals described in Chapter 1.

Most programs in PG&E's portfolio focus on delivery of cost-effective Total System Benefit (TSB) during the portfolio plan period and therefore are categorized in the resource acquisition segment. This aligns with the Commission's intent that "the bulk of savings to achieve TSB goals" are in the resource acquisition segment.⁵ PG&E categorizes programs in the resource acquisition segment unless the program's primary purpose aligns with market support or equity objectives. The majority of PG&E's EE portfolio budget is distributed to the resource acquisition segment, followed by the market support segment, C&S, and then the equity segment (see Table 3-1). While the budgets for the programs across the C&S, market support, and equity segments may be less in aggregate, these programs can support the broader EE market across California. Although resource acquisition programs account for the majority of PG&E's EE portfolio forecasted budget, these programs support customers only at the sites of the interventions.

PG&E forecasts approximately 12 percent of its portfolio budget to the C&S segment. PG&E bases this distribution to the C&S segment in support of two portfolio-level goals: economy-wide carbon neutrality by 2045 and shaping energy demand to match supply.

The budget distribution between market support and equity segments is based on the outcome of the categorization process for programs in PG&E's EE portfolio based on their primary purpose. PG&E plans to maximize the allotted 30 percent budget for market support and equity segments⁶ by forecasting approximately 29 percent of its 2024-2027 budget to these two segments. Between the two segments, market support accounts for 24 percent of the portfolio budget and equity accounts for 5 percent. This is because the market support segment includes statewide programs such as

⁵ D.21-05-031, p. 14.

⁶ D.21-05-031, p. 81, OP 4.

the New Construction programs and Emerging Technologies programs. The equity segment has fewer existing programs but provides an opportunity for PG&E's EE portfolio to explore new programs that are specifically targeted for supporting underserved communities.⁷

PG&E discusses these four segments below.

3. Segmentation Strategies

PG&E's segmentation strategy comprises three primary steps: (1) develop portfolio goals and objectives;⁸ (2) ensure the composition of portfolio programs can support achievement of those goals and objectives; and (3) segment the programs and budgets based on how each program's primary purpose aligns with the objectives of the segment as defined by the CPUC.⁹ If a program does not meet any of the primary purposes of the segments, PG&E will consider either removing the program from the portfolio entirely or not pursuing the program. There were no instances of this as part of PG&E's 2024-2027 portfolio plan.

PG&E's position is that a program is categorized in the resource acquisition segment unless its primary purpose aligns with market support or equity purposes. The forecasted cost-effectiveness of a program is not a determinant in the segment assignments. As recognized in D.21-05-031, while an individual program may only be assigned to one segment at any point in time, it is often the case that programs have multiple objectives.¹⁰

As an example, though a program may achieve cost-effective TSB, if the primary purpose and function of the program is to support EE participation among underserved customers, that program may be categorized under the equity segment since the primary purpose is focused on equitable access to EE services. Alternatively, if a program can support underserved customers among its eligible participants but is focused on achieving short-term cost-effective TSB without preference to customer types, then that program

⁷ PG&E may revisit this budget distribution in the 2023 true-up advice letter dependent on the results of the solicitations for those new programs.

⁸ See Chapter 1 for Portfolio Goals.

⁹ D.21-05-031, p. 14.

¹⁰ D.21-05-031, pp. 15-16.

may be categorized as resource acquisition to reflect the focus on the short-term delivery of cost-effective TSB. These types of programs demonstrate PG&E's goal to serve multiple objectives through its EE portfolio. Because some programs support multiple segment objectives, segment budget allocations alone are not altogether indicative of the full scope of portfolio activity supporting each segment's objectives.

4. Portfolio Segmentation Budget Forecasts

Table 3-1 below shows PG&E's 2024-2027 portfolio budget forecast by segment. Evaluation Measurement and Verification (EM&V) and On-Bill Financing (OBF) Loan Pool are not program segments but are included in the table for completeness.

**TABLE 3-1
PG&E'S 2024-2027 ENERGY EFFICIENCY PORTFOLIO BUDGET FORECASTS**

Line No.	Segment	2024	2025	2026	2027	Total
1	Resource Acquisition	\$143,555,248	\$138,902,111	\$139,414,476	\$141,475,932	\$563,347,767
2	Codes and Standards	33,105,417	33,839,153	34,637,544	33,771,305	\$135,353,418
3	Market Support	62,414,150	67,344,222	64,755,197	64,887,142	\$259,400,711
4	Equity	12,110,152	13,224,006	13,952,382	13,960,823	\$53,247,362
5	<i>Subtotal</i>	<i>\$251,184,967</i>	<i>\$253,309,491</i>	<i>\$252,759,598</i>	<i>\$254,095,202</i>	<i>\$1,011,349,259</i>
6	EM&V ^(a)	10,882,707	10,971,229	10,948,317	11,003,967	\$43,806,219
7	OBF Loan Pool ^(a)	10,000,000	10,000,000	10,000,000	10,000,000	\$40,000,000
8	Total	\$272,067,674	\$274,280,720	\$273,707,915	\$275,099,169	\$1,095,155,478

(a) EM&V and OBF Loan Pool included in the table for completeness but are not program segments.

B. Resource Acquisition Segment

1. Preliminary Distribution of Forecast Budget for 2024-2027

Fifty-one percent, or about \$563 million, of PG&E's 2024-2027 forecast budget is distributed to the resource acquisition segment. This budget allocation enables PG&E to deliver short-term cost-effective TSB. Refer to Table 3-1 above for PG&E's 2024-2027 forecast for its resource acquisition segment.

2. Segment-Specific Strategies, Goals, and Outcomes

PG&E is forecasting to distribute most of its EE portfolio budget to the resource acquisition segment to align with the Commission's intent that this

segment contributes most to the pursuit of the TSB goal. PG&E's goal is to deliver TSB as cost-effectively as possible by engaging customers through multiple channels and providing easier access to the variety of EE services offered.

One of PG&E's EE portfolio-wide strategies is to deliver TSB by meeting customers where they are. PG&E proposes to pursue this strategy by delivering programs and services through multiple channels and locations to reach as many of our customers as possible. These strategies enable PG&E to cost-effectively deliver TSB toward the EE portfolio 2024-2027 TSB goal.

Tables 3-2A and 3-2B show the projected annual segment-level performance metrics for PG&E's resource acquisition segment. Pursuant to D.21-05-031, resource acquisition cost-effectiveness is assessed cumulatively across the four-year cycle.¹¹

TABLE 3-2A
PG&E'S 2024-2027 RESOURCE ACQUISITION SEGMENT PERFORMANCE METRICS

Line No.	Resource Acquisition: Sector TSB	2024	2025	2026	2027	Total
1	Agricultural	8,414,374	8,834,820	8,549,538	10,874,629	36,673,361
2	Commercial	57,035,972	58,796,643	62,574,204	66,233,870	244,640,689
3	Industrial	45,912,250	46,719,943	51,074,255	50,572,053	194,278,501
4	Public	11,717,557	12,106,629	12,897,600	13,104,375	49,826,159
5	Residential	39,035,706	36,533,251	41,141,106	45,242,138	161,952,200
6	Total	162,115,858	162,991,285	176,236,703	186,027,065	687,370,912

TABLE 3-2B
PG&E'S 2024-2027 RESOURCE ACQUISITION SEGMENT PERFORMANCE METRICS

Line No.	Resource Acquisition: Sector TRC Ratios	2024	2025	2026	2027	Total
1	Agricultural	0.90	0.95	0.98	1.08	0.98
2	Commercial	0.94	1.01	1.07	1.14	1.04
3	Industrial	1.23	1.26	1.36	1.38	1.31
4	Public	0.62	0.64	0.68	0.68	0.65
5	Residential	0.94	0.95	1.05	1.10	1.01
6	Total	0.97	1.00	1.08	1.12	1.04

¹¹ D.21-05-031, p. 77, Conclusion of Law (COL) 24.

3. Segment-Specific Coordination

a. Market Support Segmentation Coordination

Examples of resource acquisition (RA) and market support sector coordination include local municipality connections enabled by local government partnerships (LGP) and workforce education and training (WE&T). First, LGPs support and encourage their own municipalities and customers to participate in PG&E's EE RA segment offerings. LGPs can use the local governments' own climate action planning process to identify new EE projects and can assist customers with hiring contractors, overseeing installers, applying for financing and incentives, and by performing quality assurance of final implementations. Second, PG&E's Integrated Energy Education and Training (IEET) program works to ensure that RA segmented programs and the customers that they serve have a skilled and knowledgeable workforce able to implement energy efficiency projects. See Chapter 4, Section E for a description of these programs.

b. Equity Segment Coordination

PG&E's WE&T Career & Workforce Readiness (CWR) program helps ensure a skilled and knowledgeable workforce is available to implement EE projects. The CWR program focuses on providing WE&T services and job placement for disadvantaged workers to help expand the diversity of the workforce available for energy efficiency.

C. Codes and Standards Segment

1. Preliminary Distribution of Budget for 2024-2027

Twelve percent, or about \$135 million, of PG&E's 2024-2027 budget is distributed to the C&S segment (see Table 3-1 above).

2. Segment-Specific Strategies, Goals, and Outcomes

Within PG&E's EE portfolio, C&S is treated as both a segment and a cross-cutting sector. As such, see C&S strategies, goals, outcomes, and coordination in Chapter 4, Section E.1.

3. Projected Annual Portfolio- and Sector-Level Performance Metrics

Table 3-3 below displays the forecasted performance metrics for PG&E's C&S sector/segment from 2024-2027. Unlike the rest of the EE portfolio, C&S goals remain in first-year net energy savings therefore the performance metrics below are provided in first-year net energy savings.¹² See Chapter 1, Tables 1-2 and 1-3 for portfolio-level performance metrics.

**TABLE 3-3
PG&E'S 2024-2027 CODES AND STANDARDS SEGMENT PERFORMANCE METRICS**

Line No.	Codes and Standards	2024	2025	2026	2027	Total
1	First Year Net kilowatt	235,786	219,971	204,481	186,580	846,818
2	First Year Net kilowatt-hour	1,203,215,078	1,080,045,568	983,569,557	883,672,274	4,150,502,477
3	First Year Net Therms	24,960,265	24,348,161	20,867,961	17,561,987	87,738,374

D. Market Support Segment

1. Preliminary Distribution of Forecast Budget for 2024-2027

PG&E proposes to distribute its market support budget to fund programs that support the Commission's objectives for this segment—educating customers, training contractors, building partnerships, or moving beneficial technologies towards greater cost-effectiveness.¹³ Twenty-four percent, or about \$259 million, of PG&E's 2024-2027 budget is distributed to the market support segment (see Table 3-1 above).

Table 3-4 lists the programs that PG&E includes in the market support segment budget. The program names listed below and referenced throughout this section are the program names used in California Energy Data and Reporting System, however program details discussed throughout this section describe the current vendor's program which may use a different public name. Inclusion of the current vendor's program details does not guarantee that the vendor's current contract will be extended. PG&E will evaluate vendor performance and determine appropriate action.

¹² D.21-09-037, p. 19.

¹³ D.21-05-031, p. 14.

**TABLE 3-4
MARKET SUPPORT SEGMENT PROGRAMS FOR 2024-2027**

Line No.	Program ID	Program Name
1	PGE_Pub_004	Central California Local Government Partnership
2	PGE_Pub_001	Central Coast Local Government Partnership
3	PGE_Pub_006	San Francisco Local Government Partnership
4	PGE_Pub_002	Marin Local Government Partnership
5	PGE_Pub_003	Redwood 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	SW_NC_Res_electric	New Construction Residential – All Electric
10	SW_NC_Res_mixed	New Construction Residential – Mixed Fuel
11	SW_NC_NonRes_Res_electric SW_NC_NonRes_Pub_electric SW_NC_NonRes_Ind_electric SW_NC_NonRes_Com_electric SW_NC_NonRes_Ag_electric	New Construction Non-Residential – All Electric
12	SW_NC_NonRes_Res_mixed SW_NC_NonRes_Pub_mixed SW_NC_NonRes_Ind_mixed SW_NC_NonRes_Com_mixed SW_NC_NonRes_Ag_mixed	New Construction Non-Residential – Mixed Fuel
13	PGE21071	WE&T Integrated Energy Education and Training
14	SW_WET_CC	WE&T – Career Connections
15	PGE_OBFAP	On-Bill Financing Alternative Pathway
16	PGE_Res_Mkt_Spt	Residential Market Support Placeholder ^(a)
17	PGE_Res_LoadMgt	Residential Load Management Placeholder ^(a)
18	PGE_Res_Resiliency	Resiliency Support Placeholder ^(a) (Residential)
19	PGE_Pub_Resiliency	Resiliency Support Placeholder ^(a) (Public)
20	SW_HVAC_QIQM	SW (Statewide) Heating, Ventilation, and Air Conditioning (HVAC) QI/QM Program
<p>(a) Placeholders reflect programs that PG&E plans to solicit, contract, and/or implement by 2024-2027.</p>		

2. Segment-Specific Strategies, Goals, and Outcomes

a. Market Support Segment Goal

PG&E's primary market support segment goal is the same as the CPUC's overarching segment 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."¹⁴ Within that goal PG&E focuses on pursuing the market support segment sub-objectives as recommended by the California Energy Efficiency Coordinating Committee (CAEECC) Market Support Metrics Working Group (MSMWG)¹⁵ and outlined below:¹⁶

- **Demand:** *Build, enable, and maintain demand for energy efficient products, and services in all sectors and industries to ensure interest in, knowledge of benefits of, or awareness of how to obtain energy efficiency products and/or services.*
- **Supply:** *Build, enable, and maintain supply chains to increase the capability and motivation of market actors to supply energy efficient products, and/or services and to increase the ability, capability, and motivation of market actors to perform/ensure quality installations that optimizes energy efficiency savings.*
- **Partnerships:** *Build, enable, and maintain partnerships with consumers, governments, advocates, contractors, suppliers, manufacturers, community-based organizations and/or other entities to obtain delivery and/or funding efficiencies for energy efficiency products, and/or services and added value for partners.*

¹⁴ D.21-05-031, p. 14.

¹⁵ The MSMWG was formed in 2021 to answer numerous questions related to the creation of metrics, including establishing sub-objectives for the segment and developing segment-level metrics applicable to each sub-objective. There were 16 organizations represented in the MSMWG working group including representatives from the IOUs, Regional Energy Networks (REN), California Efficiency + Demand Management Council (CEDMC), Public Advocates Office at the California Public Utilities Commission (Cal Advocates), and others drawn primarily, though not exclusively, from CAEECC's membership.

¹⁶ [MSMWG Final Report \(10.6.21\) \(accessed Jan. 12, 2022\)](#), Section 3: Primary Objectives and Sub-Objectives, pp. 13-14.

- ***Innovation and Accessibility:*** *Build, enable, and maintain innovation and accessibility in technology, approaches, and services development to increase value of, decrease costs of, increase energy efficiency of, and/or increase scale of and/or access to emerging or existing energy efficient 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 energy efficient projects, products, or services.*

Table 3-5 displays the connection between the PG&E's market support programs and each of the segment sub-objectives that fall under the broader segment goal.

**TABLE 3-5
MARKET SUPPORT PROGRAMS AND SUB-OBJECTIVES**

Line No.	Program(s)	Demand	Supply	Partnerships	Innovation and Access	Access to Capital
1	Local Government Partnership Programs	X		X		
2	New Construction Programs	X	X	X	X	
3	WE&T Market Support Programs		X			
4	On-Bill Financing Alternative Pathway					X
5	Residential Market Support Placeholder ^(a)	X	X			
6	Residential Load Management Placeholder ^(a)	X	X		X	
7	Resiliency Support Placeholder (Residential) ^(a)	X	X	X		
8	Resiliency Support Placeholder (Public) ^(a)	X		X		
9	SW HVAC QI/QM	PG&E defers to San Diego Gas & Electric Company for program sub-objectives				

(a) Placeholders reflect programs that PG&E plans to solicit, contract, and/or implement by 2024-2027.

b. Market Support Segment Strategies

Each program included in the market support segment supports the broader EE market by pursuing one or more market support segment sub-objectives. PG&E provides additional details below for each category of program in the market support segment, demonstrating how they fulfill the market support function: LGP programs, New Construction programs, Workforce Education & Training programs, On-Bill Financing Alternative Pathway (OBF AP), and Placeholder programs.

1) Local Government Partnership Programs: Partnering With Local Governments and Supporting EE Adoption Within Communities and Public Facilities

The LGP programs included in this portfolio plan¹⁷ build, enable, and maintain partnerships among PG&E and local government entities. This is in line with one of the sub-objectives from the CAEECC MSMWG. The LGPs are designed to identify and enable EE opportunities for local public agency customers in their own facilities and broader communities. The LGPs are expected to promote and support adoption of reach codes that surpass minimum energy efficiency building code standards set by California.

LGP programs accomplish this sub-objective by working with local governments to improve their ability to conduct activities that will lead to EE, helping them develop carbon neutrality goals and climate action plans, and facilitating coordination among local governments, third-party service providers, RENs, and Customer Choice Aggregators (CCA). Within the local governments' communities, emphasis is often on hard-to-reach (HTR) customers or those in disadvantaged communities, though not exclusively so. While the LGP programs have equity components in their program design, their support extends beyond those included in the equity

¹⁷ See Chapter 4, Section E.4.

segment definition. Therefore, LGPs are better aligned with the market support segment.

2) New Construction Programs: Partnering With Market Actors to Enable All-Electric or Electric-Ready Buildings and Accelerate Adoption of Advanced EE Technologies

PG&E categorizes the statewide residential and non-residential new construction (NC) programs as market support segment programs because these programs drive economy-wide carbon neutrality by 2045¹⁸ by supporting a successful transition to either all-electric or electric-ready buildings and advanced efficient technologies.

The California Energy Commission (CEC) determined that since approximately 25 percent of emissions come from building emissions, building end-use electrification, energy efficiency, and demand flexibility are key strategies to support building greenhouse gas (GHG) emission reductions.¹⁹ The statewide NC programs support broad market impacts to help achieve California's GHG reduction goals. Prior research identified discernible non-participant spillover from residential NC programs' training of builders and other market actors.²⁰ The spillover effects include improved code compliance, increased above-code practices, and market readiness for a code upgrade. The statewide residential and non-residential NC programs education and training program elements intend to train building market actors who are expected to transfer their skills to projects outside of the program, increasing the stock of highly efficient, all-electric or electric-ready buildings in the market. In other words, the impact of the NC programs goes beyond the

¹⁸ Senate Bill (SB) No. 100 (2017-2018 Reg. Sess.) and Governor's Executive Order No. B-55-18 (Sept. 10, 2018).

¹⁹ *California Building Decarbonization Assessment – Final Commission Report*, California Energy Commission, (Aug. 13, 2021), pp. 4-7.

²⁰ *Phase II Report Residential New Construction (Single-Family Home) Market Effects Study*, KEMA Inc., (Dec. 6, 2010), p. 14. Found at http://www.calmac.org/publications/RNC_mkt_effects_Phase_2_report_final_120610-ID.pdf. (accessed Feb. 4, 2022).

1 program participants and therefore the programs are also expected
 2 to include spillover effects to non-participants as the design and
 3 building practices proliferate to future new construction, retrofits, and
 4 renovations.

5 While these programs are expected to achieve energy savings
 6 that deliver TSB, that is not their primary objective. Rather, their
 7 primary objectives include: providing EE design assistance to
 8 increase the market adoption of advanced EE technologies to
 9 facilitate adoption into future building codes and reach codes;
 10 educating builders, developers, and architecture and engineering
 11 (A&E) firms; and driving decarbonization and the adoption of
 12 all-electric new construction.

13 Program Theory and Logic Models

14 Based on stakeholder feedback during PG&E's pre-filing
 15 planning stages in summer and fall of 2021, PG&E describes the
 16 program theories and logic models for the statewide NC programs in
 17 this section to demonstrate that, as designed, the programs have
 18 primary objectives that align with the market support segment
 19 definition. Program theory and logic models have long been used in
 20 EE program design and evaluation.²¹ A program theory describes
 21 "the expected causal relationships between program goals and
 22 program activities in a way that allows the reader to understand why
 23 the proposed program activities are expected to result in the
 24 accomplishment of the program goals."²² Logic models are "the
 25 graphical representation of the program theory showing the flow
 26 between activities, their outputs, and subsequent short-term,
 27 intermediate, and long-term outcomes."²³

28 The logic models from the statewide NC programs show that the
 29 primary objectives for these programs align with each component of
 30 the market support definition. The four statewide NC programs

21 *A Framework for Planning and Assessing Publicly Funded Energy Efficiency*, PG&E, (March 2001).

22 *Final California Evaluation Framework*, TecMarket Works, (June 2004), p. 31.

23 *Ibid.*

1 included logic models in their respective implementation plans.²⁴

2 The next section explains how the market support definition
3 components align with activities, outputs, and outcomes from of the
4 residential and non-residential NC programs' logic models.

5 *Residential New Construction (RNC) Programs*

6 The Statewide Residential NC programs, both Mixed-Fuel and
7 All-Electric, have similar goals to: drive adoption of either
8 electric-ready or all-electric construction; overcome misperceptions
9 with above-code construction or all-electric homes; offset
10 incremental costs of above-code construction to deliver above-code
11 savings; accelerate C&S advancement; and prepare homes for
12 energy monitoring, management, or demand response. Table 3-6A
13 highlights expected program activities, outputs, and outcomes from
14 the statewide residential NC programs. PG&E further describes its
15 statewide residential NC programs in Chapter 4, Section E.3.

²⁴ Statewide Non-Residential New Construction Mixed Fuel Program Implementation Plan, California Energy Design Assistance Mixed Fuel Program, p.14, <https://cedars.sound-data.com/documents/download/1985/main/> (June 25, 2021) (last accessed Feb. 2, 2022). Statewide Non-Residential New Construction All-Electric Program, California Energy Design Assistance All-Electric (CEDAE) Program, p.14 (June 25, 2021), <https://cedars.sound-data.com/documents/download/1984/main/> (last accessed Feb. 2, 2022). California Energy-Smart Homes All Electric Residential Program Implementation Plan, p.16, (Sept. 20, 2021) 849f65_769495bcc8824744b904e71895994e51.pdf (filesusr.com) (last accessed Feb. 2, 2022). California Energy-Smart Homes Mixed-Fuel Residential Program Implementation Plan, p.17 (Oct. 22, 2021) <https://cedars.sound-data.com/documents/download/2308/main/> (last accessed Feb. 2, 2022).

TABLE 3-6A
RESIDENTIAL NEW CONSTRUCTION PROGRAMS' ALIGNMENT WITH MARKET SUPPORT DEFINITIONS

Line No.	Market Support Definition Component	Sample Activities from Logic Models	Sample Program Outputs from Logic Models	Sample Program Outcomes from Logic Models
1	Educating customers & training contractors	<ul style="list-style-type: none"> Education and training Design assistance Plan review and feedback 	<ul style="list-style-type: none"> Trainings for builders/developers and their contractors, energy consultants, etc. on all-electric benefits and costs Educate Certified Energy Analysts (CEA) and builders so they understand how to make all-electric design work 	<ul style="list-style-type: none"> Homeowners/tenants who are satisfied with their energy efficient or all-electric homes CEA recommend above-code or all-electric options to clients
2	Building partnerships	<ul style="list-style-type: none"> Education and training 	<ul style="list-style-type: none"> Trainings for builders/developers and their contractors, energy consultants, etc. on all-electric benefits and costs 	<ul style="list-style-type: none"> Contractors, builders, developers who are comfortable with all-electric equipment and ready to build all-electric or electric-ready buildings
3	Moving beneficial technologies towards greater cost-effectiveness	<ul style="list-style-type: none"> Deliver a whole building program approach 	<ul style="list-style-type: none"> Market able to choose optimal path to achieve above-code cost-effective all-electric or electric-ready new construction 	<ul style="list-style-type: none"> Increased volume and market share of above-code RNC Meeting long-term carbon-reduction goals

1 *Non-Residential New Construction*

2 The Statewide Non-Residential NC Programs, both Mixed-Fuel
3 and All-Electric, are designed to increase energy efficiency and
4 integrated demand-side management (IDSM) adoption rates in
5 non-residential and high-rise residential sectors. They have similar
6 objectives: to influence the non-residential NC market to achieve
7 deep energy savings, drive decarbonization, accelerate the adoption
8 of emerging technologies, and inform future C&S. Table 3-6B
9 highlights expected program activities, outputs, and outcomes. See
10 Chapter 4, Section E.3 for further information on the statewide
11 non-residential NC programs.

TABLE 3-6B
NON-RESIDENTIAL NEW CONSTRUCTION PROGRAMS' ALIGNMENT WITH MARKET SUPPORT DEFINITION

Line No.	Market Support Definition Component	Sample Activities from Logic Models	Sample Program Outputs from Logic Models	Sample Program Outcomes from Logic Models
1	Educating customers & training contractors	<ul style="list-style-type: none"> • Education and training • Deliver EE and IDSM education 	<ul style="list-style-type: none"> • Case studies and market specific program training • Identified EE and IDSM potential 	<ul style="list-style-type: none"> • Reach decarbonization goals • Support SB350 goals to double EE
2	Building partnerships	Collaborate with building industry groups to provide education and training on whole building approaches	Develop relationships with architecture & engineering (A/E) firms	Builders constructing above-code homes as standard practice and are prepared for future code advancements
3	Moving beneficial technologies towards greater cost-effectiveness	<ul style="list-style-type: none"> • Advancing C&S • Technical assistance 	<ul style="list-style-type: none"> • Collecting measured performance data for C&S • Consistent compliance of HVAC, lighting, and appliance standards 	<ul style="list-style-type: none"> • Reach decarbonization goals • All-electric new construction market share surpasses mixed-fuel

3) **Workforce Education and Training Programs: Training Contractors and Supplying the Future Energy Workforce**

There are currently two WE&T programs included in the market support segment: Career Connections and the IEET program. The Career Connections program primarily focuses on training the next generation of energy workers who can supply the EE workforce for service providers. This aligns with the market support definition to support the long-term success of the EE market through education. This program is assigned to market support rather than equity because the population served is not limited to those within the equity definition.

The IEET program focuses on collaborating with other training organizations that are training future members of the energy workforce to introduce and/or expand EE content into their training programs. IEET also helps to educate current members of the energy workforce on ways to save energy and decarbonize buildings through changes to workplace practices, equipment operations, equipment selection, and facility operations.

4) **On-Bill Financing Alternative Pathway (OBF AP): Providing Access to Capital for EE Projects**

On-Bill Financing (OBF), PG&E's primary financing offering, has two components, the OBF AP program, and an OBF Loan Pool Contribution. Only the OBF AP program is included in the market support segment because its primary purpose is to provide access to capital for EE projects that can proceed without the need for incentives. OBF provides eligible customers with access to capital to proceed with an EE project without the need to defer other investments. See Chapter 4, Section E.6 for more information on OBF.

OBF addresses barriers to access to capital, for the purposes of funding EE projects. This aligns with the CAEECC MSMWG sub-objective to "build, enable, and maintain greater, broader, and/or more equitable access to capital."

5) Placeholder Programs

PG&E includes placeholders for four market support programs in its EE portfolio that PG&E plans to solicit, contract, and/or implement by 2024-2027: Residential Market Support Placeholder, Residential Load Management Placeholder, Resiliency Support Placeholder (Residential), and Resiliency Support Placeholder (Public). The information below is based upon PG&E's preliminary assessments of need and demonstrate the rationale for categorization within the market support segment. However, the programs may deviate from these descriptions based upon the bids received in solicitations.

Residential Market Support Placeholder

This placeholder program aligns with the market support segment primary purposes of educating customers and training contractors on energy efficient whole building retrofit electrification. This placeholder program also aligns with the MSMWG sub-objectives by enabling customer demand and building supply chains for these same products and services.

First, PG&E expects this program to deliver on these purposes and sub-objectives by providing a consolidated and single point of contact support for eligible customers considering residential electrification retrofits. Completing whole-building electrification retrofit projects can be a lengthy and potentially confusing process for customers, thus negatively impacting customer demand. Thus, by providing a consolidated, single resource to PG&E's customers, this program can reduce barriers to electrification adoption.

Second, this program can provide residential contractor workforce support by providing the workforce with information and resources regarding electrification technologies and retrofits. This program can also assist in connecting qualified workforce members with eligible and interested customers to drive an increased availability of work in this space.

See Chapter 4, Section D.1 for details.

Residential Load Management Placeholder

This placeholder program aligns with the market support segment primary purposes of educating customers, training contractors, and moving beneficial technologies toward greater cost-effectiveness within the flexible load capable residential retrofit space. This placeholder program also aligns with the MSMWG sub-objectives of building customer demand, supply chains, and technology innovation and accessibility within this same space.

First, this program can provide support for eligible customers by encouraging whole building residential retrofits that include building and appliance flexible load controls and automated flexible load management capabilities. Because controllable and flexible load technologies can allow customers to, “shift electric use to take advantage of clean and less expensive energy,”²⁵ providing targeted program support to our residential customers is important to help build customer demand and adoption of these devices and approaches.

Second, this program can provide residential contractor workforce support by providing (1) information and resources regarding flexible load technologies and retrofit approaches; and (2) operational programming of devices to maximize clean and affordable customer energy use. This program can also assist in connecting qualified workforce members with eligible and interested customers to drive an increased availability of work in this space.

In addition, flexible load capable residential buildings, devices, and appliances are rapidly changing with new technologies and approaches. This program can support the delivery of these new and innovative technologies to increase customer access.

See Chapter 4, Section D.1 for details.

²⁵ Analysis of Potential Amendments to the Load Management Standards (2021) <https://www.energy.ca.gov/publications/2021/analysis-potential-amendments-load-management-standards>. (accessed Feb. 4, 2022).

Resiliency Support Placeholder (Residential)

This placeholder aligns with the market support segment primary purposes of educating customers, training contractors, and building partnerships for energy efficiency residential retrofits designed to reduce customer energy use in alignment with the constrained capacity requirements of remote grids and microgrids. This placeholder program also aligns with the MSMWG sub-objectives of building customer demand, supply chains, and partnerships within this same space.

First, this program helps design and implement EE residential retrofits capable of reducing customer energy use aligned with the constrained needs of remote grids and microgrids. Due to the emerging availability of remote grids and microgrids, PG&E believes that this program is needed to help build customer demand for specially designed EE retrofits able to assist our customers in these alternative power service arrangements.

Second, this program can build the supply of a qualified workforce capable of designing and implementing the highly tailored residential EE retrofits required by these remote grids and microgrids. These types of alternative power service arrangements will likely become increasingly important to our customers, and additional support is needed to encourage a greater number of workforce members to develop the skills necessary to work in this area.

Third, this program can develop and grow partnerships between the remote grid and microgrid design and development communities and the workforce engaged in EE residential retrofits. Growing and expanding this partnership will be important for the long-term success of remote grid and microgrid development communities and the EE workforce engaged in delivering new and innovative solutions to our customers.

See Chapter 4, Section D.1 for details.

1 *Resiliency Support Placeholder (Public)*

2 This placeholder program aligns with the market support
3 segment primary purposes of educating customers and building
4 partnerships for EE building retrofits as cost saving resiliency
5 support solutions. This placeholder program also aligns with the
6 MSMWG sub-objectives of building customer demand and
7 partnerships in this same space.

8 First, this program promotes EE retrofits to reduce the energy
9 use of the buildings operated by Public sector customers who
10 provide essential services, such as wastewater treatment facilities.
11 PG&E understands that these customers may seek resiliency
12 retrofits, such as installing distributed generation and backup energy
13 storage, to mitigate power outage risk. This program can promote
14 EE retrofits to decrease the size, scale, and cost of the resiliency
15 solutions required to keep these buildings energized through outage
16 events.

17 Second, this program can also create partnerships with
18 essential service Public sector customers and assist them as these
19 customers develop plans for their energy and resiliency needs.
20 These partnerships will likely be important to assist Public sector
21 customers adopt EE as a part of their energy roadmaps to meet
22 their individual energy and resiliency needs.

23 See Chapter 4, Section D.3 for details.

24 **c. Market Support Segment Outcomes:**

25 PG&E anticipates that through the combination of market support
26 segment programs and complementary activities from programs in other
27 segments, the broader EE market will have the support needed to
28 sustain long-term success and facilitate increased participation from
29 customers. For specific measurable outcomes, refer to segment and
30 program-level metrics in Attachment A to this chapter.

d. Projected Annual Portfolio, Sector, and Segment-Level Performance Metrics

Table 3-7 displays the forecasted performance metrics for PG&E's market support segment from 2024-2027, broken out by sector. See Chapter 1, Tables 1-2 and 1-3 for portfolio-level performance metrics.

**TABLE 3-7
PG&E'S 2024-2027 MARKET SUPPORT SEGMENT TOTAL SYSTEM BENEFIT BY SECTOR**

Line No.	Market Support: Sector TSB	2024	2025	2026	2027	Total
1	Agricultural	—	—	—	—	—
2	Commercial	—	—	—	—	—
3	Industrial	—	—	—	—	—
4	Public	—	—	—	—	—
5	Residential	\$2,438,987	\$3,035,618	\$3,560,340	\$4,161,609	\$13,196,555
6	New Construction ^(a)	35,046,479	42,682,850	34,554,782	34,676,059	\$146,960,171
7	On Bill Financing	18,531,358	19,484,697	22,312,947	24,166,366	\$84,495,367
8	Workforce Education & Training	—	—	—	—	—
9	Local Government Partnerships	—	—	—	—	—
10	Emerging Technologies	—	—	—	—	—
11	Total	\$56,016,824	\$65,203,166	\$60,428,069	\$63,004,034	\$244,652,093

(a) New construction programs are disaggregated from other sectors in this table and consolidated into a single row to provide a better representation of the market support segment. The new construction programs serve customers in multiple sectors including agricultural, commercial, industrial, public, and residential; for reporting purposes, the new construction programs are separated into each of these respective sectors.

1) California Energy Efficiency Coordinating Committee Metrics Working Group Recommended Metrics

D.21-05-031 directs PAs to develop metrics and criteria for evaluating the progress of market support and equity programs in the absence of strict cost-effectiveness limitations.²⁶ This includes a request for CAEECC to form a working group to develop and vet new reporting metrics for these two segments.²⁷

The MSMWG established sub-objectives²⁸ for the segment and developed segment-level metrics applicable to each sub-objective. Generally, recommendations by the MSMWG were made by

²⁶ D.21-05-031, p. 23.

²⁷ D.21-05-031, p. 84, OP 14.

²⁸ [MSMWG Final Report \(10.6.21\) \(accessed Jan. 12, 2022\)](#), Section 3: Primary Objectives and Sub-Objectives, pp. 13-14.

consensus except in the instance of target setting as described further below.

The MSMWG agreed that all market support segment programs should have a primary purpose that aligns with the primary objective²⁹ of the market support segment and serve at least one market support sub-objective. The MSMWG was not tasked with setting specific targets for each metric but discussed the principle upon which targets should be set. The group did not reach consensus on this topic and instead outlined two potential options:

- Option 1 – Targets will be set by the PAs for segment metrics following the collection of the first two program years of data (or a baseline has been set using reasonable proxy data).
- Option 2 – PAs will propose targets and/or set a date certain by which they will propose targets for all segment metrics.

For both segment and program-level targets, PG&E supports Option 1 outlined by the MSMWG.³⁰

Market support segment-level metrics and targets are outlined in Attachment A, Table 3A-1. These segment-level metrics are represented at the market support segment level, however not every market support segment program contributes to every segment-level metric. PG&E notes that these segment-level metrics are distinct from the program-level metrics.

Exhibit 3, Chapter 1, Table 18.2 reflects the metrics PG&E proposes for the market support segment. PG&E adopts the metrics recommended in the working group's report.³¹ In most cases, the methodology for calculating the metrics has not yet been

²⁹ D.21-05-031, p. 14: "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."

³⁰ [MSMWG Final Report \(10.6.21\) \(accessed Jan. 12, 2022\)](#), Appendix B: Organization-Level Comments on Non-Consensus Option Choices, p. 24.

³¹ CAEECC-Hosted Market Support Metrics Working Group, Report and Recommendations to the California Public Utilities Commission and the Energy Efficiency Program Administrators, [MSMWG Final Report \(10.6.21\) \(accessed Jan. 12, 2022\)](#).

defined. Thus, the targets are likewise yet to be determined. PG&E recommends working with the other PAs and stakeholders to develop agreed-upon methodology for these metrics. When such methodology is developed, PG&E will be able to either populate metrics with relevant existing data or will be able to establish processes to collect the relevant data to set baselines and targets in the future.

For each market support segment program, PG&E has provided one or more program-level metric(s) tied to at least one of the market support sub-objectives as shown in Attachment A, Table 3A-2. While the placeholder programs described above align with MSMWG objectives, they are not shown in Attachment A, Table 3A-2 since these programs are not yet fully defined. Therefore, it is premature to develop metrics and targets for them.

Where sufficient data is available upon which a target can be developed, a target has been proposed; otherwise, data will be collected during the first two program years and targets will be proposed thereafter. Targets for program-level metrics are based primarily upon historical data or existing targets from the current programs. For example, in some cases the program-level metrics mimic existing key performance indicators already tracked as part of the management of the program. In these cases, historical performance data is readily available and can be used to develop targets based on the proposed activities and interventions of the proposed programs.

In the case of proposed new programs, the program-level metrics are completely new, and no historical data is available. As such, targets have not yet been developed for these programs.

3. Segment-Specific Coordination

At the segment-level, PG&E considers coordination with programs outside of the PG&E's EE portfolio and programs and activities of other EE portfolio segments. See Chapter 4 for additional description of the coordination between specific market support programs and the programs across other segments of PG&E's EE portfolio.

1 *The Building Initiative for Low-Emissions Development Program*

2 The Building Initiative for Low Emissions Development Program
3 (BUILD) is a CPUC-authorized and separately funded decarbonization
4 focused program. It provides incentives for deploying
5 near-zero-emission building technologies in low-income residential
6 buildings to reduce GHG emissions beyond what would be expected to
7 result from the implementation of the prescriptive standards described in
8 Part 6 of Title 24 of the California Code of Regulations (California
9 Energy Code).³² The residential NC programs intend to coordinate with
10 the BUILD Program to provide additional incentives and delivery.

11 *Technology and Equipment for Clean Heating Program*

12 The Technology and Equipment for Clean Heating (TECH) Program
13 is a CPUC-authorized and separately funding decarbonization³³
14 program that offers PG&E customers assistance to replace gas space
15 and water heating appliances with high efficiency all-electric
16 alternatives.³⁴ Market support programs assisting customers with the
17 same retrofits can coordinate with the TECH Program team on direct
18 customer support, marketing, and implementation as necessary.

19 *Self-Generation Incentive Program*³⁵

20 The Self-Generation Incentive Program (SGIP) is a
21 CPUC-authorized program that supports heat pump water heating
22 appliances for their ability to offer thermal energy storage. Funding for
23 SGIP is separate from EE. Market support programs assisting
24 customers with the same retrofits can coordinate with the SGIP Program
25 team on direct customer support, marketing, and implementation as
26 necessary.

27 *Codes and Standards Coordination*

32 Authorized through R.19-01-011, Order Instituting Rulemaking, (OIR) Regarding Building Decarbonization.

33 *Id.*

34 *Id.*

35 More information on SGIP available at, R.20-05-012, OIR Regarding Policies, Procedures and Rules for the SGIP and Related Issues.

In D.18-05-041, the CPUC designated PG&E as the lead for both the statewide NC programs and the statewide C&S Advocacy³⁶ programs due to the related nature of these activities and expertise required.³⁷

a. Interaction with Market Transformation Activities

PG&E plans to use its C&S team to manage involvement in the market transformation (MT) program such that MT initiatives may be efficiently coordinated with those of the C&S programs. PG&E will work with the market transformation administrator, CPUC, and other stakeholders to define how the MT program will interact and coordinate with existing EE programs.

PG&E plans to participate in various activities such as the Market Transformation Advisory Board, the Market Transformation Initiative (MTI)-specific Initiative Review Committees. If allowed, PG&E may directly propose individual MTIs. However, because MT program rules are not yet defined, PG&E is not able to provide more specific coordination details at this time.

E. Equity

1. Preliminary Distribution of Forecast Budget for 2024-2027

PG&E distributes its equity budget to fund programs that provide energy efficiency to HTR or underserved customers and disadvantaged communities. Five percent, or about \$53 million, of PG&E's 2024-2027 budget is distributed to the equity segment. Refer to Table 3-1 for PG&E's 2024-2027 forecast for its equity segment. In addition, PG&E understands that other PAs within PG&E's service territory³⁸ may also be offering their own EE portfolios to these same customers and communities. PG&E will coordinate with these PAs to limit duplication and overlapping of segment efforts. See Chapter 5, Section F.1 for more detail.

³⁶ State Appliance Standards Advocacy (PGE_SW_CSA_Appl), State Building Codes Advocacy (PGE_SW_CSA_Bldg), and National Codes & Standards Advocacy (PGE_SW_CSA_Natl).

³⁷ D.18-05-041, p. 90.

³⁸ BayREN, MCE, and 3CREN.

1 Table 3-8 lists the programs to be funded by the equity segment budget.

**TABLE 3-8
2024-2027 EQUITY SEGMENT PROGRAMS**

Line No.	Program ID	Program Name
1	PGE_Com_SmallBiz	New Small/Micro Business Placeholder ^(a)
2	PGE_Res_Equity	Residential Equity Placeholder ^(a)
3	PGE_Res_Zonal PGE_Com_Zonal	Residential and Commercial Zonal Electrification Placeholders ^(a)
4	SW_WET_Work	Workforce Education and Training Career & Workforce Readiness

(a) Placeholders reflect programs that PG&E plans to solicit, contract, and/or implement by 2024-2027.

2. Segment-Specific Strategies, Goals, and Outcomes

a. Equity Segment Goal

PG&E's equity segment goal is the same as the CPUC's overarching segment objective of "providing energy efficiency to HTR or underserved customers and disadvantaged communities in advancement of the Commission's ESJ Action Plan".³⁹ Within that goal PG&E is focused on pursuing the equity segment sub-objectives as described within the Equity Metrics Working Group (EMWG)⁴⁰ Final Report and outlined below:⁴¹

- **Address Access Disparities:** *Address disparities in access to energy efficiency programs and workforce opportunities.*
- **Promote Energy and Non-Energy Benefits:** *Promote resilience, health, comfort, safety, energy affordability, and/or energy savings.*

³⁹ D.21-05-031, p. 14.

⁴⁰ In 2021 the EMWG was formed to answer questions related to the creation of metrics, including clarifying the objective for the segment and developing segment level metrics tied to the objective. There were 24 organizations represented in the EMWG working group including representatives from the IOUs, RENs, CEDMC, Cal Advocates, and others drawn primarily, though not exclusively, from CAEECC's membership.

⁴¹ CAEECC-Hosted Equity Metrics Working Group, Report and Recommendations to the California Public Utilities Commission and the Energy Efficiency Program Administrators, [EMWG Final Report \(10.20.21\) \(accessed Jan. 12, 2022\)](#), Section 3: Objective, p. 15.

- **Reduce Emissions:** Reduce energy-related GHG and criteria pollutant emissions.

Table 3-9 below displays the connection between the PG&E's equity segment programs and each of the segment sub-objectives that fall under the broader segment goal.

**TABLE 3-9
EQUITY PROGRAMS AND SUB-OBJECTIVES**

Line No.	Program Name	Address Access Disparities	Promote Energy and Non-Energy Benefits	Reduce Emissions
1	New Small/Micro Business Placeholder ^(a)	X	X	
2	Residential Equity Placeholder ^(a)	X	X	X
3	Residential and Commercial Zonal Electrification Placeholders ^(a)	X	X	X
4	Workforce Education and Training Career & Workforce Readiness	X		

(a) Placeholders reflect programs that PG&E plans to solicit, contract, and/or implement by 2024-2027.

b. Equity Segment Strategies

PG&E categorized the programs in Table 3-9 within the equity segment because each program would serve HTR and underserved communities and workers by pursuing one segment EMWG sub-objectives. PG&E highlights details below regarding program strategies for each program that align with this segment.

1) Small-Micro Business Placeholder Program: Improved Access to EE Among Underserved Business Customers

In 2016, the CEC studied barriers to EE participation for small and micro business customers.⁴² In addition, the COVID-19

⁴² Low-Income Barriers Study, Part A: Overcoming Barriers to Energy Efficiency and Renewables for Low-Income Customers and Small Business Contracting Opportunities in Disadvantaged Communities, starting p. 64:
https://assets.ctfassets.net/ntcn17ss1ow9/3SqKkJoNlvtS2nYVPAOmGH/fe590149c3e39e51593231dc60e00000/TN214830_20161215T184655_SB_350_LowIncome_Barriers_Study_Part_A_Commission_Final_Report.pdf (accessed Jan. 12, 2022).

1 pandemic has affected many of these businesses, exacerbating
2 these existing barriers.

3 To address these barriers PG&E is running an active solicitation
4 for a small/micro-business equity program targeting customers
5 whose engagement and participation in EE has historically been
6 disproportionately low and providing them with services that
7 encourage awareness, access, and participation in EE. While the
8 selected program may ultimately deliver claimable savings, that was
9 not the primary objective indicated in the solicitation. PG&E
10 envisions that this program will use smart technologies and leverage
11 existing community-based partners and resources. The program is
12 targeted to begin in 2022 and continue into 2024-2027.

13 **2) Residential Equity Placeholder Program: Improved Access to** 14 **EE and Electrification for Underserved Residential Customers**

15 PG&E plans to offer an EE and building decarbonization
16 program for low-to-moderate income residential customers. These
17 customers face similar barriers to program participation and
18 adoption as those of small and micro businesses,⁴³ and likewise
19 have experienced negative impacts from the COVID-19 pandemic.

20 While some income-qualified customers may be able to
21 participate in the separately-funded PG&E Energy Savings
22 Assistance (ESA) Program, ESA Pilot Plus or Pilot Deep,⁴⁴ these
23 programs have an income eligibility threshold which limits
24 participation.⁴⁵ In addition, the main ESA Program does not
25 currently offer fuel substitution and the anticipated level of
26 electrification within the upcoming ESA pilots is unknown.
27 Therefore, coordination between ESA and the Residential Equity
28 Placeholder program may be needed to prevent overlap. This
29 low-to-moderate income electrification program would promote

⁴³ *Ibid.*

⁴⁴ D.21-06-015, pp. 479-480, OPs 38-42 created a new ESA Pilots Plus/Pilots Deep program that is expected to launch third quarter 2022.

⁴⁵ On July 1, 2022, income eligibility for ESA is persons and families whose household income is at or below 250 percent of the federal poverty level. PUC Section 2790 (f)(1).

products and services that assist in decarbonizing customer homes and electrifying appliances. In an En Banc Hearing regarding an update on affordability metrics, the Commission identified the ability to address the rising household energy costs for our low and moderate-income communities through building electrification.⁴⁶

See Chapter 4, Section D.1 for further information.

3) Residential and Non-Residential Zonal Electrification Programs: Targeted Electrification of Low-Income and Disadvantaged Communities Where Natural Gas Assets Can Be Retired

PG&E is including placeholders for residential and non-residential zonal electrification⁴⁷ programs. These programs intend to leverage the CPUC's Affordability Ratio and Socioeconomic Vulnerability Index (SEVI) and Socioeconomic Vulnerability Index Disadvantaged Communities (SEVI-DAC) metrics to target this program in geographic areas that include underserved and vulnerable communities. EE portfolio support will be needed in these areas to accelerate these customers' transition away from natural gas and thereby avoid the forecasted increase of natural gas rates where a rate increase could disproportionately negatively affect these more vulnerable customers.⁴⁸ These programs support a broader PG&E strategy and investment into zonal electrification, which PG&E believes is a key mechanism to achieving California's climate goals while supporting long-term

⁴⁶ Key Takeaways from the CPUC Rates and Costs En Banc Hearing and Update on Affordability Metrics, Slide 12: https://ww2.arb.ca.gov/sites/default/files/2021-06/cpuc-metrics_sp_kickoff-electricity_june2021.pdf (accessed Jan. 13, 2022).

⁴⁷ Zonal electrification (strategic decommissioning of the natural gas system) is an approach to retrofitting building electrification guided by PG&E's Gas Asset Analysis Tool. PG&E uses this tool to identify zones that may warrant consideration for zonal electrification.

⁴⁸ "The Challenge of Retail Gas in California's Low-Carbon Future" notes that, "without a gas transition strategy, unsustainable increases in gas rates and customer energy bills could be seen after 2030, negatively affecting customers who are least able to switch away from gas, including renters and low-income residents," pp. ii-iii. <https://www.energy.ca.gov/sites/default/files/2021-06/CEC-500-2019-055-F.pdf> (accessed Feb. 4, 2022).

customer affordability. Electrifying buildings in these zones may also reduce emissions by leveraging the state's increasingly decarbonized electricity supply⁴⁹ and provide local air quality benefits by reducing the combustion of fossil fuels in homes, business, and neighborhoods.

See Chapter 4, Sections D.1 and D.2 for further information.

4) WE&T CWR Program: EE Training and Job Placement for Disadvantaged Workers

The CWR program focuses on generating a diversity of pathways for disadvantaged workers into energy careers. The CWR program provides technical upskill training and job placement to disadvantaged workers with program success measured in part by the number of participants employed in EE jobs for 12 months.

See Chapter 4, Section E.5 for further information.

c. Equity Segment Outcomes:

PG&E anticipates that through the combination of equity segment programs and complementary activities from programs in other segments, underserved customers and disadvantaged communities and workers will have greater access and ability to participate in and benefit from EE programs. For specific measurable outcomes, refer to segment and program-level metrics outlined in Attachment A to this chapter.

d. Projected Annual Portfolio-, Sector-, and Segment-Level Performance Metrics

While PG&E has not forecasted TSB for these programs, PG&E discusses details on equity segment and program-level metrics as recommended by the CAEECC Equity Metrics Working Group.

⁴⁹ Utility Costs and Affordability of the Grid of the Future: An Evaluation of Electric Costs, Rates, and Equity Issues Pursuant to P.U. Code Section 913.1 (May 2021), p. 80: https://www.cpuc.ca.gov/-/media/cpuc-website/divisions/office-of-governmental-affairs-division/reports/2021/senate-bill-695-report-2021-and-en-banc-whiptepaper_final_04302021.pdf (accessed Jan. 26, 2022).

1) CAEECC Equity Metrics Working Group Recommended Metrics

The EMWG agreed that all equity programs should have a primary focus that aligns with the primary objective⁵⁰ of the equity segment. The EMWG was not tasked with setting specific targets for each metric but discussed the principle upon which targets should be set. However, the group did not reach consensus on this topic and instead outlined two potential options:

- Option 1 – Targets will be set by the PAs for segment metrics following the collection of the first two program years of data (or a baseline has been set using reasonable proxy data).
- Option 2 – PAs will propose targets and/or set a date certain by which they will propose targets for all segment metrics.

For both segment and program-level targets, PG&E supports Option 1 outlined by the EMWG. Equity segment metrics and targets are outlined in Attachment A, Table 3A-3. These segment-level metrics apply to each equity program and are rolled up to a total at the segment level.

Exhibit 3, Chapter 1, Table 18.1 reflects the metrics PG&E proposes for the equity segment. PG&E adopts the metrics recommended in the working group’s report.⁵¹ In most cases, the methodology for calculating the metrics has not yet been defined. Thus, the targets are likewise yet to be determined. PG&E recommends working with the other PAs and stakeholders to develop agreed-upon methodology for these metrics. When such methodology is developed, PG&E will be able to either populate metrics with relevant existing data or will be able to establish

⁵⁰ D.21-05-031, pp. 14-15:

“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 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.”

⁵¹ CAEECC-Hosted Equity Metrics Working Group, “Report and Recommendations to the California Public Utilities Commission and the Energy Efficiency Program Administrators Final Report” (Oct. 20, 2021). [EMWG Final Report \(10.20.21\) \(accessed Feb. 4, 2022\)](#).

processes to collect the relevant data to set baselines and targets in the future.

For each equity segment program, PG&E provides relevant program-level metrics within Attachment A, Table 3A-4. Placeholder programs are not shown in Attachment A, Table 3A-4 since these programs are not yet fully defined. Therefore, it is premature to develop metrics and targets for them.

Where sufficient data is available upon which a target can be developed, a target has been proposed; otherwise, data will be collected during the first two program years and targets will be proposed thereafter. Targets for program-level metrics are based primarily upon historical data or existing targets from the current program(s).

3. Segment-Specific Coordination

At the segment-level, PG&E considers coordination with programs outside of the PG&E's EE portfolio and those programs and activities of other EE portfolio segments. See Chapter 4 for additional description of the coordination between specific equity segment programs and the programs across other segments of PG&E's EE portfolio.

Workforce Education & Training

PG&E's WE&T portfolio provides new and continuing education and training to the building and appliance specific contractor communities. These courses and certifications can be provided to the local contractor communities to ensure there is a trained workforce available to complete retrofit building electrification work.

Energy Saving Assistance Program

The Residential Equity Placeholder program, as well as Residential Zonal Electrification program, will coordinate outreach and implementation with the ESA Program, ESA Pilot Plus and Pilot Deep. In cases where ESA can fund customer measures to improve building efficiency or health and comfort, the EE-funded programs may supplement implementation budgets for measures not covered by ESA.

PG&E Zonal Electrification and Gas Asset Strategy Team

1 The EE programs discussed above intend to follow implementation
2 direction provided by other PG&E teams working on zonal electrification.
3 Zonal electrification relies on use of a Gas Asset Analysis Tool to identify
4 potential areas for zonal electrification as well as coordination with PG&E
5 service planning and outside funding sources and programs. These
6 programs support a broader PG&E strategy and investment into zonal
7 electrification.

8 TECH Program

9 Equity programs assisting customers with the same retrofits provided by
10 TECH can coordinate with the TECH program implementation team on
11 direct customer support, marketing, and implementation as necessary.

12 Self-Generation Incentive Program

13 Equity programs assisting customers with the same retrofits provide by
14 SGIP can coordinate with the SGIP program implementation team on direct
15 customer support, marketing, and implementation as necessary.

PACIFIC GAS AND ELECTRIC COMPANY
CHAPTER 3
ATTACHMENT A
PROGRAM LEVEL AND SEGMENT LEVEL METRICS AND
TARGETS

1
2
3
4
5

PACIFIC GAS AND ELECTRIC COMPANY
CHAPTER 3
ATTACHMENT A
PROGRAM LEVEL AND SEGMENT LEVEL METRICS AND
TARGETS

TABLE 3A-1
MARKET SUPPORT SEGMENT-LEVEL METRICS

Line No.	Sub-Objectives	Segment-Level Metric Description	2024 Target	2025 Target	2026 Target	2027 Target
1	DEMAND	Number increase/decrease of inquiries and/or requests for information on EE products and services through relevant MS programs.	TBD	TBD	TBD	TBD
		% increase/decrease of inquiries and/or requests for information on EE products and services through relevant MS programs.	TBD	TBD	TBD	TBD
		Number increase/decrease of customers receiving information, education, or outreach on EE projects, products, and services through relevant MS programs.	TBD	TBD	TBD	TBD
		% increase/decrease of customers receiving information, education, or outreach on EE projects, products, and services through relevant MS programs.	TBD	TBD	TBD	TBD
		<i>AKAB Survey to IOU Customers</i>				
		% of customer sample aware of EE product/service (awareness).	TBD	TBD	TBD	TBD
		% of customer sample that is knowledgeable of EE product/service's benefits (knowledge).	TBD	TBD	TBD	TBD
		% of customer sample that is interested in obtaining an EE product/service (attitude).	TBD	TBD	TBD	TBD
		% of customer sample that has taken action towards obtaining EE product/service (behavior a)	TBD	TBD	TBD	TBD
		% of customers that have obtained EE products/services (behavior b).	TBD	TBD	TBD	TBD
2	SUPPLY	<i>Workforce Education & Training (WE&T) Common Metrics</i>				
		Number of collaborations by Business Plan sector to jointly develop or share training materials or resources.	TBD	TBD	TBD	TBD
		Number of participants by sector.	TBD	TBD	TBD	TBD

**TABLE 3A-1
MARKET SUPPORT SEGMENT-LEVEL METRICS
(CONTINUED)**

Line No.	Sub-Objectives	Segment-Level Metric Description	2024 Target	2025 Target	2026 Target	2027 Target
2	SUPPLY	Percent of participation relative to eligible target population for curriculum.	TBD	TBD	TBD	TBD
		Percent of total WE&T training program participants that meet the definition of disadvantaged worker.	TBD	TBD	TBD	TBD
		Percent of incentive dollars spent on contracts with a demonstrated commitment to provide career pathways to disadvantaged workers.	TBD	TBD	TBD	TBD
		Number Career & Workforce Readiness (CWR) participants who have been employed for 12 months after receiving the training.	TBD	TBD	TBD	TBD
		Number of Contractors (that serve in PA service territory) with knowledge and trained by relevant MS programs to provide quality installations that optimize EE.	TBD	TBD	TBD	TBD
		<i>AKAB survey to market actors around capability and desire to supply</i>				
		% of market actors aware of energy efficient products and/or services that can be supplied to customers (awareness).	TBD	TBD	TBD	TBD
		% of market actors knowledgeable of energy efficient products and/or services that can be supplied to customers (knowledge).	TBD	TBD	TBD	TBD
		% of market actors that are interested in supplying energy efficient products and/or services to customers (attitude).	TBD	TBD	TBD	TBD
		% of market actors that have supplied energy efficient products and/or services to customers (behavior).	TBD	TBD	TBD	TBD
		<i>AKAB survey to market actors around increased ability, capability, and desire to realize quality installations</i>				
		% of market actors aware of what is required to perform/ensure quality installation of energy efficient products and/or services that optimizes energy efficiency savings (awareness).	TBD	TBD	TBD	TBD
		% of market actors knowledgeable of how to perform to perform/ensure quality installation of energy efficient products and/or services that optimizes energy efficiency savings (knowledge).	TBD	TBD	TBD	TBD
		% of market actors that are interested in performing/ensuring quality installation of energy efficient products and/or services that optimizes energy efficiency savings (attitude).	TBD	TBD	TBD	TBD

**TABLE 3A-1
MARKET SUPPORT SEGMENT-LEVEL METRICS
(CONTINUED)**

Line No.	Sub-Objectives	Segment-Level Metric Description	2024 Target	2025 Target	2026 Target	2027 Target
		% of market actors that have performed/ensured quality installation of energy efficient products and/or services that optimizes energy efficiency savings (behavior).	TBD	TBD	TBD	TBD
3	PARTNER SHIPS	Number of EE customers/market actors reached through partner networks and partner communications channels.	TBD	TBD	TBD	TBD
		Assessed value of the partnership by partners.	TBD	TBD	TBD	TBD
		% of partners that have taken action supporting energy efficiency.	TBD	TBD	TBD	TBD
		Number of partners by type and purpose.	TBD	TBD	TBD	TBD
		Dollar value of non-ratepayer in kind funds/contributions utilized via partnerships.	TBD	TBD	TBD	TBD
4	INNOVATION and ACCESSIBILITY	<i>ETP Common Metrics</i>				
		ETP-T1: Prior year: % of new measures added to the portfolio that were previously ETP technologies.	TBD	TBD	TBD	TBD
		ETP-T2: Prior Year: # of new measures added to the portfolio that were previously ETP technologies.	TBD	TBD	TBD	TBD
		ETP-T3: Prior year: % of new codes or standards that were previously ETP technologies.	TBD	TBD	TBD	TBD
		ETP-T4: Prior Year: # of new codes and standards that were previously ETP technologies.	TBD	TBD	TBD	TBD
		ETP-T5: Lifecycle Net kW Savings of measures currently in the portfolio that were supported by ETP, added since 2009. Ex-ante with gross and net for all measures, with ex-post where available.	TBD	TBD	TBD	TBD
		ETP-T5: Lifecycle Net kWh Savings of measures currently in the portfolio that were supported by ETP, added since 2009. Ex-ante with gross and net for all measures, with ex-post where available.	TBD	TBD	TBD	TBD
		ETP-T5: Lifecycle Net Therm Savings of measures currently in the portfolio that were supported by ETP, added since 2009. Ex-ante with gross and net for all measures, with ex-post where available.	TBD	TBD	TBD	TBD
		Number of new, validated technologies recommended to CalTF.	TBD	TBD	TBD	TBD
		Number of market support projects (outside of ETP) that validate the technical performance, market and market barrier knowledge, and/or effective program interventions of an emerging/under-utilized or existing energy efficient technology.	TBD	TBD	TBD	TBD

**TABLE 3A-1
MARKET SUPPORT SEGMENT-LEVEL METRICS
(CONTINUED)**

Line No.	Sub-Objectives	Segment-Level Metric Description	2024 Target	2025 Target	2026 Target	2027 Target
		Cost effectiveness of a technology prior to market support programs relative to cost effectiveness of a technology after intervention by the market support programs (% change in cost effectiveness).	TBD	TBD	TBD	TBD
		Percent market penetration of emerging/under-utilized or existing EE products or services.	TBD	TBD	TBD	TBD
		Percent market participant aware of emerging/under-utilized or existing EE products or services.	TBD	TBD	TBD	TBD
		Aggregated confidence level in performance verification by product, project, and service (for relevant programs).	TBD	TBD	TBD	TBD
		Number of providers for performance verification services.	TBD	TBD	TBD	TBD
5	ACCESS TO CAPITAL	Participant data, e.g. credit score, census tract income, CalEnviroScreen Scores of areas served, zip code.	TBD	TBD	TBD	TBD
		Comparisons between market-rate capital vs. capital accessed via EE programs, e.g., interest rate, monthly payment.	TBD	TBD	TBD	TBD
		Total projects completed/measures installed and dollar value of consolidated projects.	TBD	TBD	TBD	TBD
		Ratio of ratepayer funds allocated to private capital leveraged.	TBD	TBD	TBD	TBD
		Differential of cost defrayed from customers (e.g., difference between comparable market rate products and program products).	TBD	TBD	TBD	TBD
		% of market participants aware of capital access opportunities for investments in energy efficient projects, products, and/or services (awareness).	TBD	TBD	TBD	TBD
		% of market participants knowledgeable about capital access opportunities for investments in energy efficient projects, products, and/or services (knowledge).	TBD	TBD	TBD	TBD
		% of market participants interested in leveraging capital access opportunities for investments in energy efficient projects, products, and/or services (attitude).	TBD	TBD	TBD	TBD
		% of market participants that were unable to take action due to access to capital or affordability of energy efficient projects, products, or services (behavior).	TBD	TBD	TBD	TBD

**TABLE 3A-2
MARKET SUPPORT PROGRAM-LEVEL METRICS**

Line No.	Program	Program-Level Metric Description	Sub-Objective	2024 Target	2025 Target	2026 Target	2027 Target
1	Central California Energy Watch	Number of active contacts	Demand	100/yr	100/yr	100/yr	100/yr
2	Central California Energy Watch	Number of active contacts converted into energy efficiency opportunities, installations, or retrofits	Demand	20/yr	20/yr	20/yr	20/yr
3	Central California Energy Watch	Number of benchmarking, GHG inventories and/or energy audit reports completed that led to energy efficiency installations	Demand	10/yr	10/yr	10/yr	10/yr
4	Central Coast Leaders in Energy Action	Number of active contacts	Demand	10/yr	10/yr	10/yr	10/yr
5	Central Coast Leaders in Energy Action	Number of active contacts converted into energy efficiency opportunities, installations, or retrofits	Demand	2/yr	2/yr	2/yr	2/yr
6	Central Coast Leaders in Energy Action	Number of benchmarking, GHG inventories and/or energy audit reports completed that led to energy efficiency installations	Demand	10/yr	10/yr	10/yr	10/yr

**TABLE 3A-2
MARKET SUPPORT PROGRAM-LEVEL METRICS
(CONTINUED)**

Line No.	Program	Program-Level Metric Description	Sub-Objective	2024 Target	2025 Target	2026 Target	2027 Target
7	Energy Access SF	Number of active contacts	Demand	1000/yr	1000/yr	1000/yr	1000/yr
8	Energy Access SF	Number of active contacts converted into energy efficiency opportunities, installations, or retrofits	Demand	50/yr	50/yr	50/yr	50/yr
9	Energy Access SF	Number of benchmarking, GHG inventories and/or energy audit reports completed that led to energy efficiency installations	Demand	25/yr	25/yr	25/yr	25/yr
10	Marin Energy Watch Partnership	Number of active contacts	Demand	5/yr	5/yr	5/yr	5/yr
11	Marin Energy Watch Partnership	Number of active contacts converted into energy efficiency opportunities, installations, or retrofits	Demand	3/yr	3/yr	3/yr	3/yr
12	Marin Energy Watch Partnership	Number of benchmarking, GHG inventories and/or energy audit reports completed that led to energy efficiency installations	Demand	4/yr	4/yr	4/yr	4/yr
13	Redwood Coast Energy Watch	Number of active contacts	Demand	300/yr	300/yr	300/yr	300/yr

**TABLE 3A-2
MARKET SUPPORT PROGRAM-LEVEL METRICS
(CONTINUED)**

Line No.	Program	Program-Level Metric Description	Sub-Objective	2024 Target	2025 Target	2026 Target	2027 Target
14	Redwood Coast Energy Watch	Number of active contacts converted into energy efficiency opportunities, installations, or retrofits	Demand	150/yr	150/yr	150/yr	150/yr
15	Redwood Coast Energy Watch	Number of benchmarking, GHG inventories and/or energy audit reports completed that led to energy efficiency installations	Demand	150/yr	150/yr	150/yr	150/yr
16	San Mateo County Energy Watch	Number of active contacts	Demand	150/yr	150/yr	150/yr	150/yr
17	San Mateo County Energy Watch Program	Number of active contacts converted into energy efficiency opportunities, installations, or retrofits	Demand	20/yr	20/yr	20/yr	20/yr
18	San Mateo County Energy Watch Program	Number of benchmarking, GHG inventories and/or energy audit reports completed that led to energy efficiency installations	Demand	10/yr	10/yr	10/yr	10/yr
19	Sierra Nevada Energy Watch	Number of active contacts	Demand	70/yr	70/yr	70/yr	70/yr
20	Sierra Nevada Energy Watch	Number of active contacts converted into energy efficiency opportunities, installations, or retrofits	Demand	8/yr	8/yr	8/yr	8/yr

**TABLE 3A-2
MARKET SUPPORT PROGRAM-LEVEL METRICS
(CONTINUED)**

Line No.	Program	Program-Level Metric Description	Sub-Objective	2024 Target	2025 Target	2026 Target	2027 Target
21	Sierra Nevada Energy Watch	Number of benchmarking, GHG inventories and/or energy audit reports completed that led to energy efficiency installations	Demand	18/yr	18/yr	18/yr	18/yr
22	Sonoma Public Energy	Number of active contacts	Demand	3/yr	3/yr	3/yr	3/yr
23	Sonoma Public Energy	Number of active contacts converted into energy efficiency opportunities, installations, or retrofits	Demand	3/yr	3/yr	3/yr	3/yr
24	Sonoma Public Energy	Number of benchmarking, GHG inventories and/or energy audit reports completed that led to energy efficiency installations	Demand	4/yr	4/yr	4/yr	4/yr
25	New Construction Residential – Electric	Number of builders and energy consultants reached to share all electric new construction program information & opportunities	Partnerships	4/yr	4/yr	4/yr	6/yr

**TABLE 3A-2
MARKET SUPPORT PROGRAM-LEVEL METRICS
(CONTINUED)**

Line No.	Program	Program-Level Metric Description	Sub-Objective	2024 Target	2025 Target	2026 Target	2027 Target
26	New Construction Residential – Electric	Number of developers, architects and energy consultants reached to share all electric new construction (Multi-family) program information & opportunities	Partnerships	6/yr	6/yr	6/yr	8/yr
27	New Construction Residential – Electric	Number of builders participating in all electric new construction program	Partnerships	4/yr	8/yr	12/yr	18/yr
28	New Construction Residential – Electric	Number of developers and architects participating in all electric new construction (Multi-family) program	Partnerships	6/yr	10/yr	14/yr	20/yr
29	New Construction Residential – Electric	% of actual energy savings derived by heat pump technology (AT): $100 \times ((\text{kBtu of AT}) / \text{Total kBtu savings})$	Innovation and Accessibility	TBD	TBD	TBD	TBD
30	New Construction Residential – Electric	% of new housing stock that is all electric	Supply	N/A (indicator)	N/A (indicator)	N/A (indicator)	N/A (indicator)
31	New Construction Residential – Mixed Fuel	Number of contractors reached to share EE and electrification alterations program information & opportunities	Partnerships	4/yr	4/yr	4/yr	4/yr

**TABLE 3A-2
MARKET SUPPORT PROGRAM-LEVEL METRICS
(CONTINUED)**

Line No.	Program	Program-Level Metric Description	Sub-Objective	2024 Target	2025 Target	2026 Target	2027 Target
32	New Construction Residential – Mixed Fuel	Number of contractors participating in electrification alterations program information & opportunities	Partnerships	3/yr	6/yr	9/yr	12/yr
33	New Construction Non-Residential – Electric	% of committed energy savings derived by advanced technology (AT): $100 \times ((\text{kBtu of AT}) / \text{Total kBtu savings})$	Innovation and Accessibility	TBD	TBD	TBD	TBD
34	New Construction Non-Residential – Electric	% of actual energy savings derived by advanced technology (AT): $100 \times ((\text{kBtu of AT}) / \text{Total kBtu savings})$	Innovation and Accessibility	TBD	TBD	TBD	TBD
35	New Construction Non-Residential – Electric	Number of participating architects/engineers/contractors in terms of firms	Supply	8/yr	8/yr	8/yr	8/yr
36	New Construction Non-Residential – Mixed Fuel	% of committed energy savings derived by advanced technology (AT): $100 \times ((\text{kBtu of AT}) / \text{Total kBtu savings})$	Innovation and Accessibility	TBD	TBD	TBD	TBD
37	New Construction Non-Residential – Mixed Fuel	% of actual energy savings derived by advanced technology (AT): $100 \times ((\text{kBtu of AT}) / \text{Total kBtu savings})$	Innovation and Accessibility	TBD	TBD	TBD	TBD

**TABLE 3A-2
MARKET SUPPORT PROGRAM-LEVEL METRICS
(CONTINUED)**

Line No.	Program	Program-Level Metric Description	Sub-Objective	2024 Target	2025 Target	2026 Target	2027 Target
38	New Construction Non-Residential – Mixed Fuel	Number of participating architects/engineers/contractors in terms of firms	Supply	8/yr	8/yr	8/yr	8/yr
39	Integrated Energy Education and Training	Number of collaborations by Business Plan sector to jointly develop or share training materials or resources.	Partnerships	8	8	8	8
40	Integrated Energy Education and Training	Number of participants by sector (residential and non-residential)	Supply	3,000 res and 9,000 non-res	3,000 res and 9,000 non-res	3,000 res and 9,000 non-res	3,000 res and 9,000 non-res
41	Integrated Energy Education and Training	Percent of participation relative to eligible target population for curriculum	Supply	2.6%	2.6%	2.6%	2.6%
42	Integrated Energy Education and Training	Percent of total WE&T training program participants that meet the definition of disadvantaged worker.	Supply	50%	50%	50%	50%
43	Integrated Energy Education and Training	Percent of WE&T Classes focused on electrification	Innovation and Accessibility	N/A (indicator)	N/A (indicator)	N/A (indicator)	N/A (indicator)
44	WE&T Career Connections	Number of students enrolled	Supply	32,000 (statewide)	32,000 (statewide)	32,000 (statewide)	32,000 (statewide)
45	WE&T Career Connections	Number of educators that received and utilized educational resources	Supply	370 (statewide)	370 (statewide)	370 (statewide)	370 (statewide)
46	On-Bill Financing	Number of loans issued	Access to Capital	600	600	600	600

TABLE 3A-2
MARKET SUPPORT PROGRAM-LEVEL METRICS
(CONTINUED)

Line No.	Program	Program-Level Metric Description	Sub-Objective	2024 Target	2025 Target	2026 Target	2027 Target
47	On-Bill Financing	Amount of loans issued (in dollars)	Access to Capital	\$60m	\$60m	\$60m	\$60m
48	On-Bill Financing	Number of Trade Pros developing OBF projects	Partnerships	25	25	25	25

**TABLE 3A-3
EQUITY SEGMENT-LEVEL METRICS**

Line No.	Segment-Level Metrics and Indicators	Measurement Type	2024 Target	2025 Target	2026 Target	2027 Target
1	Section A: Metrics and Indicators to Measure Who and How Target Populations are “Served”					
2	A.1. Total # residential (SF or MF unit) equity-targeted <u>households (HHs)</u> served by the Equity programs	Metric	TBD	TBD	TBD	TBD
3	Single Family – Equity market support (e.g., education, information, training, technical support, etc.)	Metric	TBD	TBD	TBD	TBD
4	Single family – Equity resource acquisition (e.g., energy saving action, etc.)	Metric	TBD	TBD	TBD	TBD
5	Multifamily – Equity market support (e.g., education, information, training, technical support, etc.)	Metric	TBD	TBD	TBD	TBD
6	Multifamily – Equity resource acquisition (e.g., energy saving action, etc.)	Metric	TBD	TBD	TBD	TBD
7	A.2. Total # MF equity-targeted <u>buildings</u> served by the Equity programs	Metric	TBD	TBD	TBD	TBD
8	Equity – Market support (e.g., education, information, training, technical support, etc.)	Metric	TBD	TBD	TBD	TBD
9	Equity – Resource acquisition (e.g., energy saving action, etc.)	Metric	TBD	TBD	TBD	TBD
10	A.3. Total # <u>Ag or Ind.</u> equity-targeted customers served by the Equity programs	Metric	TBD	TBD	TBD	TBD
11	Ag – Equity market support (e.g., education, information, training, technical support, etc.)	Metric	TBD	TBD	TBD	TBD
12	Ag – Equity resource acquisition e.g., energy saving action, etc.)	Metric	TBD	TBD	TBD	TBD
13	Ind – Equity market support (e.g., education, information, training, technical support, etc.)	Metric	TBD	TBD	TBD	TBD
14	Ind – Equity resource acquisition (e.g., energy saving action, etc.)	Metric	TBD	TBD	TBD	TBD
15	A.4. Total # equity-targeted <u>public facilities and equipment or community projects</u> served by the Equity programs	Metric	TBD	TBD	TBD	TBD
16	Equity – Market support (e.g., education, information, training, technical support, etc.)	Metric	TBD	TBD	TBD	TBD
17	Equity – Resource acquisition (e.g., energy saving action, etc.)	Metric	TBD	TBD	TBD	TBD
18	A.5. Total # <u>small and medium business (SMB)</u> equity-targeted participants served by the Equity programs	Metric	TBD	TBD	TBD	TBD

**TABLE 3A-3
EQUITY SEGMENT-LEVEL METRICS
(CONTINUED)**

Line No.	Segment-Level Metrics and Indicators	Measurement Type	2024 Target	2025 Target	2026 Target	2027 Target
19	Equity – Market support (e.g., education, information, training, technical support, etc.)	Metric	TBD	TBD	TBD	TBD
20	Equity – Resource acquisition (e.g., energy saving action, etc.)	Metric	TBD	TBD	TBD	TBD
21	A.6. Total # of companies/non-profits served by the Equity Segment programs	Metric	TBD	TBD	TBD	TBD
22	Equity – Market support (e.g., education, information, training, technical support, etc.)	Metric	TBD	TBD	TBD	TBD
23	Equity – Resource acquisition (e.g., energy saving action, etc.)	Metric	TBD	TBD	TBD	TBD
24	A.7. Total # of <u>contractors/workers</u> served by Equity Segment Programs	Metric	TBD	TBD	TBD	TBD
25	A.8.(a) Total # of contractors and/or workers that are disadvantaged workers or otherwise underrepresented, who are directly involved in implementing Equity Segment programs	Indicator	TBD	TBD	TBD	TBD
26	A.8.(b) % of contractors and/or workers that are disadvantaged workers or otherwise underrepresented, who are directly involved in implementing Equity Segment programs	Metric (for PAs with no relevant legal restriction)	TBD	TBD	TBD	TBD
27	A.9.(a) Total # of companies/non-profits who are Diverse Business Enterprises (DBE) or otherwise underrepresented (e.g., BIPOC-owned) with contracts to implement Equity Segment programs	Indicator	TBD	TBD	TBD	TBD
28	A.9.(b) % of companies/non-profits who are Diverse Business Enterprises (DBE) or otherwise underrepresented (e.g., BIPOC-owned) with contracts to implement Equity Segment programs	Metric (for PAs with no relevant legal restriction)	TBD	TBD	TBD	TBD
29	Section B: Metrics and Indicators to Assess Energy and/or Cost Savings in Targeted Populations					
30	B.1. Expected first-year bill savings in total \$ for equity-targeted program participants (metric)	Metric	TBD	TBD	TBD	TBD
31	B.2. Direct Savings from Equity Segment programs	Indicator	TBD	TBD	TBD	TBD
32	GHG reductions (tons)	Indicator	TBD	TBD	TBD	TBD
33	Total kWh savings	Indicator	TBD	TBD	TBD	TBD
34	Total therm savings	Indicator	TBD	TBD	TBD	TBD
35	Total kW savings	Indicator	TBD	TBD	TBD	TBD

**TABLE 3A-3
EQUITY SEGMENT-LEVEL METRICS
(CONTINUED)**

Line No.	Segment-Level Metrics and Indicators	Measurement Type	2024 Target	2025 Target	2026 Target	2027 Target
36	B.3. Non-Consensus Item: Count and type of community engagement activities targeted at disadvantaged, hard-to-reach, and underserved communities:	Non-Consensus Indicator	TBD	TBD	TBD	TBD
37	Community engagement activities during program design and to identify community needs and solutions	Non-Consensus Indicator	TBD	TBD	TBD	TBD
38	Community engagement activities during program implementation	Non-Consensus Indicator	TBD	TBD	TBD	TBD
39	Community engagement activities during program assessment	Non-Consensus Indicator	TBD	TBD	TBD	TBD
40	Section C: Metrics and Indicators for “Holistic” Benefits					
41	C.1. Combined total benefits to participants and to society as a whole (all A-E below in \$ and/or units until units can be monetized)	Indicator	TBD	TBD	TBD	TBD
42	A. Energy and climate benefits (monetized within TSB)	Indicator	TBD	TBD	TBD	TBD
43	B. Health – “Non-energy benefits” in “counts of participants receiving this benefit” until we can monetize. Reporting at least one of: Indoor air quality, Outdoor air quality (e.g., reduction in emissions from gas combustion appliances that vent to nearby outdoor air), Reduction in interior contaminants/biologics, other	Indicator	TBD	TBD	TBD	TBD
44	C. Comfort – “Non-energy benefits” in “counts of participants receiving this benefit” until we can monetize. Reporting at least one of: reduced drafts, quieter interior, managed interior temp, other	Indicator	TBD	TBD	TBD	TBD
45	D. Safety – “Non-energy benefits” in “counts of participants receiving this benefit” until we can monetize. Reporting at least one of: improved safety of appliances, other	Indicator	TBD	TBD	TBD	TBD
46	E. Economic or other “non-energy benefits” (as proposed by the PAs or program) in dollars or “counts of participants receiving this benefit” until we can monetize	Indicator	TBD	TBD	TBD	TBD

TABLE 3A-4
EQUITY SEGMENT-LEVEL METRICS

Line No.	Program	Equity Segment Program-Level Metrics	2024 Target	2025 Target	2026 Target	2027 Target
1	WE&T Career and Workforce Readiness	Number of participants (disadvantaged workers) in EE jobs for 12 months	177	171	163	163
2	WE&T Career and Workforce Readiness	Number of active partnerships	18	18	18	18
3	WE&T Career and Workforce Readiness	Number of disadvantaged workers participating in training	240	333	333	333

PACIFIC GAS AND ELECTRIC COMPANY
CHAPTER 4
SECTOR STRATEGY

PACIFIC GAS AND ELECTRIC COMPANY
CHAPTER 4
SECTOR STRATEGY

TABLE OF CONTENTS

A. Introduction.....	4-1
1. Scope and Purpose	4-1
2. Vision	4-1
3. Customer Insights	4-3
4. Leveraging Marketing to Engage Customers Across Sectors	4-4
a. Customer Targeting.....	4-4
b. Using CBOs and Third-Party Partners.....	4-5
c. Designing Multi-Channel and Multi-Touch Campaigns	4-5
d. Test, Learn, and Optimize	4-6
B. PG&E’s Forecast Budget by Sector and Budget Distribution Strategy	4-6
C. Overview of Sector Headers Included in This Chapter	4-8
D. Customer Sectors.....	4-9
1. Residential	4-9
a. Introduction.....	4-9
1) Scope and Purpose.....	4-9
2) Summary of Goals, Objectives, and Strategies.....	4-9
3) Support for Request.....	4-10
b. Sector Overview	4-14
c. Support for Strategies, Activities, and Forecast Drivers	4-15
1) Goal: Make It Easier for Customers to Save Energy	4-15
2) Goal: Enable Customers to Manage Their Energy Use with Clean Energy	4-15
3) Goal: Help Customers Decarbonize Their Homes	4-16
d. Sector-Specific Coordination	4-27

PACIFIC GAS AND ELECTRIC COMPANY
CHAPTER 4
SECTOR STRATEGY

TABLE OF CONTENTS
(CONTINUED)

e.	Categorization by Segment	4-27
f.	Program Details	4-28
g.	New Programs Proposed in This Application.....	4-28
h.	Program-Specific Coordination	4-28
2.	Commercial	4-29
a.	Introduction	4-29
1)	Scope and Purpose.....	4-29
2)	Summary of Goals, Objectives, and Strategies	4-29
3)	Support for Request	4-30
b.	Sector Overview	4-33
c.	Support for Strategies, Activities, and Forecast Drivers	4-35
1)	Goal: Maximize TSB While Providing Commercial Customers Equitable Opportunities.....	4-35
2)	Goal: Accelerate the Transition to Clean Energy and Climate Resiliency.....	4-35
3)	Strategy 4: Support Clean Energy Adoption.....	4-41
d.	Sector-Specific Coordination	4-42
e.	Categorization by Segment	4-43
f.	Program Details	4-44
g.	New Programs Proposed as Part of This Application	4-44
3.	Public	4-44
a.	Introduction	4-44
1)	Scope and Purpose.....	4-44
2)	Summary of Goals, Objectives, and Strategies	4-44

PACIFIC GAS AND ELECTRIC COMPANY
CHAPTER 4
SECTOR STRATEGY

TABLE OF CONTENTS
(CONTINUED)

3) Support for Request	4-45
b. Sector Overview	4-47
c. Support for Strategies, Activities, and Forecast Drivers	4-48
1) Goal: Provide Flexible Offerings to Pursue EE Opportunities	4-48
2) Goal: Advance Clean Energy Objectives	4-48
d. Sector-Specific Coordination	4-53
e. Categorization by Segment	4-54
f. Program Details	4-54
g. New Programs Proposed as Part of This Application	4-54
4. Agricultural	4-54
a. Introduction	4-54
1) Scope and Purpose	4-54
2) Summary of Goals, Objectives, and Strategies	4-55
3) Support for Request	4-55
b. Sector Overview	4-56
c. Support for Strategies, Activities, and Forecast Drivers	4-57
1) Goal: Optimize TSB with EE Support where Participation is Easy, Tailored to Customer Needs, and Targeted DAC and HTR Offerings	4-58
2) Goal: Support Integration of EE and DSM Programs to Support Energy Resiliency and Reliability	4-58
3) Goal: Establish a Foundation for Future Decarbonization Efforts	4-58
d. Sector-Specific Coordination	4-66
e. Categorization by Segment	4-67

PACIFIC GAS AND ELECTRIC COMPANY
CHAPTER 4
SECTOR STRATEGY

TABLE OF CONTENTS
(CONTINUED)

f.	Program Details	4-67
g.	New Programs Proposed as Part of This Application	4-67
5.	Industrial	4-68
a.	Introduction	4-68
1)	Scope and Purpose	4-68
2)	Summary of Sector Goal and Strategies	4-68
3)	Support for Request	4-69
b.	Sector Overview	4-70
c.	Support for Strategies, Activities and Forecast Drivers.....	4-71
1)	Goal: Optimize TSB by Engaging Customers Where They Are With Programs Which Make Participation Simpler and Easier	4-72
d.	Sector Specific Coordination	4-76
e.	Categorization by Segment	4-77
f.	Program Details	4-77
g.	New Programs Proposed in This Application.....	4-77
E.	Cross-Cutting Sectors	4-77
1.	Codes and Standards	4-78
a.	Introduction	4-78
1)	Scope and Purpose	4-78
2)	Summary of Goals, Objectives, and Strategies	4-78
3)	Support for Request	4-79
b.	Sector Overview	4-81
c.	Support for Strategies, Activities, and Forecast Drivers	4-85

PACIFIC GAS AND ELECTRIC COMPANY
CHAPTER 4
SECTOR STRATEGY

TABLE OF CONTENTS
(CONTINUED)

1) Strategy 1: Advocate for Building Codes and Appliance Standards.....	4-85
2) Strategy 2: Support Local Governments to Achieve Their Reach Codes	4-93
3) Strategy 3: Conduct Enhanced Data Collection and Collaborate with Stakeholders.....	4-96
4) Strategy 4: Support Compliance with Building Codes and Appliance Standards	4-97
5) Strategy 5: Promote Advanced Technologies	4-100
d. Sector-Specific Coordination	4-100
e. Categorization by Segment	4-101
f. Program Details.....	4-101
g. New Programs Proposed in This Application.....	4-102
2. Emerging Technologies	4-102
a. Introduction.....	4-102
1) Scope and Purpose.....	4-102
2) Support for Request.....	4-102
b. Sector Overview	4-102
c. Support for Strategies, Activities, and Forecast Drivers	4-102
d. Sector-Specific Coordination	4-103
e. Categorization by Segment	4-103
f. Program Details.....	4-103
g. New Programs Proposed in This Application.....	4-103
3. New Construction.....	4-103
a. Introduction.....	4-103

PACIFIC GAS AND ELECTRIC COMPANY
CHAPTER 4
SECTOR STRATEGY

TABLE OF CONTENTS
(CONTINUED)

1) Scope and Purpose.....	4-103
2) Summary of Goals, Objectives, and Strategies.....	4-104
3) Support for Request.....	4-104
b. Sector Overview	4-107
1) Residential New Construction	4-107
2) Non-Residential NC	4-108
c. Support for Strategies, Activities, and Forecast Drivers	4-109
1) Goal: Enable Cost-Effective, Energy Efficient, All Electric or Electric Ready Buildings and Processes	4-109
d. Sector-Specific Coordination	4-112
e. Categorization by Segment	4-113
f. Program Details.....	4-114
g. New Programs Proposed in This Application.....	4-114
h. Program--Specific Coordination.....	4-114
4. Local Government Partnerships.....	4-114
a. Introduction.....	4-114
1) Scope and Purpose.....	4-114
2) Summary of Goals, Objectives, and Strategies.....	4-114
3) Support for Request.....	4-115
b. Sector Overview	4-116
c. Support for Strategies, Activities, and Forecast Drivers.	4-118
1) Goal: Collaborate with Local Municipalities to Support Carbon Neutrality Goals	4-119
2) Goal: Provide Streamlined LGP Services Throughout PG&E Territory.....	4-119

PACIFIC GAS AND ELECTRIC COMPANY
CHAPTER 4
SECTOR STRATEGY

TABLE OF CONTENTS
(CONTINUED)

3) Goal: Leverage Local Government Partners as a Trusted Local Resource for Energy Management.....	4-119
d. Sector-Specific Coordination	4-124
e. Categorization by Segment	4-125
f. Program Details	4-125
g. New Programs Proposed in This Application.....	4-126
5. Workforce Education and Training.....	4-126
a. Introduction.....	4-126
1) Scope and Purpose.....	4-126
2) Summary of Goals and Strategies	4-127
3) Support for Request	4-127
b. Sector Overview	4-128
c. Support for Strategies, Activities, and Forecast Drivers	4-129
1) Goal: Continue to Provide EE, Electrification, and Decarbonization Training That Develops a Highly-Skilled Energy Workforce	4-129
2) Goal: Enable PG&E and California to Achieve Their EE Savings and Decarbonization Goals	4-129
3) Goal: Be a Valued Partner That Is Integrated Into Energy Workforce Communities and Professions	4-130
d. Sector-Specific Coordination	4-135
e. Categorization by Segment	4-135
f. Program Details	4-136
g. New programs Being Proposed as Part of This Application	4-136
6. Finance	4-136
a. Introduction.....	4-136

PACIFIC GAS AND ELECTRIC COMPANY
CHAPTER 4
SECTOR STRATEGY

TABLE OF CONTENTS
(CONTINUED)

1) Scope and Purpose.....	4-136
2) Summary of Goals, Objectives, and Strategies.....	4-137
3) Support for Request.....	4-138
b. Sector Overview	4-138
c. Support for Strategies, Activities, and Forecast Drivers	4-140
1) Goal: Make Attractive Financing Options Available to All Customers.....	4-140
2) Goal: Use Financing to Reduce the Cost of Delivering EE.....	4-141
d. Sector-Specific Coordination	4-146
e. Categorization by Segment	4-146
f. Program Details.....	4-147
g. New Programs Being Proposed as Part of This Application	4-147

PACIFIC GAS AND ELECTRIC COMPANY

CHAPTER 4

SECTOR STRATEGY

A. Introduction

1. Scope and Purpose

This chapter presents Pacific Gas and Electric Company's (PG&E) budget forecast of approximately \$1.1 billion¹ for its Energy Efficiency (EE) portfolio for the 2024-2027 portfolio cycle for approval by the California Public Utilities Commission (CPUC or the Commission). This chapter describes how PG&E's sector strategies plan to deliver the forecasted Total System Benefit (TSB) of approximately \$932 million, and achieve the cost-effectiveness goals for the resource acquisition portfolio segment² and the broader portfolio goals to administer an EE portfolio that: (1) optimizes delivery of TSB; (2) supports economy-wide carbon neutrality by 2045; (3) shapes energy demand to match supply; and (4) supports customer resiliency.

The remainder of this chapter is organized as follows:

- Section B: PG&E's Forecast Budget by Sector and Budget Distribution Strategy;
- Section C: Overview of Sectors included in this Chapter;
- Section D: Customer Sectors; and
- Section E: Cross-Cutting Sectors.

2. Vision

PG&E's sector vision is to engage customers through multiple channels and provide easy access and clear pathways to EE services. PG&E plans to encourage customers—including those traditionally underserved by EE

¹ 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 January 14, 2022 within PG&E's territory.

² Per Decision (D.) 21-05-031 p. 81, Ordering Paragraph (OP) 3, "energy efficiency program administrators who are investor-owned utilities or community choice aggregators shall ensure that the forecasted benefits exceed the costs of the resource acquisition segments of their portfolios, as measured by the Total Resource Cost test, without considering Codes and Standards programs."

1 programs—to broaden the scope of conventional EE efforts by incorporating
 2 more comprehensive energy management strategies that will include
 3 participation in demand response (DR) programs, optimizing energy
 4 consumption on Time-of-Use (TOU) rates, and aligning that consumption
 5 with times of cleaner energy generation. PG&E’s vision for its individual
 6 sectors is to:

- 7 • Deliver programs, products, and tools that help **residential** customers to
 8 save energy and reduce emissions in their homes;
- 9 • Provide **commercial** customers tools and guidance to manage their
 10 energy use to meet their internal goals and align with California’s energy
 11 savings, load shifting, and decarbonization goals;
- 12 • Partner with **public sector** customers and help them serve as leaders in
 13 achieving Federal, State, and Local decarbonization and resilience
 14 goals;
- 15 • Work with PG&E’s **agricultural** customers to implement affordable
 16 energy saving solutions that will strengthen their agricultural businesses
 17 and the surrounding communities;
- 18 • Help **industrial** customers reduce energy costs and emissions to
 19 support growth and sustainability goals;
- 20 • Use electrification as a mechanism to achieve energy and carbon
 21 savings while promoting long-term rate affordability for our customers;
- 22 • Maximize EE in the built environment through the adoption and
 23 successful implementation of **building codes and appliance**
 24 **standards**;
- 25 • Advance technologies through coordination with statewide **emerging**
 26 **technology** programs;
- 27 • Move towards a **new construction** (NC) market in California that is
 28 all-electric or electric-ready by 2031;
- 29 • Enable **local government partnership** (LGP) support for local
 30 municipalities across the PG&E service territory to promote EE and
 31 carbon neutrality;
- 32 • Train the **energy workforce** that designs, builds, maintains, and
 33 operates buildings and building systems on how to recognize energy
 34 savings and carbon reduction opportunities; and

- Provide attractive **financing** options for demand-side energy investments.

3. Customer Insights

In 2021, PG&E commissioned a customer insights study to learn about customer perceptions and needs regarding EE, energy management and other Distributed Energy Resources (DERs). This study was conducted using interviews and focus groups with residential and small-medium business customers and the PG&E account managers of large non-residential customers. Many key insights from PG&E's large customer account managers aligned with the residential and small-medium business customer feedback but were magnified in the case of large customers.

This study was commissioned to help inform PG&E's strategies and tactics for its 2024-2027 portfolio plan to support a customer-centric approach that responds to the needs and desires of customers. Some of the key themes among customer feedback include:

Concern for Climate Change: There was broad concern among most customers regarding climate change and the threat it means to our planet.

Personal Ownership: Of those concerned about climate change, the majority also take at least some ownership and responsibility to do something about it.

Approach to EE: While some customers are willing and able to invest extra time and/or money in pursuit of EE, most want solutions that are low-cost, low-hassle, and not an inconvenience to them (or their business).

Passive Engagement: Though many customers are concerned with climate change, most will not proactively upgrade their appliances, instead opting to wait until their appliances stop working.

Business Constraints: Business customers are further constrained by business operations (including seasonal fluctuations), minimum payback period requirements, and other factors. Business customers are highly averse to the risk of negative impacts on production or output.

Tools for Self-Sufficient Energy Management: A growing number of customers want tools that will help them manage their energy independently (e.g., customizable tools, smart appliances, real-time tracking).

1 **Independence:** There is a sizable contingent of customers that want to
2 retain choice (how to manage their energy and choice of fuel type) and do
3 not want to be constrained by PG&E or the government.

4 **Trusted Partners:** Trust is a major theme – a lack of trust in market
5 actors, a lack of trust in the information provided to customers, and a desire
6 to work with partners they can trust.

7 **Unchanging Policies and Program Rules:** Large business customers
8 have historically experienced policy and program changes mid-project,
9 negatively impacting eligible incentives and project viability. This results in a
10 greater hesitancy to participate in future programs due to the risk that
11 energy savings and incentives will not materialize as promised.

12 The strategies and tactics described within the remainder of this chapter
13 are designed to help address many of the customer concerns and desires
14 expressed throughout this study.

15 **4. Leveraging Marketing to Engage Customers Across Sectors**

16 Using approaches that engage customers' preferred channels, PG&E
17 marketing plays a critical role in driving EE program awareness and
18 adoption, and energy management behavior change. To support the
19 strategies described in this chapter, PG&E focuses on four main areas:
20 customer targeting, utilizing Community Based Organizations (CBO) and
21 other third-party partners to drive awareness of EE programs, designing
22 multi-channel and multi-touch marketing campaigns, and leveraging a
23 test-and-learn methodology.

24 **a. Customer Targeting**

25 PG&E employs customer research to better understand the
26 underlying motivations, beliefs, and behaviors of its customers. For
27 residential customers, the research and subsequent customer
28 categorization outputs are inclusive of demographics (such as
29 geography, household income, home type, and household
30 characteristics), behavioral and lifestyle choices (such as preferred
31 recreational activities, media channel preferences and internet usage),
32 and psychographics (such as attitudes toward technology and
33 environment, or family values). For non-residential customers, research

1 and customer categorization is inclusive of detailed North American
2 Industry Classification System code information related to the sector,
3 subsector and industry of the business, business size, and energy use.

4 Within PG&E Marketing, these customer categorizations are then
5 overlaid with customer specific data, such as prior participation and
6 engagement with other utility programs, tools, and resources, to develop
7 relevant target audiences for EE programs. Key program messages are
8 developed to appeal to the target audiences based on their specific
9 needs and desires, as well as where they are on their energy
10 management journeys. PG&E's EE marketing can also include
11 messaging in other languages besides English, such as Spanish and
12 Chinese. PG&E implements this approach across other lines of
13 business as well to encourage participation in initiatives like income
14 qualified programs, DR programs, electric vehicle (EV) rebates and TOU
15 rate plans.

16 **b. Using CBOs and Third-Party Partners**

17 PG&E leverages an extensive network of CBOs, third-party and
18 industry partners to inform customers of EE programs. These
19 organizations enable PG&E to help a variety of customers understand
20 and manage their energy usage and find the appropriate EE programs
21 to lower their usage. These efforts can be a highly effective means to
22 engage and gain the trust of customers through the community in which
23 they live or work.

24 **c. Designing Multi-Channel and Multi-Touch Campaigns**

25 PG&E Marketing designs and deploys multi-channel marketing
26 (email, digital advertising, social media, telemarketing) to reach
27 customers. Multi-channel marketing provides choice. It benefits
28 customers by making it easier for them to engage with PG&E, such as
29 signing up for an EE program, in whatever channel they are using or
30 comfortable with. Multi-channel marketing also allows for repetition,
31 which is important because the more people who hear/see a message,
32 the more familiar it becomes. For some consumers, it takes hearing a
33 message multiple times before they act. Effective multi-touch

campaigns that use different channels generate familiarity and a higher likelihood that customers act based on their response to the message.

Through testing, PG&E has found that it often takes at least 3 to 5 messages for customers to engage. PG&E plans to continue to utilize a multi-channel, multi-touch approach to drive EE program awareness and adoption. “Always on” digital advertising strategies will be layered in to complement direct marketing campaigns to increase awareness, provide reminder messaging, and support new customer enrollments. PG&E also plans to continue program promotion via other marketing channels such as the PG&E Digital Newsletters, Home Energy Reports (HER), local offices, payment centers and at pge.com.

d. Test, Learn, and Optimize

PG&E Marketing embraces a test, learn, and optimize approach evaluating strategies, tactics, and messages through a combination of research and in-market performance evaluation. Tests are designed to drive ongoing improvements to key marketing performance indicators, such as campaign response rates, penetration rate changes and overall marketing cost per acquisition. These indicators are monitored on an ongoing basis so that changes can be made to PG&E’s campaign approaches. Testing and evaluation are critical to improving marketing approaches and cost-effective outreach. Flexibility in the marketing plan is important to make continual adjustments to the strategies proposed.

B. PG&E’s Forecast Budget by Sector and Budget Distribution Strategy

PG&E distributes its forecasted budget in this application to deliver on the TSB portfolio level goal, cost-effectiveness goals for the resource acquisition portfolio segment, and PG&E’s broader portfolio goals. The forecasted budget and benefits distribution is based on current market conditions and to the extent that market conditions change during the portfolio period, PG&E may reallocate its forecast among the sectors to optimize for TSB, cost-effectiveness, and portfolio segmentation. Table 4-1, below, shows the current forecasted budget for each sector.

**TABLE 4-1
FORECAST BUDGET ALLOCATION BY SECTOR 2024-2027**

Line No.	Portfolio Sector	2024	2025	2026	2027	Total
1	Agricultural	\$9,267,921	\$9,218,417	\$8,680,110	\$10,075,155	\$37,241,603
2	Commercial	53,966,912	52,630,128	53,740,442	54,008,640	214,346,122
3	Industrial	32,591,977	32,541,236	33,194,125	31,833,093	130,160,431
4	Public	21,307,676	20,630,443	20,322,656	20,225,716	82,486,491
5	Residential	54,159,476	54,216,178	56,623,377	58,365,443	223,364,474
6	New Construction	21,743,725	24,779,970	21,126,382	21,207,135	88,857,211
7	Codes and Standards (C&S)	33,105,417	33,839,153	34,637,544	33,771,305	135,353,418
8	Emerging Technologies	10,162,721	10,214,152	10,241,039	10,231,763	40,849,675
9	On-Bill Financing	5,242,767	5,520,530	4,696,593	4,800,122	20,260,011
10	Workforce Education and Training (WE&T)	9,636,376	9,719,285	9,497,332	9,576,829	38,429,821
11	Subtotal	\$251,184,967	\$253,309,491	\$252,759,598	\$254,095,202	\$1,011,349,259
12	Evaluation, Measurement and Verification (EM&V)	10,882,707	10,971,229	10,948,317	11,003,967	43,806,219
13	On-Bill Financing (OBF) Loan Pool	10,000,000	10,000,000	10,000,000	10,000,000	40,000,000
14	Total	\$272,067,674	\$274,280,720	\$273,707,915	\$275,099,169	\$1,095,155,478

- 1 PG&E's forecasted TSB and cost-effectiveness by sector are summarized in
- 2 Tables 4-2 and 4-3, below.

**TABLE 4-2
TSB BY SECTOR 2024—2027**

Line No.		2024	2025	2026	2027	Total
1	Agricultural	\$8,414,374	\$8,834,820	\$8,549,538	\$10,874,629	\$36,673,361
2	Commercial	57,035,972	58,796,643	62,574,204	66,233,870	244,640,689
3	Industrial	45,912,250	46,719,943	51,074,255	50,572,053	194,278,501
4	Public	11,717,557	12,106,629	12,897,600	13,104,375	49,826,159
5	Residential	41,474,693	39,568,869	44,701,446	49,403,747	175,148,755
6	Codes & Standards	N/A	N/A	N/A	N/A	N/A
7	New Construction	35,046,479	42,682,850	34,554,782	34,676,059	146,960,171
8	On-Bill Financing	18,531,358	19,484,697	22,312,947	24,166,366	84,495,367
9	Workforce Education & Training	—	—	—	—	—
10	Local Government Partnerships	—	—	—	—	—
11	Portfolio TSB w/out C&S	\$218,132,682	\$228,194,451	\$236,664,773	\$249,031,099	\$932,023,005

Note: Pursuant to D.21-05-031 C&S goals are not in TSB, pp. 8-15.

TABLE 4-3
2024--2027 PORTFOLIO AND SECTOR-LEVEL COST-EFFECTIVENESS TOTAL RESOURCE COST

Line No.	Sector	2024	2025	2026	2027	Cumulative
1	Agricultural	0.90	0.95	0.98	1.08	0.98
2	Commercial	0.85	0.90	0.95	1.01	0.93
3	Industrial	1.23	1.26	1.36	1.38	1.31
4	Public	0.58	0.60	0.62	0.62	0.60
5	Residential	0.73	0.70	0.76	0.81	0.75
6	New Construction	0.90	0.94	1.01	1.06	0.97
7	On-Bill Financing	0.65	0.68	0.75	0.79	0.72
8	OBF Loan Pool	0.00	0.00	0.00	0.00	0.00
9	Workforce Education & Training	0.00	0.00	0.00	0.00	0.00
10	Local Government Partnerships	0.00	0.00	0.00	0.00	0.00
11	Evaluation Measurement & Verification	0.00	0.00	0.00	0.00	0.00
12	<i>Portfolio w/out C&S</i>	<i>0.77</i>	<i>0.79</i>	<i>0.84</i>	<i>0.88</i>	<i>0.82</i>
13	Codes & Standards	1.56	1.51	1.48	1.46	1.51
14	Portfolio w/ C&S	1.29	1.26	1.25	1.25	1.26

1 C. Overview of Sector Headers Included in This Chapter

2 PG&E serves customers across five sectors: Residential, Commercial,
3 Public, Agricultural, and Industrial. Additionally, PG&E is proposing EE efforts in
4 six cross-cutting sectors that serve customers across all customer sectors:
5 Codes and Standards (C&S), Emerging Technologies, NC, LGP, WE&T, and
6 Finance.

7 In the following sections PG&E describes each sector and its proposed EE
8 strategies, programs, and activities. Each of the individual sections below is
9 organized to align with the template provided by the CPUC's Energy Division:³

- 10 • Introduction;
- 11 • Sector Overview;
- 12 • Support for Strategies, Activities, and Forecast Drivers;
- 13 • Sector-Specific Coordination;
- 14 • Categorization by Segment;
- 15 • Program Details;
- 16 • New Programs Proposed in this Application; and
- 17 • Program-Specific Coordination.

³ *EE Business Plan and Application Template – Final from ED with EMV*, received via Energy Efficiency Proceeding Service List Rulemaking (R.) 13-11-005 on October 20, 2021.

D. Customer Sectors

1. Residential

a. Introduction

1) Scope and Purpose

This section provides a summary of PG&E's approach to supporting its Residential customers through its EE Residential programs. PG&E's Residential sector includes ten local third-party implemented programs and three statewide programs led by other IOUs that are listed in Table 4-4 below.

2) Summary of Goals, Objectives, and Strategies

PG&E's Residential sector goals align with PG&E's portfolio goals described in Chapter 1. Figure 4-1 summarizes PG&E's Residential goals, objectives, and strategies and illustrates how they interrelate.

**FIGURE 4-1
PG&E'S RESIDENTIAL SECTOR GOALS, OBJECTIVES AND STRATEGIES**



3) Support for Request

PG&E's TSB and budget forecasts for its Residential sector

(1) support California's EE and carbon-neutrality goals, and

(2) further PG&E's goals towards optimizing its customers' use of clean energy to make its grid greener, more reliable, and resilient in the face of climate change. These goals are achieved through the programs listed in Table 4-4.

The program names listed below and referenced throughout this section are the program names used in California Energy Data and Reporting System (CEDARS), however program details discussed throughout this section describe the current vendor's program which may use a different public name. Inclusion of the current vendor's program details does not guarantee that the vendor's current contract will be extended. PG&E will evaluate vendor performance and determine the appropriate action.

**TABLE 4-4
PG&E'S RESIDENTIAL SECTOR PROGRAMS**

Line No.	Program ID	Program Name	Program Description	Program Type
1	PGE_Res_002d	Residential Behavioral Program	An auto-enrollment behavioral EE program where PG&E selects customers with high usage and provides regular reports detailing their historical energy use. The program also offers written energy savings tips, upcoming bill forecast messaging, coaching to best optimize energy use around the TOU rate structure, and seasonal energy savings messages that align with California Independent System Operator (CAISO) Flex Alert days. ^(a)	Local Third-Party
2	PGE_Res_002a	Universal Audit Tool (UAT) Program	This program provides all Residential PG&E customers the opportunity to receive energy savings tips with a simple program questionnaire located on the customer account page on the www.pge.com website.	Local Third-Party
3	PGE_Res_002e	Online Marketplace Program	This program offers an online product selection and program information tool where customers can research EE and energy management products, programs, and available services.	Local Third-Party
4	PGE_Res_003	Multifamily Program	PG&E offers this program to the owners and property managers of multifamily buildings. Given the unique energy needs of multifamily buildings, this program is tailored to provide opportunities to invest in EE, general energy management, and building decarbonization through common area and in-unit upgrades.	Local Third-Party
5	PGE_Res_001b	Virtual Energy Audit Program	This is a behavioral and operational focused energy auditing, reporting and coaching program that can change behaviors to shift demand and alter operations of appliances to permanently reduce usage. PG&E provides participating customers disaggregated and detailed monthly home energy use reports and connects these customers with remote or in person energy coaches to go over the details of their homes energy use to uncover opportunities for efficiency and clean energy use optimization.	Local Third-Party

**TABLE 4-4
PG&E'S RESIDENTIAL SECTOR PROGRAMS
(CONTINUED)**

Line No.	Program ID	Program Name	Program Description	Program Type
6	PGE_Res_Equity	Residential Equity Placeholder ^(b)	This program is categorized in the equity segment of PG&E's portfolio. PG&E plans to target this program to low- and moderate-income customers to deliver EE and retrofit electrification solutions and will coordinate with the Energy Savings Assistance (ESA) Program, ESA Pilot Plus and Pilot Deep as appropriate to avoid overlap.	Proposed Local Third-Party
7	PGE_Res_ZE	Zonal Electrification Placeholder (Residential) ^(b)	This program is categorized in the equity segment of PG&E's portfolio. PG&E plans to identify locations where natural gas system capital or operating costs may be avoided by retiring or downgrading natural gas assets through electrification of end-use customers. PG&E intends to target this program to specific Residential customers who reside within those geographic areas. The program intends to work to electrify all customer homes within the targeted zones and work in coordination with one or more partner non-residential programs.	Proposed Local Third-Party
8	PGE_Res_Mkt_Spt	Residential Market Support Placeholder ^(b)	This program is categorized in the market support segment of PG&E's portfolio. PG&E's vision for this program would be to provide a consolidated and single resource for customers to work with as they pursue retrofitting their homes for electrification. This program could coordinate with PG&E service planning, certified electrical contractors, and certified building and appliance installation contractors to deliver full electrification support to participating customers.	Proposed Local Third-Party
9	PGE_Res_LoadMgt	Residential Load Management Placeholder ^(b)	This program is categorized in the market support segment of PG&E's portfolio. This program could deliver both traditional energy saving and electrification equipment and further work with customers to provide operational and programming support to help customers control their load in a dynamic fashion to take advantage of greenhouse gas (GHG) free and renewable energy.	Proposed Local Third-Party

**TABLE 4-4
PG&E'S RESIDENTIAL SECTOR PROGRAMS
(CONTINUED)**

Line No.	Program ID	Program Name	Program Description	Program Type
10	PGE_Res_Resiliency	Resiliency Support Placeholder (Residential) ^(b)	This program is categorized in the market support segment of PG&E's portfolio. PG&E intends for the program to work alongside existing and future remote grid and microgrid projects to provide EE support to customers who benefit from these alternative power arrangements. For example, this could include customers who live in areas that are in a High Fire Threat District (HFTD) and are subject to more frequent outage events. The goal of the program would be to support customer resiliency through EE and energy use optimization.	Proposed Local Third-Party
11	SW_PLA	SW Plug Load and Appliances	PG&E provides funding to the Lead Program Administrator as shown in Tables 3 (pp. 91-92) and 4 (p. 92) of D.18-05-041. PG&E receives proportional benefits from the Statewide program through the CPUC's CEDARS reporting system. Please refer to San Diego Gas & Electric Company's application for description of the Statewide program.	Statewide Led by Other Investor-Owned Utility (IOU)
12	SW_HVAC_QIQM	SW HVAC QI/QM Program	PG&E provides funding to the Lead Program Administrator as shown in D.18-05-041 Tables 3 (pp. 91-92) and 4 (p. 92). PG&E receives proportional benefits from the Statewide program through the CPUC's CEDARS reporting system. Please refer to San Diego Gas & Electric Company's application for description of the Statewide program.	Statewide Led by Other IOU
13	SW_HVAC_Up_Res	SW HVAC Upstream Residential	PG&E provides funding to the Lead Program Administrator as shown in Tables 3 (pp. 91-92) and 4 (p.92) of D.18-05-041. PG&E receives proportional benefits from the Statewide program through the CPUC's CEDARS reporting system. Please refer to San Diego Gas & Electric Company's application for description of the Statewide program.	Statewide Led by Other IOU

(a) A Flex Alert is issued by the CAISO. CAISO decides when and where conservation will be helpful in reducing the strain on the power grid. Flex Alerts inform consumers about how and when to conserve electricity, typically shifting electricity use to off-peak hours.

(b) Placeholders reflect programs that PG&E plans to solicit, contract, and/or implement by 2024-2027.

1 PG&E plans to conduct third-party solicitations in 2022-2023 for
2 the programs with placeholder IDs, with the intent to launch the
3 programs by the start of the portfolio plan in 2024. PG&E's forecast
4 includes budgets for each of these programs. While the

descriptions in Table 4-4 above provide PG&E's current understanding of needs in the respective areas, the details may change prior to and during the solicitation process.

b. Sector Overview

As of 2021, PG&E's residential customer base included approximately 5.5 million residential accounts.⁴ PG&E provides gas and/or electric service to more than 16 million people across Northern and Central California.⁵ These customers span rural and urban settings living in both single-family and multi-family homes, with over 40 percent on an electric rate plan that is based on the time of day they use energy.

While PG&E's Residential EE programs can help customers implement EE, there are still some barriers to implementing these programs. Barriers can include difficulty identifying eligibility, misunderstanding what a program offers, high upfront costs for certain EE products and appliances, and a concern of utility bill increases due to electrification.⁶ PG&E's Residential sector strategies aim to make it easier for customers to participate in EE Residential programs by addressing, reducing, and mitigating these barriers.

PG&E's Residential EE programs can also help customers shift energy use to times when clean renewable energy, such as solar and wind, is abundant. High energy demand during times when non-renewable generation is powering the grid can exceed supply and result in rotating outages. To minimize GHG emissions and rotating outages, customers may want to shift energy usage outside of peak periods but may need support with how or when to do so. PG&E's Residential EE strategy includes programs to help customers learn how

⁴ Customer Energy Solutions Data Services, Residential Customer Query Tool (Dec. 30, 2021).

⁵ PG&E Website, Company Information, Profile https://www.pge.com/en_US/about-pge/company-information/profile/profile.page. (accessed Jan. 18, 2022).

⁶ "Residential Building Electrification in California - Consumer economics, greenhouse gases and grid impacts," (April 2019), [Energy+Environmental Economics](#). (accessed Jan. 18, 2022).

and when to flex their energy use to help improve grid reliability, reduce GHG emissions, and lower energy costs.

PG&E Residential EE programs can also support customers who want to electrify their homes. Most homes in PG&E's service territory are currently dual fuel, using both natural gas and electricity. The most common appliances that use natural gas are water heaters, furnaces, gas stovetops and ovens, gas clothes dryers, and gas fireplaces. Some barriers to electrifying homes include a lack of familiarity with new electric technology, lack of consumer demand, lack of product supply, high upfront costs of new appliances, cost to upgrade service panels, reluctance to switch to an unfamiliar appliance, concerns about increased utility costs, and increased concern about rotating outages.⁷ PG&E's Residential EE strategy includes programs to (1) reduce barriers to executing electrification projects in their homes and (2) increase customer education and awareness of electrification.

c. Support for Strategies, Activities, and Forecast Drivers

1) Goal: Make It Easier for Customers to Save Energy

As described in the previous section, residential customers face barriers to participating in EE programs. Thus, PG&E plans to enact strategies outlined below which will address, reduce, or remove these barriers and make it easier for residential customers to save energy in their homes. This goal primarily supports PG&E's optimal delivery of TSB but making programs easier may also support carbon neutrality, shifting demand, and customer resiliency.

2) Goal: Enable Customers to Manage Their Energy Use with Clean Energy

PG&E plans to enable residential sector customers to effectively manage their energy use by participating in programs that best meet their circumstances. This goal includes (1) addressing customer resiliency needs in HFTDs, and (2) helping customers optimize their TOU rate to help shape energy demand to match supply.

⁷ "Decarbonization of Heating Energy Use in California Buildings," (October 2018), [Synapse Energy Economics, Inc.](#) (accessed Jan. 18, 2022).

3) Goal: Help Customers Decarbonize Their Homes

PG&E strives to help residential customers decarbonize their homes through electrification to meet statewide climate goals, such as Senate Bill (SB) 100 that requires renewable energy and zero carbon resources supply 100 percent of electric retail sales to end use customers by 2045⁸ and PG&E's portfolio goal to support carbon neutrality by 2045.

a) Objective: Make It Easier for Customers to Participate in EE

The purpose of this objective is to increase customer participation, satisfaction, and ultimately portfolio TSB by making participation easier and more personalized for qualified PG&E customers.

b) Objective: Help Customers Identify the Right Solutions

The purpose of this objective is to ensure that PG&E can address the needs of its diverse customer base through communications and programs that best meet customer needs.

c) Objective: Use EE to Enhance Customer Resiliency

The purpose of this objective is to implement EE programs focused on customer energy resiliency and grid resiliency.

d) Objective: Offer a Holistic Clean Energy Solution

The purpose of this objective is to ensure that PG&E is supporting broad based clean energy solutions in its EE portfolio and that PG&E is coordinating its EE portfolio with other PG&E clean energy programs.

e) Objective: Deliver Building Decarbonization and Electrification

The purpose of this objective is to promote building decarbonization and retrofit electrification products, programs,

⁸ \ [SB 100 California Renewables Portfolio Standard Program: emissions of greenhouse gases.](#) Amended Sections 399.11, 399.15, and 399.30 of, and added Section 454.53 to, the Public Utilities Code, relating to energy. (accessed Jan. 18, 2022).

and services to support California’s goal of a carbon neutral future.

i) Strategy 1: Increase Easiest Participation Pathway Programs

PG&E plans to simplify the customer experience by focusing on increasing the size and scope of the programs which do not have upfront customer participation applications. PG&E currently offers one program, a Residential Behavioral Program, that does not require an advance participation agreement.

PG&E’s Residential Behavioral Program currently delivers energy use reports and energy savings tips to an average of approximately 2.9 million customers per year. The program pre-selects and auto-enrolls customers to begin receiving these reports. This program routinely receives high customer satisfaction scores and results in cost-effective energy savings.⁹

In 2021, PG&E expanded the Residential Behavioral Program by including a new component called Bill Forecast Alerts. As of 2021, there are approximately 1.6 million participating customers who are alerted via their preferred method- text, email, or telephone—if their current energy use trend will exceed their pre-selected bill threshold goal. Bill forecast alerts provides customers with ideas on how to reduce energy use to minimize energy cost. PG&E plans to introduce another program component in 2022 called TOU Rate Coach. This module is expected to reach up to 1 million program participants who receive electric service through PG&E’s TOU rate schedule and who are also Residential Behavioral Program participants. The module

⁹ In 2020, HER delivered ~\$3.3 million in positive net benefits (Total Resource Cost (TRC) benefits – TRC costs) to PG&E’s portfolio with a TRC ratio of 1.29. Sound Data, CEDARS, PG&E Confirmed Claims (April 24, 2021). [PGE confirmed claims dashboard - CEDARS \(sound-data.com\)](#). (accessed Jan. 18, 2022).

1 will offer customized tips and recommendations within the
2 email notification to reduce and shift energy use away from
3 peak charge times.

4 PG&E's Residential forecast budget assumes that these
5 programs will continue in 2024-2027.

6 **ii) Strategy 2: Offer Customers a Tailored Program**
7 **Experience**

8 PG&E plans to offer customers a tailored online
9 experience by evaluating customer profiles and energy use
10 details and recommending: (1) actions that customers can
11 take to reduce energy use; and (2) programs for which
12 customers qualify and may consider participating in.

13 PG&E has historically offered customers an online
14 marketplace where customers can find information about
15 new energy efficient products and appliances. Beginning in
16 2022, PG&E plans to refresh this tool to offer personalized
17 recommendations based on customer responses to
18 questions about their home and energy-related needs. This
19 refresh is also expected to provide personalized
20 recommendations regarding energy management programs
21 and services and may extend beyond the PG&E EE
22 portfolio to include information on EV rebate and charging
23 programs, the Self-Generation Incentive Program (SGIP),
24 and financing opportunities for home product purchases.

25 Beginning in 2024, PG&E plans to expand its online
26 marketplace tool to further simplify the customer experience
27 by recommending which EE programs the customer
28 qualifies for. This additional capability is expected to
29 provide more opportunities for PG&E to connect with its
30 customers and to provide tailored solutions. Specifically,
31 this refresh will provide increased ways to connect with
32 customers in the following areas:

- Promoting Load Management Products and Features

In addition to promoting smart and controllable products and appliances, the marketplace tool will link customers to DR programs and TOU rate information. The DR program and TOU information is intended to help customers understand how smart and controllable devices can be operated to avoid times when electricity rates are highest and less renewable generation is powering the grid. The marketplace tool can recommend bundles of products customers can consider when investing in rooftop solar, behind-the-meter (BTM) energy storage or other DERs. PG&E also plans for it to link customers to PG&E's EV and EV charging programs.

- Offer Resiliency Product Recommendations

The marketplace tool can also educate customers about what products and programs they can use to increase their resiliency during power outages. In addition to offering backup power product information, PG&E will likely enhance the marketplace tool to recommend additional steps customers vulnerable to outages can take, such as participating in PG&E's whole home retrofit load management program, to maximize the limited generation or energy storage they may have in their homes.

- Promote Electrification through the Marketplace Tool

PG&E plans to provide high efficiency electric appliance information and recommendations as alternatives to gas appliances through its marketplace tool. PG&E plans to enable the marketplace tool to link customers to programs that can offer them assistance and incentives to purchase and install these appliances and information about ancillary services such as increasing their PG&E service level or expanding the size of their home's service panel.

In addition to these upgrades to the marketplace tool, PG&E plans to offer an enhanced personalized experience

1 through its UAT program. UAT currently reaches more than
2 200,000 residential customers annually and offers
3 customers home energy use insights and personalized tips
4 on how to save energy.

5 By 2024, PG&E intends to enable improved
6 disaggregation tools to provide customers with deeper
7 insights into their energy use. As the customers' home
8 energy use changes, they can use the UAT tool to receive
9 updated recommendations based on their new usage
10 patterns. PG&E expects this feedback will lead to greater
11 customer engagement and energy savings.

12 **iii) Strategy 3: Personalize Communications and**
13 **Touchpoints**

14 PG&E communicates with customers in several ways:
15 e-newsletters delivered to 3.9 million residential customers
16 per month;¹⁰ emails promoting specific residential program
17 services; a website offering customers information about
18 PG&E's programs and services; and communications in
19 customers' preferred language (see Figure 4-2 for an
20 example).

¹⁰ PG&E Customer Database: Targetbase, Integrated Res eNewsletter e-mail (01/2022).

FIGURE 4-2
EXAMPLE OF PG&E'S HOME ENERGY CHECK-UP IN SPANISH



Note: Home Energy Checkup (pge.com) (accessed Jan. 18, 2022).

All three channels are important tools for connecting with PG&E's customers, and PG&E intends to enhance each of these to influence more customers to participate in EE programs and increase PG&E's EE portfolio TSB.

PG&E's residential monthly newsletters include information about ways to save energy, including participating in PG&E's EE portfolio's products and programs. Information in these newsletters differs based on customer segmentation such as, income levels and geographic territory. During this portfolio period, PG&E plans to refine customer targeting and the tailored information shared in the newsletters. These newsletters are also intended to provide information about ways to reduce or shift energy use away from peak pricing periods.

PG&E also sends customers emails about the benefits of participating in specific Residential EE programs. This targeted outreach has been an important way to drive participation in PG&E's past portfolios, and PG&E intends to

continue and enhance this practice. The targeted emails aim to leverage both enhancements planned for PG&E's newsletter and the marketplace tool/UAT Program described above.

PG&E's website, www.pge.com, is another way PG&E informs its customers about programs and services PG&E offers. PG&E is changing how customers find energy savings information when they log into www.pge.com by presenting appropriate EE opportunities based on their personal, geographic, and/or energy use characteristics. Using this personalized experience approach, PG&E plans to offer customers information about how saving energy can benefit them and how they can participate in EE programs.

iv) **Strategy 4: Offer Specialized Programs and Tools**

PG&E intends to fund programs to address the different needs of its diverse customer base. As January 1, 2022, close to thirty-percent of PG&E's Residential customers live in multifamily dwellings.¹¹ Often, customers who live in multifamily homes may not be able to make EE upgrades because they are unable to obtain owner permission or because they do not wish to invest their own money in a building they do not own. Additionally, building appliances and structures are sometimes common to other tenants. PG&E's Multifamily Program (MFP) will work with building owners and property managers to encourage participation in EE programs and make building upgrades in multifamily dwellings. The MFP program plans to deliver carbon reducing and energy savings measures by focusing on heat pump Heating, Ventilation, and Air Conditioning (HVAC) and

¹¹ Thirty percent is based on an analysis of an internal PG&E tool: PG&E's Customer Database – Residential Query Tool. PG&E identified approximately 5.7 million customers, of which approximately 1.7 million live in multifamily dwellings. $1.7 \text{ million} \div 5.7 \text{ million} = 29.8 \text{ percent}$, or approximately 30 percent. (Data and calculations as of January 1, 2022).

heat pump water heating measures, as well as advanced building controls to minimize GHG emissions by avoiding distribution system peak periods.

v) Strategy 5: Launch a Resiliency Program and Offer Assistance to Customers in HFTDs

PG&E's customers living in HFTDs want options for powering their homes and communities during outage events. PG&E plans to install microgrids and/or remote grids in HFTDs, which work by employing limited electricity generation for customers within a specific geographical area. PG&E's EE programs can help reduce customer energy use within these alternative power arrangements to save on both construction and operating costs, as well as reduce emissions from the electricity generation assets.

The Resiliency Support Placeholder program will offer a Residential EE implementer partner to design EE projects to align a customer's energy use with the remote grid solution. This EE program is expected to help customers retrofit their homes with new, energy savings measures such as building envelope measures and high efficiency HVAC systems. Then the generation used to power the remote grid can be similarly designed to fit the customers new and reduced energy use profile. Since remote grids are intended to provide power to participating customers throughout the year (rather than only during an outage event), reducing a customer's energy use can provide long-term EE and cost savings benefits.

Different from remote grids, multi-customer microgrids are intended to operate during outage events and regularly rely on temporary generation to energize customers within the microgrid's footprint. The generation or battery energy storage used in a particular microgrid is often sized based upon the peak loads experienced within the microgrid boundaries. PG&E intends to deploy EE programs to

1 reduce and optimize the energy use of customers within
 2 each microgrid. By doing this, PG&E can decrease the
 3 amount of electricity that needs to be generated or stored to
 4 power the microgrid. When the power needs of the
 5 microgrid customers are reduced through EE, the
 6 generation and/or storage assets often deployed in these
 7 projects can be more cost-effective, may consume less fuel,
 8 and may emit less carbon. One of the goals of this
 9 microgrid partnership program is to reduce customer energy
 10 use such that cleaner generation assets like solar power
 11 and battery storage, which are typically less energy-dense
 12 compared to fossil-fueled generators and therefore require
 13 more space, may be used. In this enhanced microgrid
 14 program, PG&E plans to deliver the same type of program
 15 support as with remote grids – energy savings projects
 16 consisting of measures such as building envelope and high
 17 efficiency HVAC designed to align with the constraints of the
 18 microgrid.

19 **vi) Strategy 6: Expand Beyond EE and Form Partnerships**
 20 **with Other Clean Energy Providers**

21 PG&E plans to expand the scope of certain Residential
 22 EE programs by offering information and support beyond
 23 those of traditional EE programs. Delivering comprehensive
 24 clean energy solutions should incorporate Demand-Side
 25 Management (DSM) efforts including: permanent load
 26 reduction through EE; event-based load reduction through
 27 DR; distributed clean energy resources such as Distributed
 28 Generation (DG); BTM energy storage; and aligning
 29 customers' energy use with times when electric generation
 30 is the most carbon-free. For example, responding to TOU
 31 rate structures by controlling residential EV charging or DER
 32 asset discharging requires integration of several DSM
 33 factors. PG&E intends to promote these DSM practices
 34 under expanded EE portfolio programs. PG&E plans to

1 form partnerships with other clean energy providers to
2 deliver comprehensive solutions and continue to educate
3 customers about available clean energy opportunities.

4 PG&E plans to expand the personalized
5 recommendations offered to participating customers through
6 its Virtual Energy Audit program. PG&E has funded this
7 program as a “pay for performance” program, that pays the
8 vendor for measured savings at the meter, in previous
9 portfolios and intends to continue the program during this
10 portfolio period. Virtual Energy Audit has historically offered
11 customers no-cost disaggregated home energy audits and
12 monthly energy use reports complete with energy saving
13 tips and personalized coaching. From 2024-2027, PG&E
14 expects to expand the information and tips Virtual Energy
15 Audit offers customers to promote TOU rate optimization,
16 DR program participation, and home EV charging
17 optimization.

18 In other EE portfolios, PG&E has offered
19 comprehensive whole home retrofit programs which
20 provided customer assistance and incentives for building
21 shell and weatherization measures and upgrading large
22 appliances to new and energy efficient models. During the
23 program period, PG&E plans to expand the focus of the
24 Residential Load Management Placeholder program to offer
25 customers comprehensive load management solutions.
26 While the core measures and appliances such as insulation
27 and HVAC systems will remain similar to past portfolios,
28 PG&E plans to expand the scope and services to include
29 information and operational controls programming to help
30 customers control their load in a dynamic fashion to take
31 advantage of renewable energy – either from the electric
32 grid or from customer-owned DERs.

33 PG&E plans to cross-market EE and other clean
34 energy, DR, and EV programs. For example, PG&E intends

to use the EE enrollment channels employed by its multifamily and market support whole home retrofit programs to generate customer participation in these programs.

vii) Strategy 7: Create Building Electrification and Decarbonization Programs

EE home retrofit projects often require a significant amount of time and capital to complete. PG&E plans to offer specialized support to ensure customers can move towards a clean energy future.

The steps customers take to electrify their homes can be lengthy and potentially confusing. Electrification may require service panel upgrades, improving a home's infrastructure BTM, locating qualified contractors, finding available incentives to reduce the cost of the appliance and the pre-work needed to ready their home, and navigating the incentive application process. PG&E plans to address these potential barriers to retrofit electrification by providing interested customers comprehensive support for retrofit electrification through a new electrification single point of contact (SPOC) program. This Residential Market Support Placeholder program could fund the SPOC to be a qualified EE implementer. The SPOC could work with interested customers to help determine work needed to electrify their home, connect them with applicable service providers (PG&E distribution planning, residential electrician, qualified plumbing and HVAC trade contractors) and assist them in accessing incentives available to complete the work.¹²

PG&E includes a Residential Equity Placeholder program to offer a future targeted program that may support

¹² While not EE Residential programs, electrification incentives are available for customers through PG&E's SGIP for heat pump water heater upgrades and the Technology and Equipment for Clean Heating (TECH) Initiative for heat pump HVAC and heat pump water heating upgrades.

customers above ESA eligibility¹³ by providing them with financial support options for EE measures, such as building shell and weatherization, as well as new high efficiency electric appliances to replace their aging gas equipment.

The Zonal Electrification Placeholder (Residential) program is an important part of PG&E's retrofit building electrification and decarbonization strategy. PG&E intends to target communities and customers identified by PG&E's Gas Asset Strategy team where the potential exists to eliminate natural gas service. This Zonal Electrification Placeholder program focuses on electrifying all end uses in targeted customer homes including space conditioning, water heating, cooking, clothes drying, and fireplaces. Since the targeted electrification zones will likely include other non-residential customers, this program would likely be offered in coordination with programs in other sectors.

d. Sector-Specific Coordination

e. Categorization by Segment

The Residential sector programs are categorized across all three portfolio segments of resource acquisition, market support, and equity. PG&E describes this categorization in Chapter 3. Table 4-5, below, lists the Residential program segments.

¹³ Does not include customers who are qualified to receive EE measures through the ESA program. ESA eligibility guidelines are established in Pub. Util. Code § 2790(a).

**TABLE 4-5
RESIDENTIAL SECTOR PROGRAM SEGMENTS**

Line No.	Program ID	Program Name	Segment
1	PGE_Res_002d	Residential Behavioral Program	Resource Acquisition
2	PGE_Res_002a	UAT Program	Resource Acquisition
3	PGE_Res_002e	Online Marketplace Program	Market Support
4	PGE_Res_003	Multifamily Program	Resource Acquisition
5	PGE_Res_001b	Virtual Energy Audit Program	Resource Acquisition
6	PGE_Res_Equity	Residential Equity Placeholder ^(a)	Equity
7	PGE_Res_ZE	Zonal Electrification Placeholder ^(a) (Residential)	Equity
8	PGE_Res_Mkt_Spt	Residential Market Support Placeholder ^(a)	Market Support
9	PGE_Res_LoadMgt	Residential Load Management Placeholder ^(a)	Market Support
10	PGE_Res_Resiliency	Resiliency Support Placeholder (Residential) ^(a)	Market Support
11	SW_PLA	SW Plug Load and Appliances	Resource Acquisition
12	SW_HVAC_QIQM	SW Residential QI/QM	Market Support
13	SW_HVAC_Up_Res	SW HVAC Upstream Residential	Resource Acquisition

(a) Placeholders reflect programs that PG&E plans to solicit, contract, and/or implement by 2024-2027.

f. Program Details

Program Cards are provided in Attachment A.

g. New Programs Proposed in This Application

PG&E describes the new programs proposed in this application in Table 4-4 above under the Program Type “Proposed Local Third-Party.”

h. Program-Specific Coordination

Zonal Electrification Placeholder programs

PG&E's Zonal Electrification Placeholder (Residential) program will partner with a similarly focused Zonal Electrification Placeholder (Commercial) program. Together the programs can help a managed gas system transition.

2. Commercial

a. Introduction

1) Scope and Purpose

This section summarizes PG&E's Commercial programs and sector strategies and shows PG&E's approach to addressing barriers to participation, supporting cost-effectiveness, and generating TSB within this sector.

PG&E's Commercial sector includes 15 programs that serve a variety of customer subsectors. Most of these programs will be resource acquisition programs, as described in Table 4-7 below. In addition, PG&E is proposing a new Small and Micro Business Equity program focused on supporting underserved business customers.

2) Summary of Goals, Objectives, and Strategies

PG&E's Commercial sector goals align with all four of PG&E's portfolio goals described in Chapter 1. Figure 4-3 summarizes PG&E's Commercial goals, objectives, and strategies and illustrates how they interrelate.

FIGURE 4-3
PG&E'S COMMERCIAL SECTOR GOALS, OBJECTIVES, AND STRATEGIES



3) Support for Request

PG&E's TSB and budget forecasts for its Commercial sector enable more equitable and deeper customer participation in EE and support California's and PG&E's carbon-neutrality goals through the following programs listed in Table 4-6.

The program names listed below and referenced throughout this sector header are the program names used in CEDARS, though program details discussed throughout this section describe the current vendor's program which may use a different public name. Inclusion of the current vendor's program details does not guarantee that the vendor's current contract will be extended. PG&E will evaluate vendor performance and determine the appropriate action.

**TABLE 4-6
PG&E'S COMMERCIAL SECTOR PROGRAMS**

Line No.	Program ID	Program Name	Program Description	Program Type
1	PGE_Com_004	High Tech and Bio Tech Efficiency Program	Focused on space heating, central plant conversions, HVAC equipment replacement and water heating. The program also offers integration of EV support equipment, battery storage, and self-generation resulting in load flexibility and customer resiliency.	Local Third-Party
2	PGE_Com_001	Grocery Efficiency Program	Focused on refrigeration load and control, contributing to peak demand reduction, and enabling participation in DR and integrated DER efforts. This program uses a mix of retro commissioning (a process to improve the efficiency of an existing building's equipment and systems) and targeted retrofits, such as head pressure resets, tuning of antisweat heater controls, and case door retrofits to contribute reduced load and system optimization. In the future, this program plans to seek CPUC approval to include replacement of site-built refrigeration systems, known to have high refrigerant leak rates, to reduce GHGs reduction.	Local Third-Party
3	PGE_Com_005	Healthcare Efficiency Program	Addresses EE in healthcare settings, such as electrification via space and water heating measures, resiliency, and integrated DERs.	Local Third-Party
4	PGE_Com_003	Commercial Efficiency Program	Focused on retail, real estate, hospitality, and warehousing customers, this program prioritizes climate zones where the most peak demand can be reduced by targeting equipment upgrades and addition of controls for HVAC and refrigeration measures.	Local Third-Party
5	PGE_Com_002	Laboratory Performance Efficiency Program	Focused on ventilation system optimization through planning, controls, retrocommissioning, and advanced air handling design upgrades to support both EE and peak demand reduction.	Local Third-Party
6	PGE21011	Commercial Calculated Incentives	A site-specific program providing incentives for to and above code equipment upgrades using validated engineering estimates (Commercial and Public sector Whole Building Performance Program) ^(b) for projects that do not qualify for a current Third-Party Implemented Programs, and certain subprogrammatic activity.	Local PG&E- Implemented
7	PGE21012	Commercial Deemed Incentives	Program offering fixed rebates based on approved savings calculations for a select catalog of equipment.	Local PG&E- Implemented

**TABLE 4-6
PG&E'S COMMERCIAL SECTOR PROGRAMS
(CONTINUED)**

Line No.	Program ID	Program Name	Program Description	Program Type
8	PGE21014	Commercial Energy Advisor	Provides customer guidance and education on EE, DR, self-generation and GHG reduction opportunities through the Business Energy Checkup Tool.	Local PG&E- Implemented
9	PGE_Com_EM	Commercial Energy Management (Placeholder) ^(a)	PG&E plans to expand the Strategic Energy Management (SEM) program to the Commercial sector targeting hospitality, high-tech, biotech, large office, and higher education campus customers.	Proposed Local Third-Party
10	PGE_Com_SmallBiz	New Small/Micro Business Offering Placeholder ^(a)	Equity program intended to provide high-touch outreach, guidance, EE counseling, as well as project management assistance to small and micro businesses, as well as Hard-to-Reach (HTR) businesses and those in Disadvantaged Communities (DAC). ^(c)	Proposed Local Third-Party
11	PGE_Com_ZE	Zonal Electrification Placeholder (Commercial) ^(a)	Equity program intended to target specific non-residential customers who operate within geographic areas where PG&E has identified natural gas system operating costs may be reduced by eliminating natural gas assets.	Proposed Local Third-Party
12	SW_UL	Upstream Lighting ^(d)	PG&E provides funding to the Lead Program Administrator as shown in Tables 3 (pp. 91-92) and 4 (p. 92) of D.18-05-041. PG&E receives proportional benefits from the Statewide program through the CPUC's CEDARS reporting system. Please refer to Southern California Edison Company's (SCE) application for description of the Statewide program.	Statewide Led by Other IOU
13	SW_MCWH	Midstream Commercial Water Heating ^(d)	PG&E provides funding to the Lead Program Administrator as shown in Tables 3 (pp. 91-92) and 4 (p. 92) of D.18-05-041. PG&E receives proportional benefits from the Statewide program through the CPUC's CEDARS reporting system. Please refer to Southern California Gas Company's (SoCalGas) application for description of the Statewide program.	Statewide Led by Other IOU

**TABLE 4-6
PG&E'S COMMERCIAL SECTOR PROGRAMS
(CONTINUED)**

Line No.	Program ID	Program Name	Program Description	Program Type
14	SW_HVAC_Up _Com	SW HVAC Upstream Commercial ^(d)	PG&E provides funding to the Lead Program Administrator as shown in Tables 3 (pp. 91-92) and 4 (p. 92) of D.18-05-041. PG&E receives proportional benefits from the Statewide program through the CPUC's CEDARS reporting system. Please refer to San Diego Gas & Electric Company's application for description of the Statewide program.	Statewide Led by Other IOU
15	SW_FS	Food Service POS	PG&E provides funding to the Lead Program Administrator as shown in Tables 3 (pp. 91-92) and 4 (p. 92) of D.18-05-041. PG&E receives proportional benefits from the Statewide program through the CPUC's CEDARS reporting system. Please refer to SoCalGas' application for description of the Statewide program.	Statewide Led by Other IOU

(a) Placeholders reflect programs for which PG&E plans to solicit, contract, and/or implement by 2024-2027.

(b) [PG&E Manual for Commercial and Public Sector Whole Building Performance Based Retrofit Program Offering \(pge.com\)](https://www.pge.com). (accessed Jan. 13, 2022).

(c) Definitions of HTR customers and DAC, D.18-05-041, pp.159-160, Finding of Fact (FOF) 14.

(d) These programs may serve additional sectors beyond Commercial.

PG&E has either already initiated third-party solicitations or intends to conduct them in 2022-2023 for the placeholder program IDs listed above, with the intent to solicit, contract, and/or implement by 2024-2027. PG&E's forecast includes placeholder program IDs and budgets for each of these programs. While the descriptions above provide PG&E's current understanding of needs in the respective areas, the details may change prior to and during the solicitation process.

b. Sector Overview

The Commercial sector represents a third of PG&E's electric customer consumption,¹⁴ and includes over 600,000 customers¹⁵ with

¹⁴ Based on an analysis of an internal PG&E tool: PG&E's Customer Database – Commercial Query Tool (Data as of December 2021).

¹⁵ Based on an analysis of an internal PG&E tool: PG&E's Customer Database – Commercial Query Tool (Data as of December 2021).

diverse needs related to EE and decarbonization. PG&E's Commercial sector is broadly defined by the following subsectors:

- Biotech, including drug and pharmaceutical manufacturing;
- Healthcare and Social Assistance;
- High-Tech, telecommunications, and other data processing facilities;
- Hospitality and Entertainment;
- Offices, including transportation and warehousing; and
- Retail.

Commercial customers also vary by business size, structure, priorities, and challenges. As of 2020, small and micro-business customers comprise approximately 80 percent of PG&E's commercial customers, and approximately 40 percent of the small and micro customers are considered HTR.¹⁶

PG&E's Commercial Account Management team meets with its commercial customers regularly. In addition, PG&E sends a survey to these customers after participation in an EE program. PG&E understands that its commercial customers desire tailored recommendations, need assistance identifying opportunities to save energy, and want the ability to maintain control over their energy use and are concerned about utility costs. PG&E designed the Commercial sector strategies to be responsive to these customer desires, to address historical barriers to entry into the EE programs, and to drive broader participation to achieve greater TSB.

Based on PG&E's experience, PG&E understands the barriers to participation for Commercial customers include:

- Informational/Technical:
 - Information on how to identify EE opportunities and how to proceed with an EE project.
 - Support, including technical assistance, with project management and EE installations.

¹⁶ Based on an analysis of an internal PG&E tool: PG&E's Customer Database – Commercial Query Tool (Data as of December 2021).

- Financial: Financial barriers including lack of access to capital, regulatory or business requirements related to internal rate of return and payback periods, split incentives between property owners and tenants, and an underappreciation of the full financial benefits of EE and decarbonization.¹⁷

c. **Support for Strategies, Activities, and Forecast Drivers**

This section describes PG&E's goals, objectives, and strategies that drive its forecast for the Commercial sector programs.

1) **Goal: Maximize TSB While Providing Commercial Customers Equitable Opportunities**

PG&E's Commercial sector includes a diverse group of customers. PG&E understands that the micro-, small-, and medium-sized Commercial sector customers typically need more hands-on assistance identifying, applying for, and implementing EE projects due to their lack of in-house staffing and funding resources. Large customers may face challenges in complying with the Custom Review Process required for participation in EE projects which use the custom savings methodology.¹⁸ PG&E strives to provide commercial customers equal opportunity to participate in EE programs. By focusing efforts on mitigating customers' barriers to participation, this goal supports the portfolio level goal of optimizing the delivery of TSB and increases participation across all commercial customers.

2) **Goal: Accelerate the Transition to Clean Energy and Climate Resiliency**

California has ambitious climate goals driving the state toward carbon neutrality and a climate resilient economy. PG&E supports

¹⁷ KW Engineering, *How to overcome energy management barriers for commercial & industrial customers* (August 17, 2018). <https://www.kw-engineering.com/how-overcome-energy-management-barriers-customers-industrial/>. (accessed Jan. 13, 2022).

¹⁸ CPUC Custom Projects Review Home Page, Custom Project Review Process, <https://www.cpuc.ca.gov/industries-and-topics/electrical-energy/demand-side-management/energy-efficiency/custom-projects-review>. (accessed Jan. 13, 2022).

1 accelerating the Commercial sector's transition to reliable,
 2 affordable clean energy, thereby helping them become more energy
 3 resilient and reducing their GHG emissions. This goal reflects
 4 PG&E's efforts to integrate electrification and grid-connected energy
 5 management resources. This goal supports the portfolio level goals
 6 of achieving carbon neutrality by 2045 and optimizing delivery of
 7 TSB.

8 **a) Objective: Increase Participation and Energy Savings of**
 9 **Micro and Small Businesses**

10 PG&E plans to increase participation and resulting energy
 11 savings for micro, small, and medium sized commercial
 12 customers, and those who fall under the HTR and DAC
 13 designations, that face barriers to participating in EE programs.
 14 Micro, small, and medium -sized commercial customers may
 15 lack the internal resources to participate in EE projects and
 16 need and assistance. This objective is intended to increase the
 17 participation of small and micro, HTR and DACs by providing a
 18 Small and Micro Customer Equity program to support these
 19 customers by engaging them with a dedicated resource who
 20 can help them navigate the EE application and implementation
 21 process. See PG&E's new program, New Small/Micro Business
 22 Placeholder, in Table 4-6.

23 **b) Objective: Expand Tools and Program Pathways to Make**
 24 **Participation Easier**

25 PG&E plans to engage commercial customers of all sizes in
 26 streamlined EE opportunities by providing expanded tools and
 27 program pathways to increase participation in EE programs.
 28 PG&E has either already initiated third-party solicitations or
 29 intends to conduct them between 2022 and 2024 for
 30 placeholder programs related to Commercial Energy
 31 Management, Small and Micro Business Equity, and Zonal
 32 Electrification with implementation during the 2024-2027 period.

c) Objective: Increase Adoption and Integration of DER Offerings

PG&E intends to work with commercial sector customers to encourage adoption of and integration with DERs. This objective can contribute to the reduction of peak demand and align their energy use with times of high renewable energy generation. Increasing adoption and integration with DER can reduce GHG emissions and increase grid reliability.

i) Strategy 1: Provide Enhanced Support for Underserved Customers

At the time of this EE application filing, PG&E is reviewing third-party submissions for a new Small/Micro Business Offering that is expected to qualify for equity treatment with the primary purpose of providing enhanced assistance to micro and small business customers who are typically an underserved population of customers. Under this program, PG&E intends to assist these customers in identifying energy-saving and bill reduction opportunities through education, rate reviews, energy audits, and behavioral strategies with the help of local staff, contractors, and community-based organizations. The goal of this program is to increase engagement and participation of underserved commercial customers in EE programs. This program is included in PG&E's 2024-2027 forecast.

This program aims to support the Commission's Environment and Social Justice (ESJ) Action Plan goals 1, 2, and 5.¹⁹ Under the equity designation this program can:

¹⁹ ESJ Goal 1: Consistently integrate equity and access considerations throughout CPUC proceedings and other efforts; ESJ Goal 2: Increase investment in clean energy resources to benefit ESJ communities, especially to improve local air quality and public health; ESJ Goal 5: Enhance outreach and public participation opportunities for ESJ communities to meaningfully participate in the CPUC's decision-making process and benefit from CPUC programs. CPUC, *Environmental and Social Justice Action Plan, v.2.0 Draft*, (October 26, 2021), <https://www.cpuc.ca.gov/esjactionplan/>. (accessed Jan. 13, 2022).

- 1 a) Provide a level of benefits and assistance that may not
 2 be cost-effective under a resource acquisition
 3 designation, but which may be needed to increase
 4 participation among underserved customers. Examples
 5 of additional assistance may include bill counseling,
 6 development of an EE business strategy, and
 7 integration with other DER offerings.
- 8 b) Provide benefits and demonstrate value beyond energy
 9 savings such as GHG reductions, bill savings, health,
 10 safety, and indoor air quality improvements.

11 As with other programs in the portfolio, PG&E is
 12 requesting that this equity program also support
 13 decarbonization by educating customers about
 14 electrification, GHG reductions, energy controls and DR
 15 programs, and other ways to best manage energy
 16 consumption, as well as the benefits of participating in these
 17 opportunities both to the customer and to their community.
 18 This strategy supports PG&E's electrification and GHG
 19 reduction targets by encouraging the highest efficiency
 20 electric measures in place of gas measures.

21 **ii) Strategy 2: Expand and Enhance Self-Service Tools**

22 PG&E plans to expand and create web-based tools to
 23 deliver straightforward, personalized guidance to generate
 24 participation in EE programs and help customers manage
 25 their energy use.

26 Business Energy Check-Up

27 Business Energy Check-up is an existing web-based
 28 tool that allows business customers to take an online survey
 29 and receive behavioral and retrofit recommendations.
 30 Users also learn how their business's energy use compares
 31 to a similar business energy baseline and how similar
 32 businesses have reduced energy use. In addition, the
 33 customer receives emails about energy topics from rate
 34 plans to renewable energy. The site provides links to EE

self-help, continuing education, and case study resources. PG&E plans to enhance the Business Energy Check-Up tool to include more detailed bill analyses and expanded recommendations for decreasing energy consumption, emphasizing electrification, and integrating rate optimization, technology controls, and DR opportunities. The expanded tool supports portfolio-level goals to optimize delivery of TSB, shape energy demand to match supply, and support economy-wide carbon neutrality by 2045.

Online Marketplace Program

As described in Section D.1 above, customers can search for and compare energy efficient products on PG&E's Marketplace. While currently only available for residential equipment, PG&E plans to expand this tool to serve business customers.

iii) Strategy 3: Expand Deemed and Meter-Based Program Pathways

PG&E intends to expand the different ways commercial customers can participate in EE programs by adding new deemed measures, deemed/custom hybrid savings calculators, and opportunities for both site level and population level Normalized Metered Energy Consumption (NMEC) savings methodologies.

Hybrid Measures: Custom Projects using Approved Savings Calculators

Referring to hybrid measures like the Modified Lighting Calculator²⁰ used for Light Emitting Diode (LED) Lighting projects, PG&E plans to work with its EE Policy and Engineering teams to increase the number of available

²⁰ Modified Lighting Calculator is used by EE Programs to determine savings from LED lighting conversions. Resolution (Res.) E-5115 (Feb. 11, 2021) provided guidance on low-rigor project requirements. <https://docs.cpuc.ca.gov/PublishedDocs/Published/G000/M366/K381/366381636.PDF>. (accessed Jan. 13, 2022).

measures that use approved savings calculators. Deemed measures are prescriptive EE measures that have predefined savings calculations, cost, eligibility, and other measure attributes and therefore require the least time and administrative burden for individual project review and validation.²¹ In contrast, custom measures are energy saving measures that calculate estimated energy savings based on site-specific conditions. Custom measures are designed to be used when savings for a measure can vary widely based on site-specific parameters, and when approved deemed measures are not available.²² Savings calculators, typically used for custom measures, combine site-specific variables and pre-agreed upon inputs to calculate the energy savings of a project.

By expanding use of savings calculators, EE participants are expected to save time and resources and reduce uncertainty in the project review by relying on pre-approved calculator values. More information about hybrid measures is available in the Industrial Section of this chapter (Section D.5).

Normalized Metered Energy Consumption

PG&E intends to expand both site-level NMEC (for large customers) and population-level NMEC (for smaller customers) offerings. PG&E describes NMEC in Exhibit 1, Chapter 1, Section D.1. NMEC projects offer advantages by helping customers to capture the savings associated with

²¹ CPUC, *Energy Efficiency Policy Manual* v5 (R.09-11-014), p. 49, (July 5, 2013). https://www.cpuc.ca.gov/-/media/cpuc-website/files/uploadedfiles/cpuc_public_website/content/utilities_and_industries/energy/energy_programs/demand_side_management/e_and_energy_savings_assist/cpucenergyefficiencymanualv5.pdf. (accessed Jan. 21, 2022).

²² PG&E, *PG&E Resource Savings Rulebook, Version 1.0*, p. 5 (March 27, 2020). [https://www.pge.com/pge_global/common/pdfs/for-our-business-partners/energy-efficiency-solicitations/PGE%20Platform%20Rulebook%20V1.0%20Final_PC2%20\(2\).pdf](https://www.pge.com/pge_global/common/pdfs/for-our-business-partners/energy-efficiency-solicitations/PGE%20Platform%20Rulebook%20V1.0%20Final_PC2%20(2).pdf). (accessed Jan. 13, 2022).

behavioral and operational changes in addition to savings associated with equipment upgrades.

For smaller commercial customers, PG&E plans to provide project roadmaps by business type that outline a menu of DER offerings tailored to the respective customer subsector. Customers with similar characteristics who implement the same equipment upgrades can be grouped together and have their savings measured as a “population” using a population based NMEC approach. The population based NMEC approach may also simplify the participation process for both customers and PG&E by aggregating customers together and then calculating and paying incentives at the cohort (customer group) level.

PG&E also plans to expand SEM in the Commercial sector, Commercial Energy Management, providing benefits currently not captured in established commercial programs. The SEM process helps customers take a holistic approach to their business’ energy consumption, demonstrates how to incorporate energy management as a business practice, and ultimately teaches customers to employ continuous energy improvement. Performance based incentives are paid both on energy savings as well as for training, performance, and technical support, further motivating and deepening customer engagement. PG&E includes the proposed local third-party program, Commercial Energy Management Placeholder, in Table 4-6. Additional discussion on SEM expansion can be in Exhibit 1, Chapter 3.

3) Strategy 4: Support Clean Energy Adoption

PG&E intends to encourage commercial customers to transition to cleaner energy use through electrification. High efficiency electric equipment can enable customers to power their buildings with clean energy generation. When this high efficiency electric equipment also incorporates smart controls enabling active load management,

customers can further enhance GHG reductions and help mitigate electric grid congestion. PG&E intends to offer an electrification program targeting underserved customers in geographic areas where PG&E can decommission existing gas assets thereby reducing overall gas system operation costs. PG&E includes the Zonal Electrification Placeholder (Commercial) program, in Table 4-6.

Commercial customers also face barriers to adopting electrification measures, including the cost to upgrade electrical panels to accommodate a higher electrical load, and a distrust of unfamiliar equipment.²³ For example, in the food service industry, customers have expressed concerns about equipment performance, in particular, the consistency of products and cook times using electric cooking equipment and recovery time for electric water heating equipment.²⁴ To overcome these and other barriers, PG&E is funding demonstration projects through its local Emerging Technologies Program and intends to continue doing so through its WE&T programs, allowing customers to “try before you buy”, as has been offered previously with induction cooktops, or providing customers with opportunities to experience the benefits of electric food service equipment in a test kitchen. PG&E plans to continue to explore opportunities to educate customers on the benefits of electrification. See WE&T, Section E.5, for details.

d. Sector-Specific Coordination

Local Government Partnerships

PG&E’s Local Government Partners intend to serve HTR and DAC customers as a local energy resource.

²³ Electric Power Research Institute, *Efficient Electrification at EPRI – April 2018 Newsletter*, p. 6 (April 2018), <http://mydocs.epri.com/docs/PublicMeetingMaterials/ee/Electrification-APR.pdf>. (accessed Jan. 13, 2022).

²⁴ Foodservice Equipment & Supplies Magazine, *The Electrification of the Commercial Kitchen* (July 1, 2021), <https://fesmag.com/topics/perspectives/point-of-view/19466-the-electrification-of-the-commercial-kitchen>. (accessed Jan. 13, 2022).

New Construction

The Commercial sector intends to leverage the Non-Residential NC program as a resource for customers planning to incorporate electrification measures into their NC and alterations projects. By coordinating with the NC program, the Commercial sector provides customers an additional program pathway through which to complete their EE projects.

Finance

PG&E's Finance offerings are an important support for commercial customers interested in receiving financing for their projects. The Commercial sector relies on finance offerings to help customers who need help to fund EE projects. By coordinating with the Finance team, the Commercial sector intends to ensure that customers have options when it comes to financing EE projects.

e. Categorization by Segment

**TABLE 4-7
COMMERCIAL SECTOR PROGRAM SEGMENTS**

Line No.	Program ID	Program Name	Segment
1	PGE_Com_004	High Tech and Biotech Efficiency Program	Resource Acquisition
2	PGE_Com_001	Grocery Efficiency Program	Resource Acquisition
3	PGE_Com_005	Healthcare Efficiency Program	Resource Acquisition
4	PGE_Com_003	Commercial Efficiency Program	Resource Acquisition
5	PGE_Com_002	Laboratory Performance Efficiency Program	Resource Acquisition
6	PGE_21011	Commercial Calculated Incentives	Resource Acquisition
7	PGE_21012	Commercial Deemed Incentives	Resource Acquisition
8	PGE_21014	Commercial Energy Advisor	Resource Acquisition
9	PGE_Com_EM	Commercial Energy Management Placeholder ^(a)	Resource Acquisition
10	PGE_Com_SmallBiz	New Small/Micro Business Offering Placeholder ^(a)	Equity
11	PGE_Com_ZE	Zonal Electrification Placeholder (Commercial) ^(a)	Equity
12	SW_UL	Upstream Lighting	Resource Acquisition
13	SW_MCWH	Midstream Commercial Water Heating	Resource Acquisition
14	SW_HVAC_Up_Com	SW HVAC Upstream Commercial	Resource Acquisition
15	SW_FS	Food Service	Resource Acquisition

(a) Placeholders reflect programs for which PG&E plans to solicit, contract, and/or implement by 2024-2027.

1 **f. Program Details**

2 Program Cards are provided in Attachment B.

3 **g. New Programs Proposed as Part of This Application**

4 PG&E has three new proposed programs as part of this application:
5 Commercial Energy Management Placeholder, New Small/Micro
6 Business Placeholder, and Zonal Electrification Placeholder
7 (Commercial). PG&E describes the new programs proposed in this
8 application in Table 4-6 above, under the Program Type “Proposed
9 Local Third-Party.”

10 **3. Public**

11 **a. Introduction**

12 **1) Scope and Purpose**

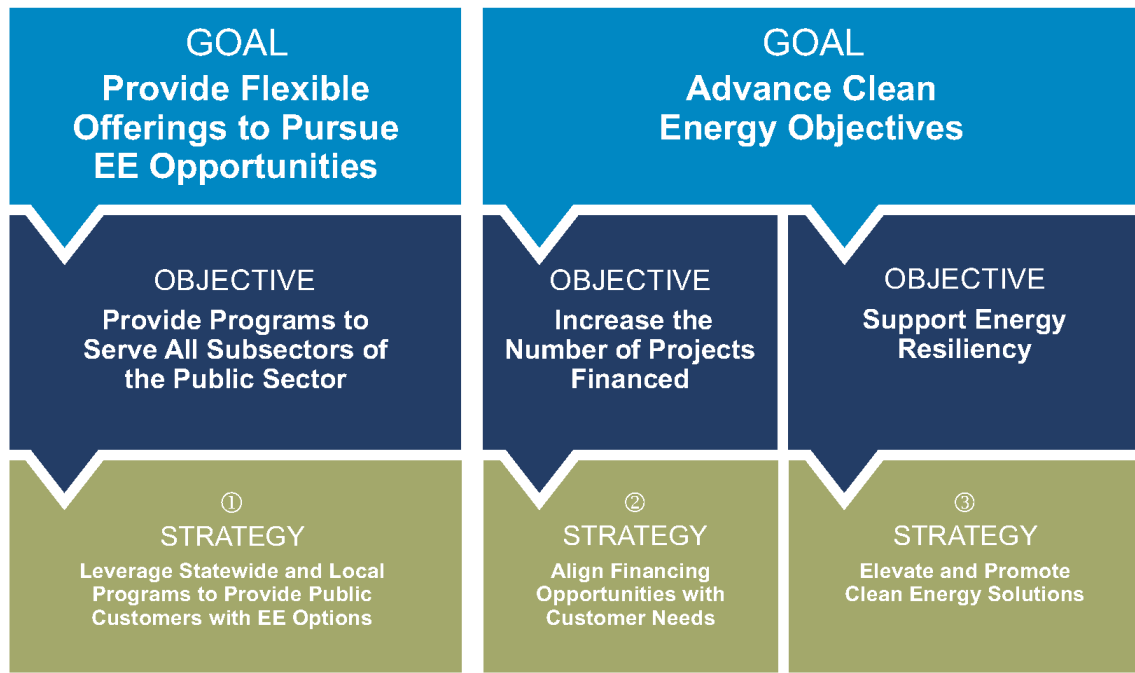
13 This section summarizes PG&E’s Public sector programs and
14 strategies and shows PG&E’s approach to addressing barriers to
15 participation within the Public sector.

16 PG&E’s Public sector includes six programs that serve several
17 customer subsectors. Most of these programs are resource
18 acquisition programs, as described in Table 4-9 below.

19 **2) Summary of Goals, Objectives, and Strategies**

20 In this section and in Figure 4-4 PG&E presents the goals,
21 objectives, and strategies through which PG&E plans to provide the
22 EE measures, services, and resources to enable public sector
23 customers to pursue increased EE and a clean energy future.

FIGURE 4-4
PG&E'S PUBLIC SECTOR: GOALS, OBJECTIVES, AND STRATEGIES



3) Support for Request

PG&E's energy savings and budget forecasts for its Public sector enable more equitable and deeper customer participation in EE and supports California's carbon neutrality goals through the programs listed in Table 4-8.

The program names listed below and referenced throughout this section are the program names used in CEDARS, though program details discussed throughout this section describe the current vendor's program which may use a different public name. Inclusion of the current vendor's program details does not guarantee that the vendor's current contract will be extended. PG&E will evaluate vendor performance and determine the appropriate action.

**TABLE 4-8
PG&E'S PUBLIC SECTOR PROGRAMS**

Line No.	Program ID	Program Name	Program Description	Program Type
1	PGE_Pub_009	Government and K-12 Comprehensive Program	A range of EE measures offered to local and federal governments and K-12 public and charter schools. Using all project application channels (deemed, custom, and NMEC), the program offers HVAC and lighting equipment, control system upgrades, water heating conversion, retrocommissioning recommendations, and behavioral strategies to optimize system efficiencies. This program offers electrification opportunities through water heating measures and DR opportunities through HVAC controls.	Local Third-Party
2	PGE_Pub_010	Wastewater Process Efficiency Program	Focused on optimizing the pumping, filtration, and water remediation systems through application of retrocommissioning and additional controls as well as providing guidance in development of Climate and Energy Action Plans (EAPs). Where appropriate, the program intends to promote electrification and reduction of GHG by looking at the beneficial reuse of otherwise flared bio-gasses and the reduction of chemicals to reduce GHG.	Local Third-Party
3	SW_WP	Water and Wastewater Pumping	PG&E provides funding to the Lead Program Administrator as shown in Tables 3 (pp. 91-92) and 4 (p. 92) of D.18-05-041. PG&E receives proportional benefits from the Statewide program through the CPUC's CEDARS reporting system. Please refer to SCE's application for description of the Statewide program.	Statewide Led by Other IOU
4	SW_IP_Gov	Institutional Partnerships – Government	Program will provide financial, technical, and vendor selection support to the to the State agencies to reach their GHG emission reduction goals. Targeting state owned buildings.	Statewide PG&E Led Third-Party
5	SW_IP_Colleges	Institutional Partnerships – Colleges	PG&E provides funding to the Lead Program Administrator as shown in Tables 3 (pp. 91-92) and 4 (p. 92) of D.18-05-041. PG&E receives proportional benefits from the Statewide program through the CPUC's CEDARS reporting system. Please refer to SCE's application for description of the Statewide program.	Statewide Led by Other IOU
6	PGE_Pub_Resiliency	Resiliency Support Placeholder ^(a) (Public)	PG&E plans to solicit a new program to support customer and grid energy resilience to reduce or offset demand, encourage microgrids, on-site generation, and energy storage.	Proposed Local Third-Party
(a) Placeholders reflect programs for which PG&E plans to solicit, contract, and/or implement by 2024-2027.				

1 **b. Sector Overview**

2 PG&E's Public sector customers include Federal, State, Local, and
3 Tribal²⁵ agencies and their properties within PG&E's service territory.
4 Public sector customers are often leaders in their communities and thus
5 a valuable partner supporting California's GHG reduction goals and
6 carbon neutrality goals.

7 PG&E groups the Public sector into five subsectors:

- 8 • Local Governments: City and county government buildings and
9 infrastructure and wastewater treatment facilities.
- 10 • State Government: California state government buildings and
11 infrastructure.
- 12 • Federal Government: Military bases, federal offices, Tribal
13 reservations and related infrastructure.
- 14 • K-12: Elementary through high school public school campuses and
15 offices.²⁶
- 16 • Higher Education: University of California (UC), California State
17 University (CSU) and California Community Colleges (CCC)
18 systems.²⁷

19 The Public sector plays an important role in helping to meet
20 California's climate goals, yet faces challenges related to project
21 development and financing. Public sector customers have unique
22 facility needs (prisons, water facilities) and often highly structured
23 process protocols (for example, specific sourcing and scheduling
24 criteria). Due to COVID-19, many public buildings were closed for an
25 extended period due to state and local shelter-in-place regulations, such
26 as public schools that had to pivot to distance learning for most of 2020
27 and 2021 and/or install air filtration systems to mitigate spread of the
28 virus. Given these constraints, this sector can benefit from programs
29 that provide flexibility and technical guidance.

²⁵ There are 51 federally recognized Tribes within PG&E's service territory.

²⁶ PG&E includes private K-12 schools in the Commercial sector.

²⁷ PG&E includes private colleges and universities in the Commercial sector.

c. Support for Strategies, Activities, and Forecast Drivers

This section describes the goals, objectives, and strategies in support of the Public sector programs.

1) Goal: Provide Flexible Offerings to Pursue EE Opportunities

Public sector customers require flexible offerings because of their unique facility needs and often highly structured process protocols. Flexible offerings provide more opportunities for Public sector customers to participate in EE programs. Leveraging the Public sector focused statewide EE and local programs, PG&E plans to provide public sector customers programs that address the needs of their subsector. For example, PG&E intends to file a separate application for a Clean Energy Optimization Pilot (CEOP) to incentivize GHG reductions directly.²⁸ CEOP is one strategy for pursuing integrated demand side management (IDSM) and GHG optimization for customers and is attractive due to certain limitations of current EE offerings.²⁹ The initial CEOP application will target higher education customers, with plans to eventually scale to a larger customer base.

2) Goal: Advance Clean Energy Objectives

PG&E supports the Public sector's clean energy objectives to promote a decarbonized and climate resilient economy using integrated programs and strategies.

a) Objective: Provide Programs to Serve All Subsectors of the Public Sector

PG&E's goal is to provide all its public sector customers access to EE programs. If a subsector is identified needing support, PG&E plans to solicit EE programs for these under-represented public subsectors.

²⁸ PG&E expects to file its application for authorization of its CEOP shortly after the filing of this EE strategic business and portfolio plan.

²⁹ For example, CEOP or other GHG optimizing programs may also incent non-energy efficiency measures.

b) Objective: Increase the Number of Projects Financed

The Public sector also faces barriers when seeking financing for their projects. PG&E has observed that public sector projects often exceed either the budget caps and/or the payback requirements of OBF. When this occurs, PG&E may provide partial funding for the project. In addition, the public sector budgeting and approval process normally follows a two-to-four-year planning cycle, which does not align with EE project implementation timelines. PG&E intends to work with public sector customers to identify financing tools to close the gap between EE project timelines and public sector funding cycles to potentially increase participation in EE programs.

c) Objective: Support Energy Resiliency

Public sector customers often need to continue operating during unplanned outages or emergency events. PG&E plans to support customer and grid energy resilience through the strategic deployment of EE and other integrated DERs that may reduce public sector customer energy consumption and pressure on the grid, reduce or offset energy demand, and encourage microgrids, on-site generation, and energy storage. See PG&E's new program, Resiliency Support Placeholder (Public), in Table 4-8.

i) Strategy 1: Leverage Statewide and Local Programs to Provide Public Customers with EE Options

In 2024-2027, PG&E plans to provide more tailored and relevant program offerings for public sector customers. PG&E anticipates that this sector will have access to new statewide programs, along with existing regional partnerships and local PG&E programs. D.18-05-041 identified specific program areas which would be administered as statewide programs assigned to the IOUs

as lead program administrators.³⁰ Among these program areas are three dedicated to the Public sector:

- WE&T Career Connections, a program administered by PG&E that provides schools and instructors with teaching materials and resources to educate students about energy and sustainability fundamentals;
- Higher Education, an Institutional Partners program that provides support for UC, CSU, and CCC campuses, administered by SCE; and
- A State of California/Department of Corrections Institutional Partners program administered by PG&E.

PG&E plans to work with public sector customers to help them take advantage of the statewide resources while also promoting opportunities through regional networks and local PG&E programs.

PG&E has solicited for and established a dedicated individual program (Government and K-12 Comprehensive Program) to represent local and federal government and K-12 facilities. By the end of 2022 new EE programs including the Statewide Institutional Partnership (serving CCC, the UC, and CSU) and the State of California program (serving all State agencies) will launch and then all subsectors of the Public sector will be served by a dedicated EE program. In 2023, a statewide Water and Wastewater Pumping program is also expected to be launched. These programs are expected to continue in 2024-2027.

ii) **Strategy 2: Align Financing Opportunities with Customer Needs**

PG&E's second strategy relates to modifying financing processes for public sector EE projects, aligning them with customer needs to increase the number of EE projects

³⁰ D.18-05-041, pp. 91-92.

1 financed in the public sector. Certain public sector projects
 2 can exceed OBF budget caps and public sector customer
 3 payback periods. Because of this, public sector customers
 4 remain ineligible for the existing OBF offering and can
 5 benefit from more flexible financing opportunities. To
 6 address these challenges, PG&E plans to seek expansion
 7 of the OBF loan pool by including other capital sources.
 8 This expanded loan pool should provide greater
 9 opportunities for large loans typically requested by large
 10 public sector customers. See Section E.6 for information
 11 about PG&E's proposal.

12 **iii) Strategy 3: Elevate and Promote Clean Energy** 13 **Solutions**

14 PG&E's public sector programs plans to offer EE
 15 programs and resources to expand electrification choices
 16 and to encourage and support reductions in GHGs. For
 17 example, PG&E currently offers the Government and K-12
 18 Comprehensive Program that provides: HVAC and lighting
 19 equipment; control system upgrades; retrocommissioning
 20 recommendations; behavioral strategies to optimize system
 21 efficiencies; and water heating conversion electrification
 22 options for customers to advance their GHG reduction
 23 strategies.

24 PG&E proposes two tactics that form the basis of the
 25 Public sector clean energy strategy:

- 26 • Provide public sector customers with energy roadmaps,
 27 climate action plans (CAP), and EAP to guide their
 28 clean energy efforts; and
- 29 • Provide guidance and assistance on integrated power
 30 supply solutions to enable customers to stay energized
 31 through outage events.

Provide public sector customers with energy roadmaps, CAPs, and EAPs to guide their clean energy efforts

To help facilitate the Public sector's transition to clean energy, PG&E and its LGPs intend to offer public sector customers assistance to create and update their EAPs and CAPs.³¹ These plans offer a roadmap to meet customer clean energy goals by identifying projects, assessing priorities, and assisting with technical specifications. Public sector customers can use these roadmaps to plan and execute integrated clean energy projects.

Provide integrated solutions to enable customers to stay energized through outage events

Outages can create challenges for public agencies charged with providing essential services to their communities. Using the energy roadmaps as a starting point, PG&E plans to further provide guidance and assistance to public entities for integrated energy management solutions that enable them to stay energized through outage events. This strategy involves identifying facilities' minimum energy requirements, reducing those requirements to the extent feasible through EE and DR, and then providing the remaining needed energy through a combination of on-site generation, microgrids, and battery storage.

PG&E is proposing a Resiliency Support Placeholder (Public) program to work with public sector customers to prioritize facilities that most need to stay energized (like wastewater treatment facilities) during outage events and help them develop and update plans accordingly. These

³¹ "An Energy Action Plan or EAP is a framework used by governments and other large organizations to map out their current energy consumption and layout strategies to reduce that consumption. An EAP is like a Climate Action Plan, but its primary metric is energy consumption rather than greenhouse gas (GHG) emissions." <https://enpowersolutions.com/what-is-an-energy-action-plan/>. (accessed Jan. 13, 2022).

1 efforts will likely increase PG&E's public sector customers'
2 ability to manage their own energy resources and
3 proactively mitigate risk during outage events.

4 **d. Sector-Specific Coordination**

5 Local Government Partnerships

6 PG&E's LGPs anticipate working with public sector customers as
7 well as with HTR and DAC customers serving as a local energy
8 resource.

9 New Construction

10 The Public sector can leverage the statewide Non-Residential NC
11 program as a resource for customers planning to incorporate
12 electrification measures into their NC and alterations projects. By
13 coordinating with the NC program, the Commercial sector provides
14 customers an additional program pathway through which to complete
15 their EE projects.

16 Finance

17 PG&E's Finance offerings are an important support for public sector
18 customers interested in receiving financing for their projects. The Public
19 sector relies on finance offerings to help customers who need help to
20 fund EE projects. By coordinating with the Finance team, the Public
21 sector intends to ensure that customers have options when it comes to
22 financing EE projects.

1 **e. Categorization by Segment**

**TABLE 4-9
PUBLIC SECTOR PROGRAM SEGMENTS**

Line No.	Program ID	Program Name	Segment
1	PGE_Pub_009	Government and K-12 Comprehensive Program	Resource Acquisition
2	PGE_Pub_010	Wastewater Process Efficiency Program	Resource Acquisition
3	SW_WP	Waste and Wastewater Pumping	Resource Acquisition
4	SW_IP_Gov	Institutional Partnerships – Government	Resource Acquisition
5	SW_IP_Colleges	Institutional Partnerships – Colleges	Resource Acquisition
6	PGE_Pub_Resiliency	Resiliency Support Placeholder (Public) ^(a)	Market Support
(a) Placeholders reflect programs for which PG&E plans to solicit, contract, and/or implement by 2024-2027.			

2 **f. Program Details**

3 Program Cards are provided in Attachment C.

4 **g. New Programs Proposed as Part of This Application**

5 PG&E's new proposed public sector program for 2024-2027 is
 6 Resiliency Support Placeholder (Public). PG&E describes the new
 7 program proposed in this application in Table 4-8 above, under the
 8 Program Type "Proposed Local Third-Party Programs."

9 **4. Agricultural**

10 **a. Introduction**

11 **1) Scope and Purpose**

12 This section discusses PG&E's approach to serving the
 13 Agricultural sector by addressing barriers to participation, strategies
 14 for generating TSB and supporting the long-term Agricultural EE
 15 market.

16 These Agricultural programs, as described in Table 4-10 below,
 17 are all in the resource acquisition segment and deliver TSB toward
 18 the portfolio's goals.

2) Summary of Goals, Objectives, and Strategies

PG&E's Agricultural sector goals align with PG&E's portfolio goals described in Chapter 1. Figure 4-5 summarizes PG&E's Agricultural goals, objectives, and strategies and how they interrelate.

FIGURE 4-5
PG&E'S AGRICULTURAL SECTOR: GOALS, OBJECTIVES, AND STRATEGIES



3) Support for Request

PG&E's TSB and budget forecasts for its Agricultural sector support California's EE and carbon neutrality goals and further PG&E's goals towards optimizing customers' use of clean energy to make the grid greener, more reliable, and resilient in the face of climate change. The program names listed below and referenced throughout this section are the program names used in CEDARS, though program details discussed throughout this section describe the current vendor's program which may use a different public name. Inclusion of the current vendor's program details does not guarantee that the vendor's current contract will be extended.

- 1 PG&E will evaluate vendor performance and determine the
 2 appropriate action.
 3 PG&E's Agricultural sector forecast for 2024 through 2027
 4 includes the following programs:

TABLE 4-10
PG&E'S AGRICULTURAL SECTOR PROGRAMS

Line No.	Program ID	Program Name	Program Description	Program Type
1	PGE_Ag_001	Agricultural Efficiency Program (AEP)	Serves Agricultural electric and gas customers in the PG&E service territory. Provides qualifying agribusiness owners with technical assistance, rebates, and financing for energy saving products installed at their facilities. Helps identify EE improvements and other cost cutting opportunities, provides rebates for qualifying equipment installations and replacements, and offers custom incentives based on energy savings.	Local Third-Party
2	PGE21031	Agricultural Calculated Incentives	A site-specific program providing financial incentives for agricultural customers to install new equipment or systems that exceed applicable code and/or industry standards in buildings and sites which do not qualify for a current Third-Party Implemented Program.	Local PG&E-Implemented
3	PGE21032	Agricultural Deemed Incentives	The program offers prescriptive rebates directly to customers, vendors, or distributors offering fixed rebates on a select catalog of equipment.	Local PG&E-Implemented
4	PGE21034	Agricultural Energy Advisor	Provides customer guidance and education on EE, DR, self-generation and GHG reduction opportunities through the Business Energy Checkup Tool.	Local PG&E-Implemented

5 **b. Sector Overview**

- 6 As of 2021 the Agricultural sector in PG&E's territory includes
 7 approximately 140,000 customers. The Agricultural sector contains
 8 multiple subsectors including: crop production; livestock production;
 9 dairies; distilleries; wineries; irrigation; forestry; fishing; and hunting.
 10 These subsectors' energy use, EE potential, and needs differ due to
 11 factors such as unpredictable weather, growing seasons, processing
 12 seasons, and equipment.

In recent years, PG&E has observed that EE participation by PG&E Agricultural customers has waned. PG&E meets with its agricultural customers who report the following challenges with EE participation: limited financing options; code and Industry Standard Practice (ISP) restrictions;³² long custom review timelines that do not align with processing and growing seasonality; and unpredictable climate.

Fewer than one percent each of PG&E's small, medium, and large Agricultural customers participated in EE programs in 2020, compared to higher numbers in previous years. For example, in 2016, 3 percent of medium-sized Agricultural customers participated in EE, compared to 1.6 percent in 2018 and 0.5 percent in 2020.³³ To address this trend, PG&E developed strategies to increase the participation of Agricultural customers in EE programs such as outreach to ensure customers are aware of available programs, customer education, financing to help overcome up-front cost hurdles, and efforts to streamline the project participation process.

c. Support for Strategies, Activities, and Forecast Drivers

For 2024-2027, PG&E identifies sector goals, objectives, and strategies to serve the Agricultural sector. PG&E developed each of these goals, objectives, and strategies to overcome barriers and help reach PG&E's portfolio TSB goals in a cost-effective manner. This section describes the Agricultural sector goals, objectives, and strategies.

³² Energy Efficiency ISP Guidance, V3, Nov2020 – p. 5 <https://file.ac/1ttkMCbA7IM/> (accessed Jan. 13, 2022).

³³ R.13-11-005, PG&E 2020 Energy Efficiency annual report Supplement submitted on May 24, 2021, Table 9. <https://www.cpuc.ca.gov/industries-and-topics/electrical-energy/demand-side-management/energy-efficiency/energy-efficiency-reporting>. (At the time of the filing PG&E determined that the link to the referenced document on the CPUC website was not working. PG&E can provide a copy of the referenced material upon request).

1) Goal: Optimize TSB with EE Support where Participation is Easy, Tailored to Customer Needs, and Targeted DAC and HTR Offerings

PG&E understands agricultural customers face several barriers that, in aggregate, make participating in EE programs difficult. Thus, PG&E plans to enact strategies to overcome these barriers and make participation in EE programs easier. Additionally, PG&E plans to target agricultural customers in DAC or HTR areas. This goal supports PG&E's portfolio-level goals of optimizing TSB and equity.

2) Goal: Support Integration of EE and DSM Programs to Support Energy Resiliency and Reliability

PG&E's agricultural customers have a variety of energy priorities. PG&E plans to help customers to participate more fully in programs to manage their energy use by identifying those programs that best meet their circumstances. Supporting integration of offerings with other DSM programs can likely maximize value and support objectives such as resiliency and reliability. This goal includes assisting PG&E's agricultural customers to optimize their energy consumption to help shape energy demand to match supply.

3) Goal: Establish a Foundation for Future Decarbonization Efforts

PG&E's third Agricultural sector goal is designed to help PG&E's agricultural customers move towards decarbonization through electrification of their facilities and operations helping support carbon neutrality by 2045.

a) Objective: Expand Energy Management Skills of Facility Employees

Through experience, PG&E understands that decisions related to energy usage are often made by agricultural customers' operational employees or contractors. As such, PG&E plans to provide training support to employees working in key positions in the agricultural facilities and to contractors

working in the subsector. Training these customers and contractors offers participating businesses the opportunity to improve EE performance, take advantage of rebates, and lower their operational costs. The resulting EE helps PG&E optimize TSB related to the Agricultural sector.

b) Objective: Increase Participation of DAC and HTR Customers

Historically, participation in Agricultural sector programs has been low for those customers in DACs and for customers who are classified as HTR. As part of its effort to increase equity, PG&E intends to focus on reaching more of these customers, educating them so they know how beneficial EE programs can be for their business, and providing specific agriculturally based training to these customers and their contractors. This objective supports PG&E's overall equity goals.

c) Objective: Assist Customers in Securing Financing

A major challenge for agricultural customers is access to the capital needed to finance EE projects. PG&E intends to help agricultural customers secure affordable financing that enables them to pursue EE projects. This objective aims to increase agricultural customers participation in EE programs, thereby increasing TSB.

d) Objective: Expand IDSM Products within Programs

Agricultural customers often have the consumption, operational scale, and facility processes that likely allow them to readily use and benefit from IDSM products, such as TOU rates, DR, on-site generation, and energy storage. PG&E will help its Agricultural customers participating in EE programs take advantage of IDSM offerings.

e) Objective: Increase Electrification

Though it has not yet penetrated the Agricultural sector, PG&E plans to take steps to encourage the Agricultural sector to adopt electrification measures and reduce their GHG

1 emissions. Currently, agricultural customers typically rely
2 heavily on fossil fuel powered equipment and in many instances
3 there is not a viable electric alternative. Agricultural customers
4 often are reluctant to invest in fuel substitution, due to the high
5 initial investment cost and disruption to their core operations.
6 PG&E aims to educate customers about electrification by
7 including information about it in existing programs, identifying
8 measures suitable for electrification, and encouraging customer
9 acceptance of electrification measures through training.

10 **i) Strategy 1: Customize Outreach and Education Using**
11 **Trusted Resources and Programs**

12 PG&E plans to help its agricultural customers
13 understand the value in EE and identify solutions for them
14 by helping to develop targeted marketing materials for
15 specific subsectors. PG&E plans to partner with trusted
16 resources, who have relationships with agricultural
17 customers, to conduct outreach. Those trusted resources
18 include the California Farm Bureau, UC Davis, Fresno
19 State, and agricultural associations. In addition, PG&E can
20 provide training through programs, such as the AEP, to
21 contractors that are in the business of operating, replacing,
22 or repairing agricultural equipment so they can help
23 customers make educated decisions on program offerings
24 and rebates. This engagement may include: analysis of
25 energy consumption data; assistance to understand
26 measures that may have the greatest impact on their
27 business; ways to manage energy usage in the -long-term;
28 and identifying opportunities for additional projects.

29 Controlled Environment Agriculture (CEA), synonymous
30 with indoor agriculture/greenhouses, contributes
31 significantly to electricity and natural gas consumption in

California's agricultural sector.³⁴ Measures used in CEA such as LED grow lights and HVAC hold significant potential for energy savings and TSB, and the AEP provides offerings for these measures.³⁵

Historically, participation in Agricultural sector programs has been low for customers located in DACs and HTR areas. As part of its effort to increase EE participation by these customer groups, PG&E intends to use its existing Agricultural programs to focus on reaching more of these customers, educating them so they know how beneficial EE programs can be for their business, and providing specific agriculturally based training to these customers and their contractors.³⁶ Because of the difficulty in reaching many DAC and HTR customers, PG&E plans to leverage various WE&T offerings to teach HTR and DAC agricultural customers about energy management and what services PG&E offers to them through its EE programs. For example, APEP Pumping classes have a bilingual offering in Spanish and Hmong.

ii) **Strategy 2: Streamlining Project Execution Using Custom Calculation Processes and NMEC**

PG&E anticipates using the custom measure process to support many Agricultural sector projects. To streamline the custom calculation process, as directed in the statewide

³⁴ Guidehouse, Inc, *Industrial/Agricultural Market Saturation Study*, pp. 70-79 (April 16, 2021) [Ind/Ag Market Saturation Study \(ca.gov\)](#). P&G study Ag and Ind market saturation study, section 3.6. (accessed Jan. 13, 2022).

³⁵ Guidehouse, Inc, *Industrial/Agricultural Market Saturation Study*, pp. 70-72 (April 16, 2021) [Ind/Ag Market Saturation Study \(ca.gov\)](#). P&G study Ag and Ind Market Saturation Survey, section 3.6. (accessed Jan. 13, 2022).

³⁶ In addition to its Agricultural sector programs, PG&E is also proposing a New Small/Micro Business Placeholder program under the Commercial sector (PGE_Com_SmallBiz). At the time of this application, there is an open solicitation for the program and implementer. As described in Section D.2, the program intends to offer high-touch outreach, guidance, EE counseling, and project management assistance to small and micro businesses in disadvantaged communities. PG&E may also include small/micro agriculture customers in the scope of this program.

1 manual³⁷ for custom measure projects, PG&E can identify
 2 opportunities to use approved tools, documentation
 3 approaches, and savings methodologies for common
 4 custom measures. These approaches are sometimes
 5 called “hybrid” measures or “express” measures and
 6 combine the flexibility of the custom calculated approach
 7 with efficiencies and predictability of the deemed approach.
 8 For example, PG&E anticipates using this approach for
 9 pump overhauls, because agricultural growers have
 10 seasonality in which there is a tight timeline in the
 11 non-growing season to execute EE projects, and pump
 12 overhauls are generally very similar projects. The objective
 13 of this streamlined approach is to significantly reduce or
 14 eliminate pre-installation technical review to meet the short
 15 project timelines.

16 PG&E plans to use NMEC savings methods for
 17 agricultural customers where possible and appropriate.
 18 These programs can pursue NMEC for projects that meet
 19 eligibility criteria for the platform, have predictable operating
 20 patterns driven by variables for which data are available and
 21 accessible, and where customers have access to a
 22 metering platform. NMEC provides opportunities for
 23 customers to monitor their energy consumption and load
 24 shape on an ongoing basis. However, its applicability to the
 25 Agricultural sector is currently limited because it cannot be
 26 used for non-building projects.³⁸

27 **iii) Strategy 3: Collaboration with Water Agencies**

28 Water usage is a top concern for many Agricultural
 29 customers in PG&E’s territory. According to the U.S.

37 [2013-14 Statewide Customized Retrofit Offering Procedures Manual for Business \(pge.com\)](https://www.pge.com). (accessed Jan. 20, 2022).

38 Rulebook for Programs and Projects Based on NMEC, p. 8, <https://www.cpuc.ca.gov/-/media/cpuc-website/files/legacyfiles/n/6442463694-nmec-rul ebook2-0.pdf>. (accessed Jan. 13, 2022).

1 National Integrated Drought Information System, the entirety
 2 of PG&E's Agricultural sector is currently experiencing a
 3 drought.³⁹ Energy use and water use are linked for many
 4 agricultural customers in that pumping water uses energy,
 5 the more irrigation (or earlier in the season irrigation)
 6 required, the more energy used. Additionally, due to
 7 multiple years of drought, the water table in California has
 8 dropped lower, and as a result, agricultural customers have
 9 installed larger pumps, which use more energy to pump
 10 water from deeper underground. Because of the
 11 connections between water usage and energy usage,
 12 PG&E plans to enhance collaboration with water agencies
 13 in its territory to link energy and water savings rebates.

14 PG&E funds the APEP program through WE&T that
 15 educates agricultural customers about and promotes
 16 electricity savings through better and more efficient energy
 17 and water use. PG&E anticipates a combined energy and
 18 water rebate could be more attractive to customers both
 19 because of the higher value and because of a simplified
 20 rebate structure. Further, PG&E may be able to leverage
 21 water agency marketing and community contacts to improve
 22 outreach to local agricultural customers.

23 **iv) Strategy 4: Align Financing Opportunities with** 24 **Customer Needs**

25 PG&E plans to educate agricultural customers about
 26 the financing options that are currently available to them for
 27 EE projects. For example, for customers who cannot meet
 28 the eligibility requirements for OBF, PG&E has other EE
 29 financing programs in which they can participate such as
 30 the GoGreen Business program. PG&E will promote the
 31 availability of these different types of financing options to

³⁹ [California | Drought.gov](https://www.california.gov/drought). (accessed Jan. 13, 2022).

agricultural customers and third-party implementors. See Section E.6 for more information regarding financing.

v) Strategy 5: Support Integration of Offerings

PG&E plans to integrate EE offerings for agricultural customers with other demand-side management programs, including DR. Such integration can assist agricultural customers in shaping their energy demand to better match California's energy supply and can help customers become more energy resilient. EE programs that offer incentives for controls that save energy may also be used to engage a customer to participate in a PG&E DR program.

Participation in DR may provide the customer with an incentive payment and can help California by reducing electric load during peak times.

PG&E's DR team recently awarded a contract to a third-party implementer to provide IDSM assistance to six EE resource programs over the next two years. PG&E EE team plans to help select which current EE programs, including those in the Agriculture sector, would be a good fit. The DR program Third-Party Implementer will provide materials, assistance, and training to ensure that customers consider DR when developing their EE projects.

vi) Strategy 6: Establish a Foundation for Future Decarbonization

Agricultural customers rely on the use of fossil fuels for tillage, planting, and harvesting; transportation and grain drying; pumping water; and refrigeration. Fossil fuels are also used in the manufacture of fertilizers and pesticides.

During the portfolio period PG&E can look for opportunities for agricultural customers to replace fossil fuel powered equipment with cleaner electric equipment. Electric pumps for irrigation are currently available. PG&E seeks to establish a foundation for future decarbonization

efforts in the Agricultural sector by educating customers through its existing Agricultural and WE&T programs.

f) Longer-term Strategies to Increase TSB That Require Policy Changes

PG&E has identified two longer term strategies it intends to use to optimize delivery of TSB from the Agricultural sector. These strategies are not included in PG&E's 2024-2027 forecast because they would require policy changes which have not yet been requested or approved. See Exhibit 1, Chapter 3 for PG&E's policy requests.

Seek Updates to Deemed Measure Packages

PG&E may seek updates to deemed measure packages to ensure they capture Agricultural operating conditions and baselines. While some measures used in the Agricultural sector are supported by Database of Energy Efficiency (DEER) measure packages, DEER baselines and other current energy savings methodologies may better suit Industrial or Commercial projects and may not capture conditions relevant to agricultural customers. For example, most equipment that is powered by a motor will experience loss in efficiency overtime, and thus increased cost to operate. The savings that are currently claimed must be calculated using an ISP, which uses a like new motor and equipment efficiencies as the baseline. If existing conditions were considered, the actual claimed savings could be larger when compared to the existing conditions of the equipment. This baseline issue is especially relevant to the Agricultural sector because agricultural equipment tends to have a long usage life. Modifying the current baseline guidelines could increase the rate of updating of these measures for those customers where the lower incentive amount may be holding them back from adoption. PG&E intends to work with its third-party implementer(s) to assess which measures may require measure package updates to better reflect operational conditions for agricultural customers and submit updates to the

relevant measure packages. These potential changes are not reflected in PG&E's 2024-2027 forecast due to requirements to use DEER values.⁴⁰

Extend Third-Party Implemented SEM

PG&E may evaluate policy changes to extend third-party implemented SEM into the Agricultural sector. SEM would bring value to the Agricultural sector by: (1) supporting whole-building/system approaches and behavioral, retrocommissioning, and operational (BRO) measures,⁴¹ and (2) incorporating long-term multi-year engagements and customer education, to contribute to more energy savings. The SEM program designation also would offer technical specification benefits, including a program net-to-gross of 1.0, an existing useful life of 5 years, use of the existing conditions baseline, the ability to use the NMEC savings methodology more broadly within the Agricultural sector, and the ability to claim BRO savings.

d. Sector-Specific Coordination

Industrial

The Industrial and Agricultural sectors are closely linked. For example, an agricultural customer that grows a crop may also own and operate the processing facility for the crop. The customer likely has different facilities/sites dedicated to the growing of the crop which fall under the Agricultural sector, while the facility where the crop is processed falls under the Industrial sector. As a result, PG&E will continue coordination between its Industrial and Agricultural sector. The two sub-portfolios are currently managed by a team led by a single supervisor, and program managers coordinate closely. The goal of this coordination is to streamline the communication to and from the customer related to these programs.

⁴⁰ D.21-05-031, pp. 81-82, OP 5 requires the use of DEER values in application forecasts.

⁴¹ Projects using BRO measures focus on identifying less-than-optimal performance in facility's systems (lighting, equipment, control systems) and making necessary adjustments. BRO measures improve the efficiency of what is already in place.

New Construction

The Agricultural sector plans to leverage the Non-Residential NC program as a resource for customers to incorporate electrification measures into their new construction and alterations projects. By coordinating with the NC program, the Agricultural sector provides customers an additional program pathway through which to complete their EE projects.

Finance

The Agricultural sector team will coordinate with the Finance team to provide options related to financing EE projects.

e. Categorization by Segment

Agricultural programs included in PG&E's 2024-2027 forecast are resource acquisition programs, except NC programs, which are in the market support segment.

**TABLE 4-11
AGRICULTURE PROGRAMS BY SEGMENT**

Line No.	Program ID	Program	Segment
1	PGE_Ag_001	Agricultural Efficiency Program	Resource Acquisition
2	PGE21031	Agricultural Calculated Incentives	Resource Acquisition
3	PGE21032	Agricultural Deemed Incentives	Resource Acquisition
4	PGE21034	Agricultural Energy Advisor	Resource Acquisition

f. Program Details

Program Cards are provided in Attachment D.

g. New Programs Proposed as Part of This Application

No new Agricultural sector programs are being proposed in this Application.

5. Industrial

a. Introduction

1) Scope and Purpose

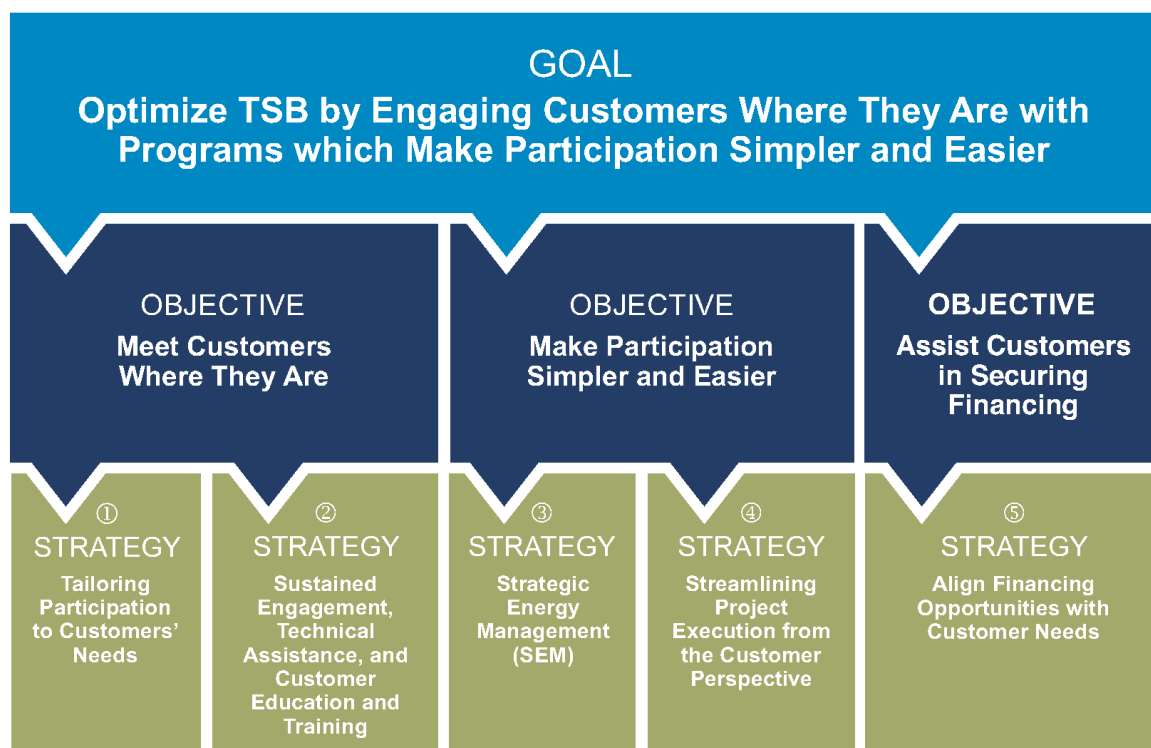
This section provides a summary of PG&E's Industrial sector programs and explains PG&E's approach to supporting its Industrial sector customers through PG&E's EE Industrial programs.

PG&E's Industrial sector forecast for 2024 through 2027 includes eight Local Third-Party programs that are included in the resource acquisition portfolio segment and deliver TSB toward the portfolio's goals (see Table 4-12 below).

2) Summary of Sector Goal and Strategies

PG&E's Industrial sector goals align with PG&E's portfolio goals described in Chapter 1. Figure 4-6 summarizes PG&E's Industrial goals, objectives, and strategies and how they interrelate.

FIGURE 4-6
PG&E'S INDUSTRIAL SECTOR: GOALS, OBJECTIVES AND STRATEGIES



3) Support for Request

PG&E's TSB and budget forecasts for its Industrial sector support California's EE and carbon neutrality goals, and further PG&E's goals towards optimizing customers' use of clean energy to make the grid more reliable, and resilient.

The program names listed below and referenced throughout this section are the program names used in CEDARS, though program details discussed throughout this section describe the current vendor's program which may use a different public name. Inclusion of the current vendor's program details does not guarantee that the vendor's current contract will be extended. PG&E will evaluate vendor performance and determine the appropriate action

These goals are achieved through the following programs:

TABLE 4-12
PG&E'S INDUSTRIAL SECTOR PROGRAMS

Line No.	Program ID	Program Name	Program Description	Program Type
1	PGE210212	Compressed Air and Vacuum Optimization Program	Program serves the Industrial sector, focusing on compressed air and vacuum system optimization solutions for customers in the food manufacturing, fabrication process, and manufacturing. Program provides incentives and technical support and implementation of compressed air system energy solutions.	Local Third-Party
2	PGE_Ind_002	Petroleum and Chemical Efficiency Program	Serves the petroleum, chemical, and minerals Industrial subsectors. The program guides customers through identifying projects appropriate for their unique operations, driving adoption of energy efficient measures and practices through comprehensive account management, technical assistance, specialized engineering support, incentives, and financing. The main objectives are to increase customer participation, cost-effectiveness and savings delivery through targeted outreach, a focus on relationship building and long-term planning and Industrial specific quality assurance and engineering assistance.	Local Third-Party
3	PGE_Ind_003	Manufacturing and Food Processing Efficiency Program	Serves the Industrial manufacturing and food processing subsectors. The program focuses on projects that address complex, interactive mechanical systems such as refrigeration, compressed air, pumping, fans, blowers, boiler and steam systems, and the industrial processes they serve. Projects include both capital projects and BRO measures. Capital projects are long term, capital-intensive projects with a purpose to build upon, add to or improve processes. An example would be adding or replacing a processing line at a rice mill.	Local Third-Party
4	PGE_Ind_001a and PGE_Ind_001b	Industrial SEM	Industrial SEM – Manufacturing and Industrial SEM – Food Processing. SEM programs are constructed around a long-term, intensive engagement with the customer that takes a whole facility approach in which multiple EE projects are implemented over time. Tracking metered energy consumption data for the facility over time plays a central role in the engagement.	Local Third-Party
5	PGE21021 and PGE21022	Industrial Calculated and Industrial Deemed Incentives	Provides custom calculated incentives and deemed rebates for EE projects which do not qualify for current Third-Party Implemented Programs. These are legacy programs implemented by PG&E and are ramping down to accommodate the third-party programs described above.	Local PG&E- Implemented
6	PGE21024	Industrial Energy Advisor	Provides tools to help Industrial customers understand, manage, and plan for their energy consumption.	Local PG&E- Implemented

b. Sector Overview

The Industrial sector in PG&E's territory included approximately 95,000 customers in 2020.⁴² PG&E's Industrial sector includes:

⁴² PG&E Customer Care and Billing System.

chemical and petrochemical industries; mining; manufacturing; and food processing.

The customers in the Industrial sector subsectors vary greatly. Certain Industrial customers, like petroleum refineries, have 24 hour per day operations and maintenance. Bakeries may operate overnight or in the early morning hours, but not operate throughout the day. Some customers have seasonal pushes; for example, canned fruits and vegetables are produced at harvest but maybe nearly dormant during the growing season. These operations have different energy needs. Given this diversity, EE programs for the Industrial sector must be able to serve both large and small customers and a variety of businesses, buildings, and systems.

EE participation by PG&E Industrial customers has decreased in recent years. In 2015, the U.S. Department of Energy (DOE) issued a report to Congress describing reasons Industrial sector customers do not implement industrial end-use EE projects. These barriers include economic and financial, regulatory, and informational.⁴³

The Industrial sector is a large consumer of natural gas. In 2019, the Industrial sector consumed approximately 37 percent of the natural gas used in California.⁴⁴ Natural gas is used in the Industrial sector as a fuel for process heating (boilers), in combined heat and power systems, and as a raw material (feedstock) to produce chemicals, fertilizer, and hydrogen.⁴⁵ Currently, replacing natural gas equipment with electric powered equipment may not be feasible because of financial upfront cost and technological limitations.

c. **Support for Strategies, Activities and Forecast Drivers**

This section describes PG&E's goal, objectives, and strategies that drive its Industrial sector program forecast. PG&E designed these strategies to overcome barriers to participating in EE projects and to

⁴³ U.S. DOE, *Barriers to Industrial Energy Efficiency*, pp. 5-8 (June 2015).

⁴⁴ California – State Energy Profile Analysis – U.S. Energy Information Administration; Updated February 18, 2021 under the header: Natural Gas.

⁴⁵ [U.S. Energy Information Administration \(EIA\) "Natural gas explained—Use of natural gas"](#). (accessed Jan. 24, 2022).

help reach PG&E's portfolio goals in a cost-effective manner. This section describes the goal, three objectives, and five strategies to meet that goal for the Industrial sector.

1) Goal: Optimize TSB by Engaging Customers Where They Are With Programs Which Make Participation Simpler and Easier

As described above, Industrial customers face several barriers that in aggregate make participating in EE programs difficult. Thus, PG&E plans to enact strategies tailored to the Industrial sector that can make it easier for industrial customers to save energy in their facilities and operations. This goal primarily supports PG&E's optimal delivery of TSB, by making it easier for customers to participate, likely also shifting energy demand, and improving customer resiliency.

a) Objective: Meet Customers Where They Are

Recognizing the diversity of the Industrial sector, PG&E plans to tailor its offerings to meet the customers' needs by providing multiple programs, different levels of engagement, and varying methods to reach the customer.

b) Objective: Make Participation Simpler and Easier

A major challenge for industrial customers to participating in EE programs is the complexity of their projects and timelines involved. PG&E aims to make participation in EE programs simpler and easier by utilizing several strategies (tailored offerings, engagement and education, SEM, and streamlining project execution) described below. By making participation simpler and easier, PG&E aims to increase EE program participation resulting in increased TSB.

c) Objective: Assist Customers in Securing Financing

A major challenge for industrial customers is access to the capital needed to finance EE projects. PG&E aims to make available more affordable financing that are described Section E.6. PG&E intends to help industrial customers secure affordable financing that enables them to pursue EE projects.

1 Having more affordable and easily accessible financing
2 available may encourage more customers to participate in
3 program offerings.

4 **i) Strategy 1: Tailoring Participation to Customers' Needs**

5 PG&E plans to tailor Industrial sector EE offerings to
6 meet the diverse needs of its customers by providing
7 multiple programs, different levels of engagement, and
8 varying methods to reach the customer.

9 PG&E's 2024-2027 Industrial sector includes different
10 programs for customers in different subsectors. The
11 Manufacturing and Food Processing Efficiency program and
12 SEM programs serve manufacturing and food processing
13 customers, with SEM split into separate programs for each
14 subsector. The Petroleum and Chemical Efficiency program
15 specifically serves the chemical, minerals, and petroleum
16 subsectors. The portfolio also includes a small, specialized
17 program focused on compressed air and vacuum systems
18 because working with these systems requires a high degree
19 of expertise.

20 PG&E's EE portfolio also offers different levels of
21 engagement. For example, the Manufacturing and Food
22 Processing Efficiency program offers options for a set
23 period whereas meter-based savings calculation
24 approaches offer opportunities for longer term engagement.
25 PG&E's SEM programs offer customers the most
26 engagement. SEM projects continue for at least 2 years
27 involve multiple rounds of project implementation.

28 PG&E uses different methods to reach industrial
29 customers by leveraging trade allies, third-party contactors,
30 and PG&E account representatives. To increase
31 participation of industrial customers, especially that of DAC
32 and HTR industrial customers, PG&E offers trainings and
33 presentations through WE&T about EE programs for
34 industrial customers and trade allies and participates in

events or trainings held by industry leaders. PG&E disseminates marketing materials, such as fact sheets and case studies, that are made available at events, site visits, or through email. Some WE&T programs, such as Advanced Pumping Efficiency program courses, have a bilingual offering in Spanish and Hmong.

ii) Strategy 2: Sustained Engagement, Technical Assistance, and Customer Education and Training

PG&E plans to use the Industrial programs listed in Table 4-12 to sustain engagement with, and provide technical assistance to, industrial customers. These programs may also be used for customer education and training. The programs incorporate review and analysis of facility energy usage data early in the engagement to help the program implementer and customer understand the facility's energy usage and identify opportunities to improve efficiency.

iii) Strategy 3: Strategic Energy Management

PG&E's Industrial sector forecast includes two SEM programs: Industrial SEM – Manufacturing and Industrial SEM – Food Processing. The purpose of SEM is to achieve energy savings by assisting manufacturers to implement robust energy management systems and practices within their organizations. Using SEM, the customer takes a whole facility approach in which multiple EE projects are implemented over time. Currently, customers enroll in the program and commit to a two-year participation cycle. The industrial customers currently enrolled in PG&E's SEM programs have extremely high satisfaction with the programs' comprehensive approach to energy savings at their facilities; there is a list of customers wanting to participate in the future two-year participation cycles

1 The SEM program is a comprehensive engagement
2 strategy that gives participants a SPOC for all EE and
3 energy management support including BRO, Custom and
4 Deemed incentives as well as coordination with the account
5 representatives for other PG&E services such as automated
6 DR, renewable and self-generation offerings. The current
7 SEM program includes other sources of energy savings
8 including assessments and incentives for customers to
9 implement energy management information systems and
10 IDSM activities, savings for those activities are claimed
11 through the appropriate DR program. Accordingly, PG&E
12 plans to continue these programs in 2024-2027.

13 **iv) Strategy 4: Streamlining Project Execution from the**
14 **Customer Perspective**

15 As mentioned above, industrial customers face barriers
16 to participating in EE programs, including economic and
17 financial, regulatory and informational. PG&E can
18 streamline industrial project execution from the customer
19 perspective by providing a diverse set of project pathways
20 for different customer types and sizes. PG&E will package
21 different pathways (e.g., deemed, custom, NMEC) into
22 offerings, EE and IDSM, for different customer types.
23 Additionally, PG&E expects to expand the use of SEM and
24 work with customers to identify and use the appropriate
25 pathways to make participation in EE easier.

26 PG&E also plans to use hybrid measures that would
27 allow short project turn-around times compared to
28 calculated projects. A hybrid measure is a custom measure
29 that can leverage the pre-determined input variables to
30 calculate customers' site-specific energy savings. Although
31 deemed measures require less application steps than a
32 hybrid or custom project, there is a limited catalog available.

33 When a custom measure has seen high customer
34 interest and calculations have been reviewed and approved

on numerous projects, PG&E requests that the Energy Division reviews and agrees upon calculation methodology with limited variable inputs. This allows the customer to show interest in a hybrid measure when working with a PG&E EE program and install and receive incentives without waiting for the lengthy custom project process.

v) Strategy 5: Align Financing Opportunities with Customer Needs

PG&E expects to work with its industrial customers to provide additional funding opportunities for EE projects. The Manufacturing and Food Processing Efficiency and Petroleum and Chemical Efficiency programs both help customers qualify for incentives and obtain OBF. The SEM programs also support custom and deemed incentives. More information about project financing is available in the Finance Section of this chapter (Section E.6).

d. Sector Specific Coordination

Agricultural

As described in Section D.4, the Agricultural and Industrial sectors are closely linked. For example, a customer can have different facilities/sites dedicated to the growing of a crop which fall under the Agricultural sector, while the facility where the crop is processed falls under the Industrial sector. As a result, and as mentioned above, PG&E will continue to coordinate its Industrial and Agricultural sector activities.

New Construction

The Industrial sector can leverage the Non-Residential NC program as a resource for customers to incorporate electrification measures into their NC and alterations projects. By coordinating with the NC program, the Industrial sector provides customers an additional program pathway through which to complete their EE projects.

Finance

The Industrial team intends to coordinate with the Finance team to provide options related to financing EE projects.

e. Categorization by Segment

All Industrial sector specific programs included in PG&E's 2024-2027 forecast are categorized as resource acquisition.

**TABLE 4-13
INDUSTRIAL SECTOR PROGRAMS BY SEGMENT**

Line No.	Program ID	Program Name	Segment
1	PGE_Ind_002	Petroleum and Chemical Efficiency Program	Resource Acquisition
2	PGE_Ind_003	Manufacturing and Food Processing Efficiency Program	Resource Acquisition
3	PGE_Ind_001a	Industrial SEM – Food Processing	Resource Acquisition
4	PGE_Ind_001ba	Industrial SEM – Manufacturing	Resource Acquisition
5	PGE21021	Industrial Calculated Incentives	Resource Acquisition
6	PGE21022	Industrial Deemed Incentives	Resource Acquisition
7	PGE21024	Industrial Energy Advisor	Resource Acquisition
8	PGE210212	Compressed Air and Vacuum Optimization Program	Resource Acquisition

f. Program Details

Program Cards are provided in Attachment E.

g. New Programs Proposed in This Application

No new Industrial sector programs are being proposed in this Application.

E. Cross-Cutting Sectors

PG&E's portfolio structure includes activities across programmatic areas that are cross-cutting across customer sectors. Pursuant to the Energy Division template,⁴⁶ PG&E provides the information below on six cross-cutting sectors: (1) C&S, (2) Emerging Technologies, (3) NC, (4) LGPs, (5) WE&T, and (6) Finance.

⁴⁶ EE Business Plan and Application Template – Final from ED with EMV, received via Energy Efficiency Proceeding Service List R.13-11-005 on October 20, 2021.

1. Codes and Standards

a. Introduction

1) Scope and Purpose

This section discusses PG&E's approach to the Codes and Standards (C&S) sector. PG&E's C&S sector includes three statewide programs for which PG&E is the lead program administrator:

- a) National C&S Advocacy (NCSA);
- b) State Appliance Standards Advocacy (SASA); and
- c) State Building Codes Advocacy.⁴⁷

Additionally, PG&E's C&S sector includes five local C&S programs, four of which are existing programs and one new proposed program:

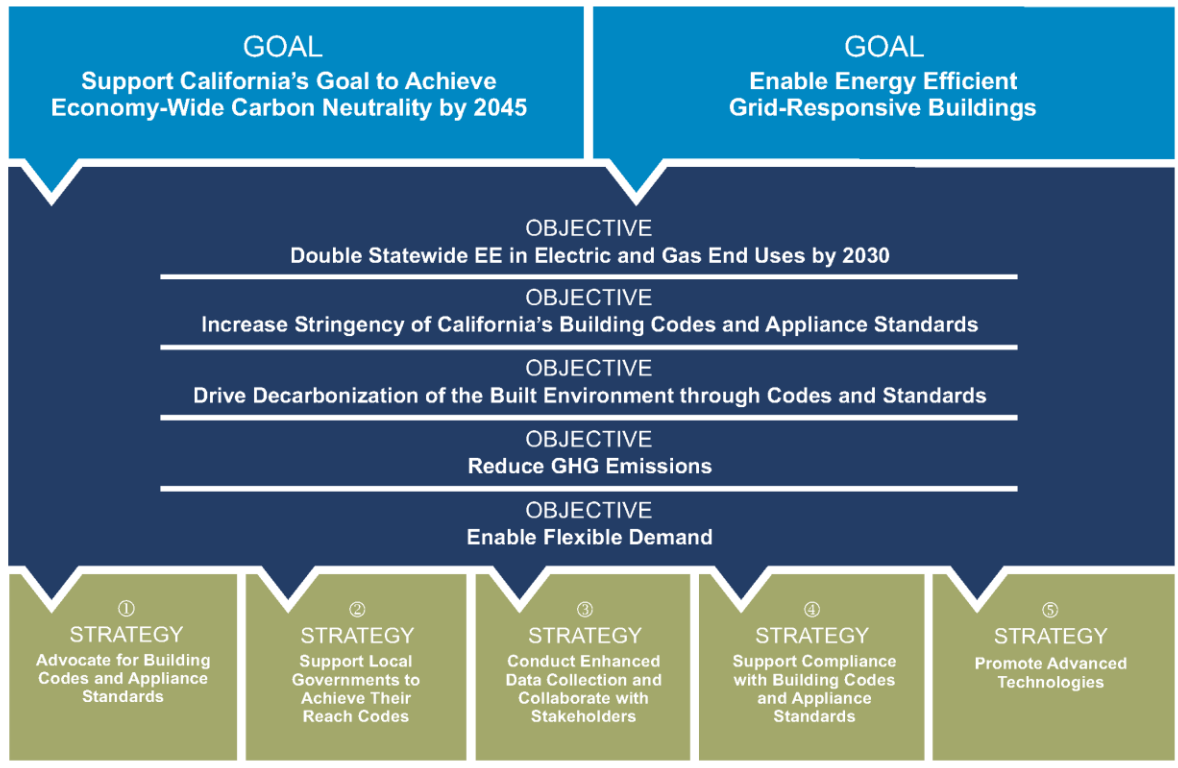
- a) Reach Codes;
- b) Compliance Improvement (CI);
- c) Code Readiness;
- d) Planning and Coordination; and
- e) C&S Decarbonization Support (Placeholder).

2) Summary of Goals, Objectives, and Strategies

PG&E has identified two goals, five objectives, and five strategies in C&S that will help reach PG&E's portfolio goals. Figure 4-7 summarizes PG&E's C&S goals, objectives, and strategies and how they interrelate.

⁴⁷ D.18-05-041, pp. 90-91, Table 3 and p. 188, OP 26.

FIGURE 4-7
PG&E'S C&S CROSS-CUTTING SECTOR: GOALS, OBJECTIVES, AND STRATEGIES



3) Support for Request

PG&E's C&S energy savings and budget forecasts support California's carbon neutrality goals and helps non-residential buildings and homes in California reduce or eliminate GHG emissions. PG&E's 2024-2027 portfolio includes eight C&S sector programs.

**TABLE 4-14
PG&E'S C&S PROGRAMS**

Line No.	Program ID	Program Name	Program Description	Program Type
1	SW_CSA_Natl	Codes and Standards National Codes Advocacy	Advances federal appliance and equipment efficiency standards, and national model building energy codes. This is accomplished by interacting with multiple agencies and organizations that work toward development of mandatory or voluntary EE standards, test procedures ^(a) , labels, and/or protocols that impact California energy policies and customers.	Statewide PG&E-Led Third-Party
2	SW_CSA_Appl	Codes and Standards State Appliance Advocacy	Advocates and participates in the California Energy Commission (CEC) appliance rulemakings to increase energy and water efficiency, supports demand flexible appliances, and improves test procedures.	Statewide PG&E-Led Third-Party
3	SW_CSA_Bldg	Codes and Standards Building Codes Advocacy	Advocates in the California building code rulemakings to advance EE, water efficiency, building decarbonization, electrification and demand flexibility.	Statewide PG&E-Led Third-Party
4	PGE21053	Compliance Improvement	Mitigates resistance to future advocacy and ensures that the potential savings from C&S's advocacy efforts are realized and persist over time. PG&E provides industry professionals and consumers with the specific knowledge, skills, and job aides they need to effectively perform their EE role whether it be manufacturing, testing, registering, or purchasing compliant appliances or designing, constructing, or inspecting compliant buildings.	Local PG&E-Led
5	PGE21054	Reach Codes	Pursue regional energy ordinances, or reach codes, which are often part of a local government's CAP. Through the reach code adoption process, PG&E helps cities and counties leverage their authority to require increased EE and performance beyond the state's minimum requirements. By supporting reach codes, PG&E also accelerates the adoption of new technologies, code compliance, and energy savings strategies to help pave the way for future code cycles.	Local PG&E-Led
6	PGE21056	Code Readiness	Enhances efforts to achieve state policy goals by conducting data collection and other technical support activities which augment advocacy or CI. These efforts may also improve market readiness for future regulations through transfers of knowledge to builders and other market participants to increase market feasibility of the subprogram measures through targeted appliance or building EE.	Local PG&E-Led

**TABLE 4-14
PG&E'S C&S PROGRAMS
(CONTINUED)**

Line No.	Program ID	Program Name	Program Description	Program Type
7	PGE21055	Planning and Coordination	Supports close coordination between C&S and NC programs, databases and long- term tactical plans, interdepartmental and inter-IOU collaboration, and coordination with other EE groups such as Emerging Technologies and the future Market Transformation Administrator.	Local PG&E-Led
8	PGE_CS_Decarb	C&S Decarbonization Support (Placeholder) ^(b)	PG&E plans to establish this new subprogram to apply established C&S workflows and methodologies to influence C&S advancements beyond EE codes. As the state strives to meet its 2045 carbon neutrality goals, new approaches to developing and adopting appliance and building standards present opportunities for PG&E to meaningfully intervene in proceedings intended to advance decarbonization and electrification objectives.	Proposed Local PG&E-Led
<p>(a) Appliance test procedures for the C&S program are the prescribed methods of testing any appliance or equipment connected by a plug and lead to the power supply to estimate the appliance efficiency.</p> <p>(b) Placeholders reflect programs that PG&E plans to solicit, contract, and/or implement by 2024-2027.</p>				

b. Sector Overview

This section provides an overview of the building codes and appliance standards rulemaking processes and additional background relevant to the C&S Program.

National C&S Advocacy

Most of the resources allocated to this subprogram are invested in advancing federal appliance efficiency standards. This involves collaborating with multiple agencies and organizations that work to develop mandatory or voluntary standards, test procedures, labels, and/or protocols that could directly impact California customers.⁴⁸ Therefore, advocacy at the federal level is essential as it sets the

⁴⁸ These include, the DOE, American Society of Heating, Refrigeration and Air-Conditioning Engineers (ASHRAE) (model building codes, such as ASHRAE 90.1 and 189.1), International Code Council (ICC) (model building codes, such as the IECC and the International Green Construction Code), the Environmental Protection Agency (EPA), the Federal Trade Commission (FTC) (EnergyGuide labels), Institute of Electrical and Electronics Engineers (e.g., IEEE 802.3 Energy Efficient Ethernet), International Electrotechnical Commission (test procedures).

1 baseline for appliance and equipment standards for many appliances in
2 California.

3 U.S. Department of Energy (DOE) appliance standards are updated
4 through notice and comment and negotiated public rulemaking
5 processes. The IOUs forecast significant DOE activity on at least
6 40 products from 2024 through 2027.⁴⁹ ENERGY STAR® develops
7 advanced voluntary energy standards which can be the basis of future
8 national standards, as well as guiding incentive program offerings.

9 PG&E also advocates for advanced national model building energy
10 codes. Participation in the American National Standards
11 Institute/ASHRAE/Illuminating Engineering Society Standard 90.1 code
12 change process and the International Energy Conservation Code (IECC)
13 update proceedings in support of advanced requirements towards
14 normalizing higher performance building practices and helps reduce
15 barriers to compliance when requirements across state borders are
16 aligned.

17 State Appliance Standards Advocacy

18 In 1977 the CEC first developed the Appliance EE Standards,
19 known as Title 20, which apply to appliances sold or offered for sale in
20 California and must be technically feasible, cost-effective, and save
21 energy or water. In 2019 California SB 49 authorized the CEC to set
22 standards to support the deployment of flexible demand appliances.⁵⁰
23 The SASA program engages in the CEC's Title 20 and SB 49

⁴⁹ Over the past few years, the average number of comment periods was about 35 per year. In 2021, DOE conducted at least 75 comment periods and the pace is expected to remain high based upon the *Executive Order on Protecting Public Health and the Environment and Restoring Science to Tackle the Climate Crisis*, (January 20, 2021).

⁵⁰ SB 49 codified in Cal. Pub. Res. Code §§ 25402 and 25402.11.

1 rulemaking opportunities⁵¹ for non-preempted appliances,⁵²
 2 (e.g., selected lighting and HVAC products) by providing technical
 3 feasibility and cost-effectiveness data.

4 Program engagement in State Appliance Standards includes writing
 5 California Statewide Utility Codes and Standards Enhancement (CASE)
 6 studies, conducting research or data analysis, engaging with
 7 stakeholders or supporting subject matter experts (SME) during
 8 rulemakings. PG&E evaluates each rulemaking to determine the
 9 necessary support.

10 State Building Codes Advocacy

11 The CEC updates the Building EE Standards, also known as the
 12 Energy Code or Title 24, Part 6, every three years through a public
 13 process. The CEC also has authority to update the voluntary EE
 14 appendices of CALGreen (Appendix A4 Residential and Appendix A5
 15 Commercial of Title 24, Part 11). The CEC invites members of the
 16 public, including the IOUs, to submit code change recommendations.
 17 The CEC decides if proposals will proceed through the code adoption
 18 process. The CEC is ultimately responsible for developing code
 19 language and adopting the final requirements. In addition to considering
 20 proposals from the public, the CEC develops code changes on their own
 21 behalf.

22 The Warren Alquist Act (Section 25000 of the California Public
 23 Resources Code) directs the CEC to establish and regularly update
 24 energy and water use requirements for buildings and provides direction
 25 on the evaluation criteria the CEC must consider before adopting code
 26 changes. It also provides direction on the public participation process
 27 that the CEC must use when considering code revisions. The CEC

51 Unlike Title 24 building codes which are updated triennially, the Energy Commission updates Title 20 appliance standards on an ad-hoc basis.

52 The U.S. DOE Appliance and Equipment Standards Program covers energy conservation standards and test procedures for more than 60 categories of appliances and equipment, including a wide range of lighting, HVAC, white goods (refrigerators, washers), electronics, plumbing products, and other consumer, commercial and industrial products. Products covered by standards represent about 90 percent of home energy use, 60 percent of Commercial building use, and 30 percent of Industrial energy use.

1 must also adhere to the directives in the California Administrative
 2 Procedures Act and requirements in the California Health and Safety
 3 Code when updating Title 24, Part 6.⁵³ With each update, the
 4 standards typically advance in stringency, must be demonstrated to be
 5 cost-effective, enforceable, and assure that technologies needed to fulfill
 6 code requirements will be readily available by the effective date.

7 The CEC pursues code change proposals that will support statewide
 8 policy goals and directives. The CEC's stated goals for the 2022 code
 9 cycle include increasing building EE, contributing to California's GHG
 10 emission reduction goals, enabling pathways for all-electric buildings,
 11 reducing residential building impacts on the electric grid, promoting
 12 demand flexibility and self-utilization of photovoltaic (PV) generation,
 13 and providing tools for local governments to develop regional
 14 ordinances and reach codes.⁵⁴

15 As lead administrator for the State Building Codes Advocacy
 16 Program, PG&E manages the development of CASE studies and
 17 actively participates in the CEC's code change process. For the 2022
 18 code cycle, with input from hundreds of individual stakeholders, the
 19 State Building Codes Advocacy program implementers developed
 20 91 unique code change proposals. Of those proposals, 66 are included
 21 in the 2022 Energy Code, many with revisions to address stakeholder
 22 questions and comments. In planning for the next three code cycles,
 23 PG&E expects that the CEC will continue to emphasize decarbonization
 24 goals, in addition to capturing remaining opportunities in EE gains.

25 Future code cycle proposals brought forward by the statewide
 26 program will need to balance various state policy objectives and EE
 27 savings targets, address existing buildings, and bring in previously
 28 unregulated covered processes for regulation. This should be
 29 accomplished in tandem with decarbonization goals, including the
 30 electrification of new and existing buildings.

⁵³ Cal. Pub. Res. Code. § 2500, *et seq.*

⁵⁴ Governor Edmund G. Brown, Jr.'s [Order-B-55_18 to Achieve Carbon Neutrality](#) (Sept. 10, 2018).

c. Support for Strategies, Activities, and Forecast Drivers

PG&E's C&S sector goals are to:

- Support California's goal to achieve economy-wide carbon neutrality by 2045; and
- Enable energy efficient grid-responsive buildings.

PG&E's C&S objectives in pursuit of the sector goals are to:

- Double statewide EE in electric and gas end uses by 2030;
- Increase stringency of California's building codes and appliance standards;
- Drive decarbonization of the built environment through codes and standards;
- Reduce GHG emissions; and
- Enable flexible demand.

1) Strategy 1: Advocate for Building Codes and Appliance Standards

Advocacy is one of the central roles of the C&S sector programs and a key strategy to support the C&S sector goals and objectives. This section describes some of the advocacy activities that drive the forecast for the three statewide advocacy programs: (1) NCSA (2) SASA, and (3) State Building Codes Advocacy. This section also describes activities through the proposed locally administered C&S Decarbonization Support program.

National C&S Advocacy

NCSA includes two key initiatives: (a) advocate for more stringent appliance standards and (b) advance national model building energy codes. The sections below include example tactics within each of the initiatives that support the sector's goals and objectives.

Advocate for More Stringent Appliance Standards

Federal mandatory appliance standards cover appliances representing about 90 percent of home energy use, 60 percent of Commercial building energy use, and 30 percent of Industrial

energy use.⁵⁵ Voluntary and mandatory appliance efficiency standard rulemakings (which includes standards and test procedures) are conducted primarily by the DOE, ENERGY STAR®, and the FTC. The NCSA Program Implementers and Portfolio Administrator (NCSA team) engage in DOE, ENERGY STAR®, and FTC rulemakings through comment letters, participating in negotiations, conducting research, submitting data on the rulemaking dockets, engaging with rulemaking stakeholders and with federal agency staff and consultants.

Each DOE rulemaking process has mandatory steps and takes about two to four years to complete. The NCSA team actively participates through stakeholder engagement, research and data collection, data analysis, engaging SMEs and negotiating.

Stakeholder engagement is vital to understanding the issues around individual rulemakings and to gaining support for the NCSA team's desired efficiency levels. Thus, PG&E coordinates with advocates such as the Natural Resource Defense Council (NRDC), the Appliance Standards Awareness Project (ASAP), the American Council for an Energy Efficiency Economy, in responding to rulemakings and sharing data and resources which inform each organization's comments. Building upon work in other C&S subprograms and other EE programs, the NCSA team also engages with manufacturers and industry stakeholders to understand potential issues, support areas of agreement and share data and research to build support for more stringent standards and test procedures.

The NCSA team sometimes engages with DOE, ENERGY STAR®, or FTC staff or consultants to share ideas and data or collaborate on primary data collection. Typically,

⁵⁵ U.S. DOE, Office of Energy Efficiency & Renewable Energy, Appliance and Equipment Standards Program at <https://www.energy.gov/eere/buildings/appliance-and-equipment-standards-program>. (accessed Jan. 20, 2022).

1 this collaboration is used for rulemakings with significant
2 savings or test procedures that have documented issues.

3 The NSCA does not claim energy savings from ENERGY
4 STAR®, FTC, or other voluntary appliance standards efforts but
5 recognize that labeling and voluntary standards support
6 regulations and/or voluntary programs. Voluntary standards
7 build market support for more stringent efficiency levels and
8 facilitate future mandatory standards. Efforts on
9 ENERGY STAR® rulemakings are prioritized based upon
10 potential to support future mandatory standards, impact on other
11 EE programs and potential increase in customer savings.

12 Advance National Model Building Energy Codes

13 The NCSA team monitors and/or participates in a wide
14 range of activities or national model code proceedings that have
15 direct or indirect impacts on California regulations including, but
16 not limited to ASHRAE, IECC, and ratings organizations such as
17 the Cool Roof Rating Council or the National Fenestration
18 Rating Council.

19 Engaging with national or international code bodies includes
20 building stakeholder consensus for promising updates, writing
21 reports to serve as evidence of market readiness for a code
22 update, submitting data, actively participating on committees or
23 groups, or funding SMEs.

24 State Appliance Standards Advocacy

25 SASA includes two key initiatives: (a) advocacy for mandatory
26 or voluntary efficiency standards, and (b) support for the
27 development of flexible demand standards. By advocating and
28 supporting efforts leading to higher efficiency standards, PG&E can
29 help deliver cost-effective energy savings and other benefits.
30 Supporting electrification standards helps California move towards
31 carbon neutrality by 2045. Further, PG&E's efforts on the flexible
32 demand standards help shape energy demand to match supply.

1 Advocacy for Mandatory or Voluntary Efficiency Appliance
2 Standards

3 The Warren Alquist Act mandates that the CEC adopt
4 increasingly stringent appliance standards to achieve cost-effective
5 energy savings in California.⁵⁶ The CEC leads the rulemakings for
6 the appliance standards including selecting measures for new or
7 updates standards, determining timeline, stakeholder outreach,
8 rulemaking scope and standards enforcement. The SASA program
9 implementers and portfolio administrators (SASA team) advocates
10 for more stringent appliance efficiency standards. This is primarily
11 through CASE studies and/or roadmap proposals, stakeholder
12 engagement and coalition building, attendance and participation in
13 public meetings, coordination as needed with other EE
14 stakeholders, laboratory testing, legal consulting, industry outreach,
15 field metering, and product testing. Appliance standards do not
16 have a consistent cycle like building codes, but the rulemakings use
17 a prescribed process.

18 For most rulemakings the SASA team develops a CASE study,
19 which could include primary research such as field metering,
20 laboratory testing, customer surveys and modeling if existing data
21 sources are not available to develop a proposal. After a CASE
22 study has been completed, the SASA team monitors the rulemaking
23 to determine if additional efforts are needed to address issues
24 brought up by other stakeholders or the CEC. If additional effort is
25 necessary, the SASA team coordinates with the CEC and other
26 stakeholders to avoid duplication of efforts and to determine if
27 resulting work will meet the necessary rigor.

28 The SASA team also reaches out to stakeholders to build
29 support or reduce concerns such that there is sufficient support for
30 the CEC to adopt a standard. When engaging with stakeholders the
31 SASA team can collaborate to share analysis and research. Early

⁵⁶ See generally, Warren-Alquist State Energy Resources Conservation and Development Act, Pub. Res. Code § 25000 *et seq.*

1 engagement with other stakeholders and conducting research
 2 alongside manufacturers and other stakeholders can be important
 3 for identifying potential issues and building support for the
 4 rulemaking.

5 Support for the Development of Demand-Flexible Appliances

6 SB 49 mandates that the CEC adopt flexible demand appliance
 7 standards to improve the reliability and resilience of the electric grids
 8 and allow consumers to better manage their utility bill costs.⁵⁷

9 SB 49 rulemakings are expected to increase the number and scope
 10 of demand-flexible appliances including residential and commercial
 11 appliances and energy storage and generation that would be owned
 12 and operated in residential or commercial buildings. This should
 13 enable IOUs, the CAISO, and consumers to manage electricity
 14 demand across California. Advocating for these standards requires
 15 collaboration with the IOUs, CEC, and others so potential issues are
 16 mitigated before adoption.

17 The CEC's SB 49 efforts are relatively new and SASA team
 18 efforts may evolve to support these rulemakings. It is expected,
 19 however, that CASE studies, primary and secondary research,
 20 supportive comments, and stakeholder outreach will be used to
 21 support individual rulemakings. SASA also plans to engage with
 22 respective IOU DR and electric distributions groups to provide
 23 feedback on what types of technologies can be used to
 24 communicate with the grid cost-effectively and identify changes, if
 25 any, needed to support two-way communication.

26 State Building Codes Advocacy

27 State Building Codes Advocacy includes two key initiatives:
 28 (a) informing the design of Energy Code proposals through research
 29 and analysis to advance EE and align decarbonization measures
 30 across all building sectors covered by the Energy Code; and

57 California SB 49 Energy: appliance standards and State Water Project assessment (2019) available at https://leginfo.ca.gov/faces/billTextClient.xhtml?bill_id=201920200SB49. (accessed Jan. 20, 2022).

(b) advocating for updates to codes that will catalyze retrofits to existing buildings to reduce energy use, increase the uptake of grid responsive energy management strategies, and reduce GHG emissions.

Informing the Design of Energy Code Proposals

The Statewide Building Codes Advocacy Program develops CASE studies to provide information for the CEC to make informed decisions on the inclusion of EE enhancements to the Energy Code. Proposals include mandatory requirements, prescriptive package components, or performance path options for new buildings, additions, and alterations. This includes adding new or updating existing regulations into the Energy Code, when are ready for regulation.⁵⁸ This initiative is designed to maximize EE opportunities for all new or significantly altered buildings covered by the Energy Code. Buildings designed to minimize site and source GHG emissions help reach state policy goals. This initiative also includes considerations of how the Energy Code can be employed to encourage active load management.

During the business plan period of 2024 through 2031, three Energy Code Cycles will occur (the 2025, 2028 and 2031 code update cycles). While EE is the primary goal of the State Building Codes Advocacy program, implementers and portfolio administrators intend to continue support for decarbonization measures aligned with program goals and support electric-ready measures in buildings to prepare for future electrification.

There are three phases in each Energy Code Cycle. During the pre-rulemaking stage, the program supports the CEC in identifying code change opportunities to pursue. Once the CEC selects the most viable measures, the program implementers conduct research and analyses to develop supporting documentation that the CEC

⁵⁸ Notice of Availability and Public Comment Period Pre-Rulemaking Express Terms for 2022 Update to Energy Code (Feb. 22, 2021) available at: <https://efiling.energy.ca.gov/GetDocument.aspx?tn=236877&DocumentContentId=70032>, (accessed Jan. 28, 2022), p. 2.

1 can rely on when making determinations that proposed changes
2 meet statutory requirements. This includes developing preliminary
3 Energy Code CASE studies, which include energy savings
4 estimates, cost-effectiveness analyses, market assessments,
5 economic analyses, material and water use impacts, draft code
6 language, and recommended processes for compliance verification.
7 Final CASE studies are submitted to the CEC towards the end of the
8 pre-rulemaking stage. To understand the needs of those who will
9 use the code in practice, the program conducts personalized
10 outreach, hosts meetings, provides information about proposed
11 code changes and opportunities to provide input on the public-facing
12 program website.

13 During the rulemaking, the program team participates in the
14 CEC's workshops tracks comments that are submitted to the public
15 docket, and works with CEC staff to resolve issues that arise during
16 the rulemaking. In addition, the program team reviews each version
17 of the draft language that is released for public review and
18 recommends revisions to address stakeholder concerns and/or
19 improve the clarity of code language.

20 After the standards are adopted, the program provides support if
21 requested for implementation of the newly adopted code, including
22 updates to Compliance Manuals, ACM Reference Manuals, and the
23 compliance software. At the close of the cycle, measure ideas that
24 were not successful are examined for viability for future
25 rulemakings.

26 Advocating for Updates to Codes that will Catalyze Retrofits to 27 Existing Buildings

28 To reach state climate action goals, significant updates to the
29 existing building stock will likely need to occur. For example, in
30 California, at least 50 percent of single-family homes and nearly
31 60 percent of California's multifamily buildings were built before the

state's first energy standards were formed.⁵⁹ In collaboration with incentive programs and other PG&E efforts to advocate for customer retrofits, C&S efforts can play an important role in transforming existing buildings by maximizing opportunities for proposals for cost-effective requirements within the Energy Code and by looking for alignment with other sections of the Building Code.⁶⁰

C&S Decarbonization Support (Placeholder):

While building decarbonization and electrification are important tools in meeting California's climate goals, there are significant market barriers to achieving these policy initiatives. Advocating for advancements in state, federal, and regional regulations will accelerate the transition to low-carbon buildings and the use of appliances that have the greatest decarbonization potential. The C&S program team plans to pursue a new local C&S program focused on participating in decarbonization rulemakings conducted by California governmental agencies. The proposed program aims to address barriers to decarbonization in buildings and appliances with outcomes other than increased EE, although that may be a co-benefit. Metrics will be developed based on decarbonization-specific results. Tactics include the development of essential datasets, filing of comment letters, and participation in rulemakings as a stakeholder.

C&S Decarbonization Support may include:

- Collection and assessment of technical and market data to support regional, state, and federal agencies that are conducting rulemakings to support building decarbonization for both new and existing buildings.

⁵⁹ 2022 Building Energy Efficiency Standards Summary available at: https://www.energy.ca.gov/sites/default/files/2021-08/CEC_2022_EnergyCodeUpdateSummary_ADA.pdf, (accessed Feb. 4, 2022), p. 9.

⁶⁰ The Building Code refers to California's Title 24 Building Standards Code which is composed of 12 Parts. The Energy Code refers to Part 6.

- Providing cost benefit analyses, supportive comments, stakeholder engagement, and submitting data to rulemaking dockets.

Topics that may be addressed through rulemakings or other proceedings include heat pump technologies, appliances that use low-GWP refrigerants, electric cooking advancements, energy storage, EV charging infrastructure, embodied carbon metrics, and other aligned areas.

When the scope of the Title 24 EE rulemakings includes non-EE systems and components, the C&S program will balance support between EE and non-EE pursuits; for example, decarbonization efforts that improve whole-building performance, or include EE as a co-benefit. PG&E will evaluate which projects belong in state or federal advocacy programs and which are better suited to this new program using the potential for EE savings as a primary measure.

As the support needed for decarbonization measures differs from that needed for code change in the Energy Code or Title 20, CASE studies in their current format may not be the main deliverable.

2) Strategy 2: Support Local Governments to Achieve Their Reach Codes

Local energy ordinances, or reach codes, 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. Energy-related ordinances that extend beyond the state's building code experienced a significant increase over the past three years, reaching over 50 local jurisdictions by the end of 2021. Most of the reach codes contain pro-electrification policies. Several cities⁶¹

⁶¹ Some of these cities include: Alameda, Albany, Berkeley, Burlingame, Davis, East Palo Alto, Hayward, Millbrae, Mill Valley, Milpitas, Pacifica, Palo Alto, Richmond, San Francisco, San Jose, San Luis Obispo, San Mateo, , and Sunnyvale. Please see, Reaching Beyond, [Statewide Reach Codes Program \(localenergycodes.com\)](https://localenergycodes.com) (accessed Jan. 28, 2022), for additional information.

adopted all-electric ordinances impacting other parts of the building code, rather than the Energy Code, to accomplish their goals.

Developing technical support resources following each Title 24 update, which local governments may use to develop local ordinances, is an effective approach to supporting these objectives. These initiatives include:

Cost-Effectiveness Studies

Cost-effectiveness studies for residential and non-residential building types are often relied upon by local governments as ordinances pass through city council processes, and approval by the CEC as needed.⁶² Through the Reach Codes subprogram, PG&E supported the creation of 10 statewide topic-specific residential and non-residential cost-effectiveness assessments based on the 2019 Energy Code, and 12 regional customized cost-effectiveness reports to support reach code development.⁶³ These studies were referenced in almost all the ordinances adopted by jurisdictions in their ordinance adoption process. This initiative can be expanded to include existing building stock assessments to offer cities insight into what measures will have the most significant impact on reaching climate action goals.

Ordinance Development Tools

Ordinance development tools help jurisdictions create local ordinance policy packages and reduce the investment needed at the jurisdiction level. Packages may include regionally specific studies, customized rate analysis, technology investigations, or other areas of interest per region. These studies can be included in city council meeting packages to demonstrate that a jurisdiction has considered the impacts of the ordinance on the community.

⁶² Each jurisdiction has the authority to select an approach to determine cost-effectiveness. Cost-effectiveness studies developed by the Reach Codes subprogram to support 2019 Title 24 ordinances included both Time Dependent Valuation and on-bill cost-effectiveness for most measures, which was well-received by jurisdictions.

⁶³ Reaching Beyond, [Statewide Reach Codes Program \(localenergycodes.com\)](https://localenergycodes.com). (accessed Jan. 28, 2022).

Model Ordinance Language Development

Developing model ordinance language reduces the time and investment of resources by jurisdictions. The program plans to automate this process by offering an online portal through which jurisdictions can assemble, review, and test ordinance variations. Offerings should include data about the buildings in each climate zone.

Ordinance Adoption Tracking Tools

The Reach Codes subprogram plans to continue to offer tools that track the statewide development and adoption of ordinances. The program currently offers several ways to review ordinance adoption through localenergycodes.com. Through the Reach Codes subprogram, PG&E maintains an interactive map and downloadable list of ordinances as a resource to local agencies.

Collaboration with gas planning teams, local public affairs experts, and other PG&E staff who connect with customers can help city decisionmakers better understand the impacts of local policies on residents.

Building Stock Assessment Strategies

The Reach Code subprogram identifies opportunities to help cities assess the EE performance of existing local buildings. Opportunities may include developing tools for city staff, building owners, real estate professionals, appraisers, and lenders so that they can recognize and value high performance EE features in homes. If homes are not energy efficient and it is cost-effective to upgrade them, assessment tools can serve as a foundation for incentive programs designed to serve that region.

Outreach and Inter-team Collaboration

Outreach and support for jurisdictions to pass through the process of development and adoption successfully is essential. With approximately 481 incorporated cities and 58 counties in

California,⁶⁴ raising awareness of program resources and building trust with communities requires timely information, accuracy in data collection, and transparency in methodology in reports and other resources.

The Reach Codes subprogram provides resources to connect with other utilities and organizations working with local jurisdictions to pass reach codes. Outreach may include meetings with interested jurisdictions, hosting events to share work product such as cost-effectiveness analysis results or model language drafts, participating in local jurisdiction events, promoting localenergycodes.com, preparing and distributing information via newsletters and online media platforms, attending conferences or events to share messaging with key audiences, and evaluating the impact of the program to develop strategies for continuous improvement. This support also includes coordination within PG&E to understand how PG&E's service may be affected by local policy decisions and to assure alignment with other programs including in the areas of decarbonization and electrification.

3) **Strategy 3: 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. For example, the Code Readiness program collects data to support future building codes and appliance standards by conducting laboratory research, customer surveys, field studies, and metering in collaboration with industry stakeholders and the CEC.

⁶⁴ State of California Department of Finance, "E-1 Population Estimates for Cities, Counties, and the State—January 1, 2020 and 2021" available at <http://www.dof.ca.gov/Forecasting/Demographics/Estimates/e-1/> (accessed Jan. 27, 2022).

1 These data are used to support future CASE studies and DOE
 2 comment letters and negotiations.⁶⁵ Data can be shared with the
 3 CEC, DOE, EPA, local jurisdictions, and other state agencies to
 4 support more stringent building codes, reach code and appliance
 5 standards.

6 Primary data collection, evaluation, and integration into code
 7 change proposals are key advocacy success factors, and these
 8 same data support constructive working relationships with industry
 9 representatives. The data collection efforts primarily focus on:

- 10 • Laboratory testing to support updates to test procedures and
 11 estimate savings from potential changes;
- 12 • Field audits and metering to understand current equipment
 13 saturation and equipment usage and performance;⁶⁶
- 14 • Metering of advanced technologies incorporated into buildings
 15 supported by NC programs;
- 16 • Customer or contractor surveys to understand purchasing
 17 decisions, perceptions of appliance features, appliance usage,
 18 market preferences, and installation details;
- 19 • Analyzing sales data to understand market adoption of specific
 20 technologies; and
- 21 • Reviewing existing data to support new research questions or
 22 upcoming rulemakings.

23 **4) Strategy 4: Support Compliance with Building Codes and** 24 **Appliance Standards**

25 Compliance Improvement includes four key initiatives:

26 (a) provide training, tools, and resources, (b) conduct outreach,

⁶⁵ PG&E published 28 CASE studies for the 2022 code cycle. See for example Nonresidential High-Performance Envelope. <https://title24stakeholders.com/2022-cycle-case-reports/>. (accessed Jan. 28, 2022).

⁶⁶ The Multifamily Energy Use Study was conducted by Evergreen Economics and Michaels Energy from late 2019 until early 2020. The study comprised 90 on-site surveys of multifamily properties across California. Evergreen developed a representative sample of these multifamily properties based on data from CoStar, a Commercial real estate information provider; <https://title24stakeholders.com/wp-content/uploads/2021/01/MEUS-Results-Summary.pdf>. (accessed Jan. 28, 2022).

(c) support performance certifications, and (d) support decarbonization. The sections below include example tactics within each of the initiatives that support the sector's goals and objectives.
Provide Training, Tools, and Resources

Compliance Improvement strives to ensure that market actors throughout the compliance supply chain have the knowledge and skills needed to comply with existing and new building codes and appliance standards. Compliance Improvement provides role-based training for using custom designed tools and resources while receiving feedback from code experts. Training, tools, and resources are accessed through the CI Subprogram's web site, Energy Code Ace™, which is also supported by SCE and SDG&E. Examples of tools and resources in Energy Code Ace™ include:

- Virtual Compliance Assistant™ – a user-friendly semi-automated experience for completing compliance forms and verifying inputs;
- Reference Ace™ – provides a way to navigate the standards and confirm code requirements;
- Product Finder™ – helps designers specify compliant products;
- Fact and Trigger Sheets – used to teach others code requirements;
- Dynamic checklists – guide plan reviews based on project details and auto populate plan check comments; and
- “Noteblocks” – identifies the mandatory measures and systems to be verified are auto generated based on project scope and inserted into plan sets to call installers and specialty inspectors' attention to these important details.

Compliance Improvement also collaborates with WE&T on inserting Energy Code Ace™ courses where appropriate into WE&T topical course series and delivering courses in collaboration with Bay Area Regional Energy Network (REN), Tri-County REN, American Institute of Architects (AIA), California Building Officials and California Association of Building Energy Consultants (CABEC).

1 Compliance Improvement web-based tools and downloadable
2 resources help simplify and reduce the amount of time required to
3 complete code-related job tasks such as: navigating code
4 requirements, completing compliance forms while verifying inputs,
5 performing plan checks, registering compliant products with the
6 CEC and finding compliant products in the CEC's appliance
7 database. Tools and resources are delivered through
8 EnergyCodeAce.com and vetted by the CEC.

9 Conduct Outreach

10 Compliance Improvement conducts outreach to improve
11 awareness about code requirements and motivate industry
12 practitioners and consumers to comply. Compliance Improvement
13 works with industry partners such as the California Retailers
14 Association, AIA and the ICC chapters to place ads and articles in
15 industry publications, sponsor events, and deliver customized
16 presentations to reach compliance chain stakeholders.

17 Support Performance Certifications

18 Compliance Improvement supports strategically bolstering the
19 compliance supply chain with code experts at key points such as
20 Certified Energy Analysts (CEA). Compliance Improvement
21 supports a residential CEA mentoring program and plans to develop
22 a non-residential program. CI looks forward to creating additional
23 code experts at key points in the compliance supply chain by
24 collaborating with the ICC and CEC to implement a Certificate of
25 Learning Achievement (CLA) for plans examiners and building
26 inspectors.

27 Support for Decarbonization

28 Compliance Improvement offerings will continue to adjust as
29 appropriate to support California's decarbonization goals. Presently,
30 CI supports decarbonization by teaching the building industry how to
31 design compliant, all-electric homes and multi-family buildings; how
32 to incorporate heat pump technologies and appropriately size
33 electrical panels; and reminding practitioners to review Title 24,
34 Part 11 (CALGreen) when thinking about commissioning as

1 additional systems such as renewable energy are covered there.
2 The scope of CI may further expand to cover existing regulations
3 which cover refrigerants, transportation infrastructure, and new
4 regulations supported by the C&S Decarbonization Support program
5 Placeholder. See Table 4-14.

6 **5) Strategy 5: Promote Advanced Technologies**

7 As EE building codes and appliance standards change every
8 three years, builders, construction trades and architects adapt to
9 new building practices and new efficiency requirements. This
10 creates an opportunity for continuous improvement within the
11 sectors through close collaboration between C&S and NC programs.
12 For example, C&S will help the NC sector teams identify advanced
13 technologies required to support future rulemakings. NC teams may
14 then determine the practicality of promoting these same
15 technologies through design assistance, enhanced incentives, and
16 market participant education. NC teams can collect project level
17 data such as measure cost and savings, compliance challenges,
18 building types, occupant satisfaction, and geographical distribution.
19 These data may be incorporated into C&S proposals and help
20 identify code compliance support needs.

21 NC programs that test advanced EE building techniques prior to
22 code adoption may be used to produce building industry case
23 studies and examples to show feasibility. Once new standards are
24 in place the CI subprogram provides training and resources on how
25 to comply with the new codes and provides talking points on the
26 benefits of the new building codes to share with the building owners
27 and occupants.

28 **d. Sector-Specific Coordination**

29 As a cross-cutting sector, C&S supports all sectors across the
30 portfolio. For example, adoption into code may significantly increase the
31 volume of new technologies used in new or existing buildings which, in
32 turn, produces a commoditizing effect, or reduction in cost, through
33 learning, competition, and economies of scale.

Sector coordination will be conducted at multiple levels. Long term planning for code readiness activities will be coordinated with groups which have similar planning horizons: Statewide NC and Emerging Technologies programs, and the future Market Transformation Administrator. Coordination with these groups also includes data collection activities.

As state or federal building codes or appliance standards rulemakings progress, the potential impacts can be shared with voluntary programs which depend on C&S to determine program baselines or for training, including Residential and Commercial programs. Building codes and appliance standards that potentially impact electric and gas operations, such as those which effect self-generation, storage, and demand flexibility, will be coordinated with other IOU as necessary.

e. Categorization by Segment

All C&S programs are categorized in the C&S portfolio segment.

**TABLE 4-15
C&S PROGRAM SEGMENTS**

Line No.	Program ID	Program Name	Segment
1	SW_CSA_Natl	National C&S Advocacy	C&S
2	SW_CSA_Appl	State Appliance Standards Advocacy	C&S
3	SW_CSA_Bldg	State Building Codes Advocacy	C&S
4	PGE21053	Compliance Improvement	C&S
5	PGE21054	Reach Codes	C&S
6	PGE21056	Code Readiness	C&S
7	PGE21055	Planning and Coordination	C&S
8	PGE_CS_Decarb	C&S Decarbonization Support Placeholder ^(a)	C&S
(a) Placeholders reflect programs that PG&E plans to solicit, contract, and/or implement by 2024-2027.			

f. Program Details

Program Cards are provided in Attachment F.

g. New Programs Proposed in This Application

PG&E is proposing one new program as part of this Application –
C&S Decarbonization Support, which is described in Table 4-14 above.

2. Emerging Technologies

a. Introduction

1) Scope and Purpose

The Emerging Technologies cross-cutting sector is served by statewide programs for which PG&E is not the lead program administrator. The Statewide Emerging Technologies Program is separated into two programs, the Electric Emerging Technologies Program and the Gas Emerging Technologies Program, administered by SCE and Southern California Gas Company (SoCalGas), respectively.

2) Support for Request

PG&E is a funding program administrator for two ET programs that are summarized in Table 4-16 below.

**TABLE 4-16
STATEWIDE EMERGING TECHNOLOGIES PROGRAMS**

Line No.	Program ID	Program Name	Program Description	Program Type
1	SW_ETP_Elec	Emerging Technologies Program – Electric	PG&E provides funding to the Lead Program Administrator as shown in D.18-05-041 Tables 3 and 4. ^(a) Please refer to SCE's application for a description of the Statewide program.	Statewide Led by Other IOU
2	SW_ETP_Gas	Emerging Technologies Program – Gas	PG&E provides funding to the Lead Program Administrator as shown in D.18-05-041 Tables 3 and 4. ^(a) Please refer to SoCalGas' application for a description of the Statewide program.	Statewide Led by Other IOU
(a) D.18-05-041, pp. 91-92.				

b. Sector Overview

Please refer to the Lead Program Administrators' applications.

c. Support for Strategies, Activities, and Forecast Drivers

Please refer to the Lead Program Administrators' applications.

d. Sector-Specific Coordination

Please refer to the Lead Program Administrators' applications.

e. Categorization by Segment

The statewide Emerging Technology programs are all categorized in the market support segment as shown below in Table 4-17.

TABLE 4-17
STATEWIDE EMERGING TECHNOLOGIES PROGRAMS SEGMENTS

Line No.	Program ID	Program Name	Segment
1	SW_ETP_Elec	SW Emerging Technologies Program, Electric	Market Support
2	SW_ETP_Gas	SW Emerging Technologies Program, Gas	Market Support

f. Program Details

Please refer to the Lead Program Administrators' applications.

g. New Programs Proposed in This Application

PG&E is not proposing any new emerging technologies programs in this Application.

3. New Construction**a. Introduction****1) Scope and Purpose**

This section summarizes PG&E's NC programs and presents PG&E's approach to supporting the long-term NC EE market.

PG&E's NC sector includes four statewide programs (Non-Residential Mixed-Fuel, Non-Residential All-Electric, Residential Mixed-Fuel, and Residential All-Electric) that serve residential and non-residential customers. PG&E is the lead program administrator for the statewide NC programs for both the residential and non-residential customers.⁶⁷

The statewide NC programs are included in the market support segment and deliver TSB toward the portfolio's savings goals. See

⁶⁷ D.18-05-041, pp. 90-91, Table 3 and p. 188, OP 26.

Chapter 3, Segmentation Strategy, for details on NC's inclusion in the market support segment.

2) Summary of Goals, Objectives, and Strategies

PG&E identified one goal and three strategies for the NC sector that will help reach PG&E's portfolio goals. Figure 4-8 summarizes PG&E's NC goal and strategies and how they interrelate.

FIGURE 4-8
PG&E'S NC CROSS-CUTTING SECTOR: GOALS AND STRATEGIES



3) Support for Request

PG&E's energy savings and budget forecasts for the NC sector support California's carbon-neutrality goals and further PG&E's goals towards making buildings and homes in California all-electric or electric-ready through the following statewide programs:

**TABLE 4-18
PG&E'S NC PROGRAMS**

Line No.	Program ID	Program Name	Program Description	Program Type
1	SW_NC_Res_mixed	New Construction – Residential – Mixed-Fuel	<p>SW RNC(a): programs serve five residential housing types: single-family, duplex, multifamily low-rise (three or fewer stories), manufactured housing, and accessory dwelling units (ADU). SW RNC works with builders, developers, and trade allies (e.g., energy consultants, contractors) to increase the adoption of advanced energy and decarbonization measures and building practices, to support the transition of the new construction and alterations market to all-electric or electric-ready buildings. SW RNC has two programs – mixed-fuel and all-electric.</p> <p>This program has two pathways. First, an alterations pathway for single-family homes, duplexes, or low-rise multifamily buildings that convert one or more gas appliances or other equipment to advanced electric systems.^(b) Second, a greenfield NC pathway that will pay builder/developer incentives on an escalating scale, for above code newly constructed homes. This second path requires the builder install a suite of specific enabling technologies: communicating thermostats, segregated circuits for energy monitoring readiness, EV charging infrastructure prewiring as well as 220 Volts Alternating Current (VAC) outlets wiring for induction cooking in kitchen, as well as a 220 VAC electric receptacle on a dedicated circuit for the hot water heater unit, and battery storage readiness.</p>	Statewide PG&E-Led Third Party
2	SW_NC_Res_electric	New Construction – Residential – All-Electric	<p>SW RNC programs serve five residential housing types: single family, duplex, multifamily low-rise (three or fewer stories), manufactured housing, and ADUs. SW RNC works with builders, developers, and trade allies (e.g., energy consultants, contractors) to increase the adoption of advanced energy and decarbonization measures and building practices, to support the transition of the new construction and alterations market to all-electric or electric-ready buildings. SW RNC has two programs – mixed-fuel and all-electric.</p> <p>This program has two pathways: an alterations pathway for residential single family, duplex, or multifamily low-rise buildings that requires the removal of gas meters, and a pathway for all-electric NC.</p>	Statewide PG&E-Led Third Party

**TABLE 4-18
PG&E'S NC PROGRAMS
(CONTINUED)**

Line No.	Program ID	Program Name	Program Description	Program Type
3	SW_NC_NonRes _Res_mixed SW_NC_NonRes _Pub_mixed SW_NC_NonRes _Ind_mixed SW_NC_NonRes _Com_mixed SW_NC_NonRes _Ag_mixed	New Construction – NonResidential – Mixed-Fuel	<p>SW NRNC(c) programs serve Commercial, Public, Highrise Multifamily (four or more stories), Industrial, and Agricultural sectors for new construction and major alterations. SW NRNC works with stakeholders across the non-residential building industry and has both mixed-fuel and all-electric programs. The all-electric program encourages participants to develop all-electric designs by offering higher cash incentives than what is available under the mixed-fuel program. In some cases, particularly for the Industrial and Agricultural sectors, electric technologies may not yet be feasible, e.g., large scale water heating or process applications that are currently more suitable for gas technology; hence, the continuing, but decreasing, need for a mixed-fuel program.</p> <p>This program enrolls customer projects using a mixed-fuel baseline and offers technical assistance using a conventional mixed-fuel design. Where technologically feasible, this program will include and promote measures and/or infrastructure that can help the program participant facilities become electric ready.</p>	Statewide PG&E-Led Third Party
4	SW_NC_NonRes _Res_electric SW_NC_NonRes _Pub_electric SW_NC_NonRes _Ind_electric SW_NC_NonRes _Com_electric SW_NC_NonRes _Ag_electric	New Construction – NonResidential – All Electric	<p>SW NRNC programs serve Commercial, Public, Highrise Multifamily (four or more stories), Industrial, and Agricultural sectors for new construction and major alterations. SW NRNC works with stakeholders across the non-residential building industry and has both mixed-fuel and all-electric programs. The all-electric program encourages participants to develop all-electric designs by offering higher cash incentives than what is available under the mixed-fuel program. In some cases, particularly for the Industrial and Agricultural sectors, electric technologies may not yet be feasible, e.g., large scale water heating or process applications that are currently more suitable for gas technology; hence, the continuing, but decreasing, need for a mixed-fuel program.</p> <p>This program enrolls customer projects using an all-electric baseline. It offers technical assistance using all-electric design and operation.</p>	Statewide PG&E-Led Third Party

- (a) The California Energy Smart Homes Program is the program currently contracted to implement the SW RNC programs.
- (b) PG&E Advice Letter 4466-G/6255-E, Advice Letter Submittal of Pacific Gas and Electric Company's Third-Party Solicitations resulting from its Statewide New Construction Request for Proposal – California Energy-Smart Homes Mixed Fuel Residential Program, executed between TRC Solutions, Inc. and PG&E, p. 7. Approved Sept. 15, 2021.
- (c) The California Energy Design Assistance Program is the currently contracted program to implement the NRNC strategy.

b. Sector Overview

The NC sector addresses newly constructed buildings (greenfield and/or brownfield construction)⁶⁸ and alterations.⁶⁹ This sector overview provides information about the Residential and Non-Residential NC subsectors and describes challenges and barriers for each.

1) Residential New Construction

California's electricity mix includes more than 30 percent renewable energy, on average, a mix that is required to reach 60 percent by 2030 and carbon-free by 2045.⁷⁰

To help with this transition, the NC programs will leverage incentives, rebates, technical assistance, and stakeholder engagement to promote building decarbonization and increase adoption of new EE technologies. By applying incentives and rebates, customers can see lower initial costs, leading to greater adoption of these new technologies and increasing market acceptance. Greater volume and the number of builders and tradespeople with experience in building decarbonization can reduce the cost to consumers. PG&E plans to work with builders to support their marketing and customer education efforts to help

⁶⁸ Greenfield construction is a project site that has not been built on before. Brownfield construction is a project site that carries constraints related to the current state of the site. In other words, the site might be contaminated or have existing structures that architects have to tear down or modify in some way before the project can move forward.

⁶⁹ Title 24, part 6 defines an alteration as:

any change to a building's water-heating system, space-conditioning system, lighting system, electrical power distribution system, or envelope that is not an addition. Alteration is also any change that is regulated by Part 6 to an outdoor lighting system that is not an addition. Alteration is also any change that is regulated by Part 6 to signs located either indoors or outdoors. Alteration is also any change that is regulated by Part 6 to a covered process that is not an addition.

Additions are increases to a building's conditioned floor area or volume including converting from unconditioned to conditioned space. Increasing unconditioned volume or area of buildings is also an addition as is increasing outdoor illuminated area.

⁷⁰ 2021 SB 100 Joint Agency Report, Achieving 100 percent Clean Electricity in California, p. 2 (March 2021).

1 increase customer familiarity with and acceptance of electric
2 appliances.

3 While the Residential NC sector offers opportunities for
4 improving EE and building decarbonization, there are challenges
5 and barriers impacting the adoption of new technologies. Key
6 efficiency and load flexibility issues facing the Residential NC
7 industry and future codes include:

- 8 • Electric space and water heating typically use electricity during
9 the evening/early morning hours that are not aligned with
10 renewable generation periods;
- 11 • Efficient envelope measures (including fenestration and
12 wall/roof insulation) are often more expensive compared to
13 other EE measures (but are better able maintain to space
14 temperature with minimal space conditioning); and
- 15 • Electrification, demand flexibility, and EE are not currently
16 optimized. An optimized building would have a well-insulated,
17 tight building envelope with all electric appliances that are
18 enabled to readily participate in utility demand flexibility
19 programs.

20 **2) Non-Residential NC**

21 Non-residential new construction activity is estimated by the
22 CEC forecast office to be approximately 162 million square feet per
23 year.⁷¹

24 There are significant opportunities which Non-residential NC
25 programs intend to address, including:

- 26 • Non-residential energy loads aligned with daytime renewable
27 generation during “normal business hours”;
- 28 • More all-electric design requirements such as heat pumps, solar
29 generation, and energy storage;

71 Appendix A, p. 7, Table 21, Sum of all building types. New Measure Proposal Template.

https://view.officeapps.live.com/op/view.aspx?src=https%3A%2F%2Fwww.energy.ca.gov%2Fsites%2Fdefault%2Ffiles%2F2020-03%2FNew_Measure_Proposal_Template_AD_A.docx&wdOrigin=BROWSELINK. (accessed Jan. 28, 2022).

- Market resistance to electrification of cooking equipment and concerns about whether heat pump water heaters can satisfy high hot water loads in restaurants;
- Advanced connected controls which save energy and increase building demand flexibility ;and
- Available electric alternatives to gas equipment for certain agricultural and industrial processes.

c. Support for Strategies, Activities, and Forecast Drivers

This section describes PG&E's strategies that drive the forecast for the NC sector programs. PG&E has designed each of these strategies to overcome barriers and help reach PG&E's portfolio goals in a cost-effective manner. PG&E has identified one goal and three strategies for the NC sector.

1) Goal: Enable Cost-Effective, Energy Efficient, All Electric or Electric Ready Buildings and Processes

PG&E's NC sector goal is to support the long-term success of the EE market and decarbonization through enabling all-electric or electric-ready buildings which are grid-flexible and which include high efficiency technologies.

a) Strategy 1: Conduct Outreach to Building Trade Professionals and Customers

As discussed in the Section E.1, C&S, the California Building Code is updated on a three-year cycle. As energy codes progress, NC programs can 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 and exceed Title 24, Part 6 Building Codes, or ISP.

PG&E categorized the NC programs in the market support segment given the primary purposes of the programs in this sector supports the CPUC's market support definition.⁷² As designed, the NC programs foster accelerated adoption of advanced technologies to support EE and decarbonization goals.

For example, all-electric buildings require flexible demand, energy efficient building technologies to support grid reliability, and alignment of energy consumption to coincide with peak solar production and when emissions are lowest. The NC team can collaborate with other IOUs' DR, electrification, and transportation teams to develop and implement programs with a broad base of EE potential

While whole building electrification is the preferred path, not all customers are ready to pursue that approach. Statewide NC programs recognize the wide spectrum of scenarios on the state's path to decarbonization and though the program will focus on the preferred end state of all-electric homes and buildings, it will also support mixed fuel, electric-ready residential and commercial buildings.

Both mixed fuel and all electric residential NC programs target to achieve 20 percent of program dwelling units and savings from HTR/DAC populations. In addition, the non-residential programs anticipate providing 40 percent higher incentives to HTR/DAC projects to help address the abovementioned economic barriers.

b) Strategy 2: Collect Data from the Enrolled Projects in NC Programs to Support Future Code Development

The NC programs can support development of future code cycles by providing cost-effectiveness, feasibility, and enforceability data on advanced EE and other technologies that support building decarbonization, including electrification

⁷² D.21-05-031, p. 14.

technologies and low GWP refrigerants. Moreover, capturing these data during implementation of NC programs may reduce the volume of additional data that the C&S must collect for CASE studies.

For the portfolio plan period of 2024-2027, PG&E will coordinate the NC programs with C&S objectives. Coordination will include identification of advanced technologies by the C&S team required to support future rulemakings, through design assistance, enhanced incentives, and market participant education and will collect project level data such as measure cost, savings, installation, and compliance challenges, building types, occupant satisfaction, and geographical distribution. These data will be incorporated into C&S proposals and help identify CI needs.

In parallel, NC programs will provide a pool of potential sites for extensive alterations and detailed monitoring and data collection by the C&S Program to determine technical feasibility of advance technologies. These data will augment more general project level data for the purpose of developing regulatory proposals but will also help identify new measures for NC programs.

c) Strategy 3: Educate and Train the Building Industry and Proactively Engage Qualified Actors Within the Compliance Supply Chain

Statewide NC programs seek to educate, train, and continuously engage with builders, architects, engineers, and qualified actors within the compliance supply chain⁷³ to increase their knowledge and comfort level with the practices and technologies involved in high performance mixed fuel and all electric buildings. Through increased education and training,

⁷³ 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.

growing partnerships, and professional networks, the NC programs will promote new and emerging technologies for future code cycles for wider adoption as new and emerging technologies become cost-effective.

Incorporating advanced technologies into the design and construction of homes and buildings can expand the influence of the NC programs beyond the specific project sites directly funded by the program. As NC design teams gain experience with the advanced technologies and performance is observed, the design teams can be encouraged to replicate the technology specifications for other buildings and projects in their respective portfolios, and therefore can help accelerate building decarbonization across California. The statewide NC may provide information on incorporating advanced technologies to educate other market actors.

Statewide NC Programs engage with the compliance supply chain who have demonstrated a certain level of proficiency in their role such as CEA and ATTs. By engaging CEAs, ATTs, and other accomplished provider groups, Statewide NC Programs can leverage CI and other training to strengthen the building and compliance industries and their abilities to design for, construct with, and implement advanced technologies. Doing so can help ensure projects exceed code baselines, reduce the amount of time that plans examiners and building inspectors must devote to program projects, and promote the value of using qualified professionals as part of a design/build team. Additionally, statewide NC Programs may encourage program participants to use C&S's Energy Code Ace^{TR} training, tools, and resources to understand code requirements, identify the best compliance paths, complete forms, and verify products prior to installation.

d. Sector-Specific Coordination

Sector coordination can be conducted at multiple levels. Long term planning for NC programs can be coordinated with Code Readiness and

Emerging Technologies programs, and the future Market Transformation Administrator as appropriate.

Coordination with other local and state, EE, incentive programs can improve portfolio efficiency to mitigate the risk of double counting benefits and/or multiple incentives for the same project. NC programs will try to leverage non-EE programs that engage in DR, DG, storage, and resilience. More generally, NC programs can benefit from coordination with BUILD, TECH, Wildfire and Natural Disaster Resiliency Rebuild,⁷⁴ income qualified programs, some of which may include the potential to layer incentives.

e. Categorization by Segment

The statewide NC programs are all categorized in the market support segment.

**TABLE 4-19
NC PROGRAM SEGMENTS**

Line No.	Program ID	Program Name	Segment
1	SW_NC_Res_mixed	SW NC Res – Mixed Fuel	Market Support
2	SW_NC_Res_electric	SW NC – Res – All Electric	Market Support
3	SW_NC_NonRes_Res_mixed SW_NC_NonRes_Pub_mixed SW_NC_NonRes_Ind_mixed SW_NC_NonRes_Com_mixed SW_NC_NonRes_Ag_mixed	SW NC – NonResidential – Mixed Fuel	Market Support
4	SW_NC_NonRes_Res_electric SW_NC_NonRes_Pub_electric SW_NC_NonRes_Ind_electric SW_NC_NonRes_Com_electric SW_NC_NonRes_Ag_electric	SW NC – NonResidential – All Electric	Market Support

⁷⁴ The Wildfire and Natural Disaster Resiliency Rebuild is a program that is expected to support all-electric rebuilding of residential properties that were destroyed or red-tagged due to a wildfire or other natural disaster on or after January 1, 2017.

1 **f. Program Details**

2 Program Cards are provided in Attachment G.

3 **g. New Programs Proposed in This Application**

4 For NC, PG&E is not proposing any new programs in this
5 Application.

6 **h. Program--Specific Coordination**

7 PG&E's Residential and Commercial Zonal Electrification
8 Placeholder programs offer an opportunity for whole neighborhood or
9 regional electrification. The NC programs can coordinate with the Zonal
10 Electrification programs to assure builders are aware of additional
11 opportunities for support. See Section D.1 (Residential) and
12 Section D.2 (Commercial) for more information.

13 **4. Local Government Partnerships**

14 **a. Introduction**

15 **1) Scope and Purpose**

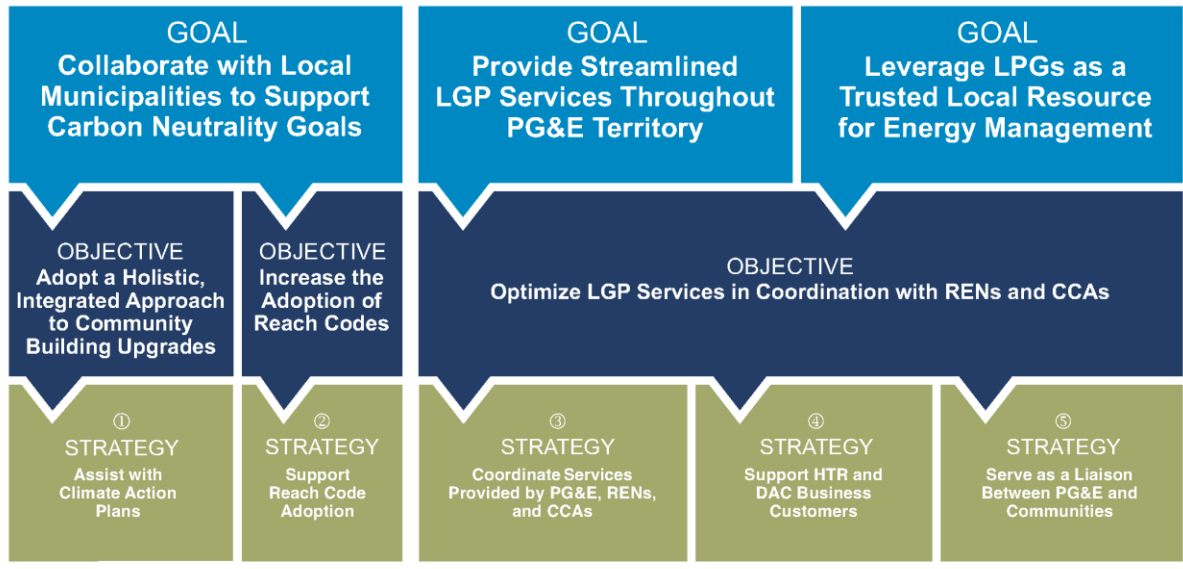
16 This section provides an overview and presents PG&E's plans
17 for its LGPs.

18 LGPs are collaborations between PG&E and local
19 organizations, such as local governments, economic development
20 groups, associations of governments, joint power authorities, or
21 regional non-profit organizations, resulting in programs that serve
22 municipalities and their local communities. Though typically
23 considered to serve the Public sector, LGPs may also serve
24 residential and business customers, and thus, are included as a
25 cross-cutting sector.

26 **2) Summary of Goals, Objectives, and Strategies**

27 PG&E has identified three goals, three objectives, and five
28 strategies for LGPs. Figure 4-9 summarizes PG&E's LGPs' goals,
29 objectives, and strategies and how they interrelate.

FIGURE 4-9
PG&E'S LGPS CROSS-CUTTING SECTOR: GOALS, OBJECTIVES, AND STRATEGIES



3) Support for Request

PG&E's LGP sector includes eight third-party implemented, market support sector LGP programs.

The program names listed below and referenced throughout this sector header are the program names used in CEDARS, though program details discussed throughout this sector header describe the current vendor's program which may use a different public name. Inclusion of the current vendor's program details does not guarantee that the vendor's current contract will be extended. PG&E will evaluate vendor performance and determine the appropriate action.

**TABLE 4-20
PG&E'S LGP PROGRAMS**

Line No.	Program ID	Program Name	Program Description	Program Type
1	PGE_Pub_001	Central Coast LGP	Provides customized project management, engineering, and financing support services. The program delivers a "one-stop shop" to enable agencies such as local governments, special districts, and K-12 public schools to identify and implement cost-effective energy retrofits.	Local Third-Party
2	PGE_Pub_002	Marin LGP	Provides EE and CAP support to Marin County, its cities, towns, school districts, and special districts.	Local Third-Party
3	PGE_Pub_003	Redwood LGP	Assists local governments and public agencies in becoming EE leaders. The program uses an integrated energy management approach to services that presents customers with progressively stepped solutions encouraging deeper retrofits.	Local Third-Party
4	PGE_Pub_004	Central California LGP	Helps HTR and DAC customers access, understand, and participate in EE.	Local Third-Party
5	PGE_Pub_005	San Mateo LGP	Assists municipalities, K12 Public schools, and small HTR businesses to access EE programs. The program provides coordination, outreach, referrals, and educational resources to help community members get help to pursue EE projects. In addition, the LGP assists cities in meeting GHG reduction goals by developing annual community inventories and hosting monthly working groups to support EE and other measures in CAPs.	Local Third-Party
6	PGE_Pub_006	San Francisco LGP	Targets HTR small and medium sized business customers with high energy savings potential. The LGP provides onsite assessments and energy coaching and serves as a liaison with third-party implementers.	Local Third-Party
7	PGE_Pub_007	Sierra LGP	Furtheres EE project development activities, planning and policy work, analysis, and outreach/education efforts designed to motivate Public sector leaders and unserved businesses to increase EE action, especially in rural, HTR and DAC communities of the Sierra Nevada.	Local Third-Party
8	PGE_Pub_008	Sonoma LGP	Targets Public facilities as well as HTR customers and DACs to break down barriers around knowledge and accessibility and to facilitate increased participation in EE.	Local Third-Party

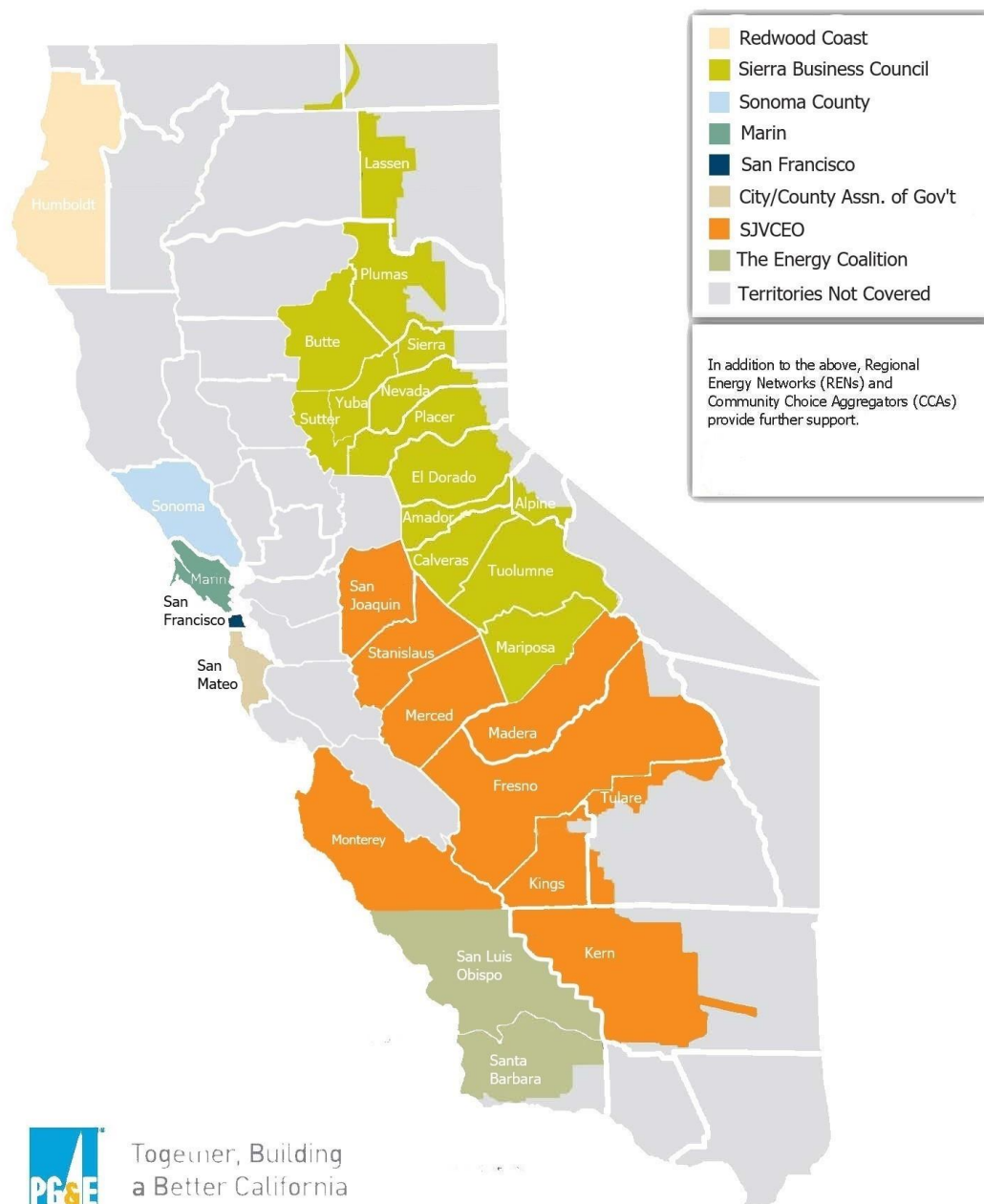
b. Sector Overview

PG&E's Local Government Partners support the economic, environmental, and societal health of their communities. The organizations that run these partnerships are well established within their communities, and, as such, can serve as valuable liaisons between those communities and PG&E. The LGPs can help customers overcome barriers to EE and IDSM adoption and increase participation

1 in EE programs. In addition, LGPs can support PG&E's underserved
2 customers in these jurisdictions by targeting HTR customers, as well as
3 DACs and rural communities.

4 Over the past 10 years, PG&E has supported LGPs within PG&E's
5 service territory, currently including 30 counties. Figure 4-10, below,
6 shows the geographical areas covered by PG&E's eight current LGP
7 programs.

FIGURE 4-10
LOCAL GOVERNMENT PARTNERSHIPS 2020-2023



c. Support for Strategies, Activities, and Forecast Drivers.

The goals, objectives, and strategies proposed reflect the LGP sector customer needs and potential. The goals, objectives, and strategies are designed to be forward-looking and comprehensive to overcome barriers and provide support for local municipalities and their

customers. These strategies are modeled on other successful EE programs PG&E has implemented to serve these customers. This section provides descriptions of the goals, objectives, and strategies for LGPs.

1) Goal: Collaborate with Local Municipalities to Support Carbon Neutrality Goals

Many municipalities need energy upgrades to make their facilities more efficient and to meet local, state, and federal climate goals. However, local governments often can benefit from: (1) assistance with energy-related improvements; (2) having access to technical expertise; and/or (3) having the staffing or budget to dedicate to EE savings and GHG reduction activities. This goal reflects the LGPs' efforts to support municipalities with upgrading their facilities to incorporate more electrification and IDSM measures on their path to carbon neutrality.

2) Goal: Provide Streamlined LGP Services Throughout PG&E Territory

RENs, CCA, and LGPs provide complementary services that have potential to overlap in some areas. PG&E, RENs, CCAs, and LGPs also change their services and/or service areas over time, requiring monitoring and adjustments to avoid further overlap or gaps in services. See Chapter 5, Section F. As a result, this goal is intended to better coordinate and optimize LGP activities with RENs and CCAs. Thus, PG&E and the LGPs, in collaboration with the RENs and CCAs, can serve the greatest number of customers, increasing participation in EE and other DERs.

3) Goal: Leverage Local Government Partners as a Trusted Local Resource for Energy Management

LGPs are a trusted local presence in PG&E's communities. LGPs play an important role serving the local community and fostering communication and collaboration with PG&E. PG&E will use LGPs as a liaison for providing customers with EE education, assistance, and project implementation support.

a) Objective: Adopt a Holistic, Integrated Approach to Community Building Upgrades

The transition to cleaner energy sources and better energy management practices requires adoption of holistic energy upgrades. This includes building controls to support DR, electrifying equipment allowing a shift away from fossil fuels and toward cleaner generation sources, and incorporating traditional EE measures to reduce consumption and alleviate grid congestion. PG&E and its LGPs help communities upgrade buildings by working with them on their CAPs and encouraging them to use the most efficient technologies and behavioral/operational efforts in their energy roadmaps. PG&E proposes that LGPs continue to support CAPs and educate communities about PG&E offerings related to the most impactful EE and integrated DER offerings. This objective supports municipalities in decarbonization, supports delivery of TSB goals, and assists PG&E with its portfolio goal of supporting carbon neutrality by 2045.

b) Objective: Increase the Adoption of Reach Codes

As stated in Section E.1, a reach code is a local building energy code that ‘reaches’ beyond the state minimum requirements for energy use in building design and construction.⁷⁵ Through education and outreach, LGPs, in coordination with PG&E’s Reach Codes program, can help municipalities to remove barriers to reach code adoption. See PG&E’s strategies below for further detail.

c) Objective: Optimize LGP Services in Coordination with RENs and CCAs

PG&E proposes to continue its collaboration with LGPs so that these knowledgeable, and connected resources can

⁷⁵ NRDC, Blog Post: *San José’s Proposed Building “Reach Code,” Explained* (Sept. 4, 2019), <https://www.nrdc.org/experts/pierre-delforge/san-joses-proposed-building-reach-code-explained>. (accessed Jan. 28, 2022).

continue to support local needs. PG&E intends to provide streamlined services to increase participation in its EE programs. To achieve this, PG&E plans to continue tracking LGP, REN, and CCA services and identify opportunities to optimize the LGP services where possible. Overall, PG&E intends to coordinate and optimize LGP efforts to complement REN and CCA efforts and target LGP services where customers remain underserved.

i) Strategy 1: Assist with Climate Action Plans

PG&E's LGPs can help local communities adopt holistic energy management practices by supporting the development and updating of municipalities' CAPs. CAPs provide comprehensive roadmaps that guide municipalities in their efforts to become more climate resilient and reduce GHG emissions to mitigate climate change over time. LGP CAP assistance has been shown to be a good method for influencing EE adoption⁷⁶ because municipalities may require additional advanced technical understanding and capital resources needed to identify and implement energy upgrades.⁷⁷ LGPs can provide the additional technical support municipalities need to draft community CAPs. PG&E will encourage LGPs to continue to support municipalities as they develop and update their CAPs to incorporate energy solutions related to EE, DR, DG, energy storage, smart controls, and EVs. PG&E intends to support LGP efforts by providing consumption data related to municipality usage that will help set goals, benchmark, and

⁷⁶ Opinion Dynamics, Itron, and Tierra Resource Consultants, *Assessment of Local Government Partnerships Final Report: CPUC Contract Group B: Deliverable 22 Year 1 Study*, (Nov. 25, 2020), pp. 59 and 60, [Report Template-CPUC-v2019 \(energydataweb.com\)](#). (accessed Jan. 28, 2022).

⁷⁷ Opinion Dynamics, Itron, and Tierra Resource Consultants, *Assessment of Local Government Partnerships Final Report: CPUC Contract Group B: Deliverable 22 Year 1 Study*, (Nov. 25, 2020), pp. 26 and 72, [Report Template-CPUC-v2019 \(energydataweb.com\)](#). (accessed Jan. 28, 2022).

track municipality progress. This strategy supports PG&E's portfolio-level goals related to decarbonization, resiliency, shaping energy demand to match supply.

ii) Strategy 2: Support Reach Code Adoption

In addition to adopting a new Building Standards Code (Title 24 of the California Code of Regulations) every three years, California cities and counties can choose to adopt local reach codes at any time. Reach codes typically encourage measures which reduce energy consumption and GHG emissions and can also offer bill savings and meet actions outlined in the local municipality's CAP. Despite these benefits, individual municipalities may not have the technical expertise to develop reach codes. Therefore, PG&E's C&S team plans to work with LGPs to provide draft reach code language and educational materials detailing the benefits of code changes to help encourage adoption. This strategy aligns with supporting carbon neutrality by 2045.

iii) Strategy 3: Coordinate Services Provided by PG&E, RENs, and CCAs

RENs, CCAs, LGPs, and the utilities provide multi-faceted local energy services support structure. PG&E, RENs, CCAs, and LGPs also change their services and or service areas, requiring monitoring and adjusting to avoid overlaps or gaps in services.

PG&E seeks to optimize the local services provided by RENs, CCAs, and LGPs by minimizing overlap and expanding services where possible in areas found to have gaps. To do so, PG&E plans to catalog REN, CCA, and LGP offerings by zip code, market sector and subsector, type, and level of support. In areas where RENs and LGPs provide similar coverage, PG&E plans to help coordinate efforts to use funds efficiently and ensure that services

reach customers. Additionally, PG&E plans to continue engaging with RENs to coordinate services, determine subsectors to target, and review annual joint cooperation memos.

iv) Strategy 4: Support HTR and DAC Business Customers

This strategy intends to leverage the LGPs to support HTR customers and DACs, including rural areas, with their participation in EE from project planning through implementation. LGPs can support HTR customers and DACs to help increase participation and improve the reach of EE programs. PG&E will educate LGPs about EE offerings, including equity segment offerings, and coordinate with them to increase community outreach to HTR customers and DACs. LGPs can assist in identifying EE projects, helping customers apply for incentives and financing, helping to hire contractors, monitoring project progress, and supporting project completion. LGPs may offer additional support in the form of design and engineering staff to assist with project identification and analysis. Further, LGPs can incent HTR and DAC customers in rural, remote, and other historically underserved customer subsectors using LGP funding, in combination with PG&E's third-party implemented resource acquisition programs. This strategy is intended to improve participation by historically underserved populations.

v) Strategy 5: Serve as the Local Liaison Between PG&E and Communities

LGPs are uniquely situated to serve as the liaison between PG&E and the communities they serve by maintaining information exchange and connecting municipalities to PG&E energy related programs.

- Information Exchange – PG&E plans to equip its LGPs with the education and tools to make sure their

1 employees are well-versed in PG&E's EE,
2 electrification, and other DER offerings. While engaging
3 with customers, LGPs can identify the types of
4 buildings, equipment, and technologies present at
5 customer sites. LGPs can collect, track, and provide
6 this market data to PG&E that can be used to better
7 target EE offerings in the future.

- 8 • Connecting Municipalities with PG&E Programs – LGPs
9 can support and encourage their own municipalities and
10 customers to participate in PG&E's EE offerings. LGPs
11 can use the local governments' CAP process, in part, to
12 identify new EE, electrification, and other DER projects.
13 Beyond project identification, LGPs can assist
14 customers with hiring contractors, overseeing installers,
15 applying for financing and incentives, and performing
16 quality assurance of final implementations.

17 **d. Sector-Specific Coordination**

18 LGPs have the potential to support all sectors in overcoming
19 barriers to program adoption, ultimately increasing program impact.
20 PG&E plans for sector teams to work in close coordination with LGPs to
21 achieve each key strategy.

**TABLE 4-21
LGPS: STRATEGIES AND SECTOR SUPPORT**

Line No.	Strategies	Sectors Supported	Coordination Efforts
1	Assist with Climate Action Plans	Public	LGPs can help public sector local municipalities develop CAPs and EAPs.
2	Support reach code adoption	C&S	LGPs plan to disseminate reach code information developed by C&S to help municipalities adopt more stringent building codes.
3	Coordinate services provided by PG&E, RENs and CCAs	All Sectors	LGPs plan to coordinate with the RENs and CCAs to provide complementary services to best utilize funding to provide the most impact.
4	Support HTR and DAC business customers	All Sectors	LGPs serve as a liaison to customers in their communities and providing information on PG&E offerings.
5	Serve as the local liaison between PG&E and communities	All Sectors	LGPs serve as a liaison to customers in their communities and providing information on PG&E offerings.

e. Categorization by Segment

The LGP programs are cross-cutting and support multiple customer sectors. The LGP programs are classified in the market support segment.

**TABLE 4-22
LGP PROGRAM SEGMENTS**

Line No.	Program ID	Program Name	Segment
1	PGE_Pub_001	Central Coast Local Government Partnership	Market Support
2	PGE_Pub_002	Marin Local Government Partnership	Market Support
3	PGE_Pub_003	Redwood Local Government Partnership	Market Support
4	PGE_Pub_004	Central California Local Government Partnership	Market Support
5	PGE_Pub_005	San Mateo Local Government Partnership	Market Support
6	PGE_Pub_006	San Francisco Local Government Partnership	Market Support
7	PGE_Pub_007	Sierra Local Government Partnership	Market Support
8	PGE_Pub_008	Sonoma Local Government Partnership	Market Support

f. Program Details

Program Cards are provided in Attachment H.

1 **g. New Programs Proposed in This Application**

2 PG&E is not proposing any new LGP programs in this Application.

3 **5. Workforce Education and Training**

4 **a. Introduction**

5 **1) Scope and Purpose**

6 This section provides PG&E's approach to Workforce Education
7 & Training (WE&T) through its local and statewide programs.

8 PG&E's WE&T programs support PG&E's goal to help customers
9 reduce energy use, which will help PG&E optimize delivery of TSB
10 and reduce GHG emissions to support carbon neutrality by 2045.
11 The WE&T program includes individuals who design, build,
12 maintain, and operate buildings and building systems. WE&T trains
13 individuals how to recognize and act on energy savings and carbon
14 reduction opportunities.

15 PG&E has been offering EE education and training for more
16 than 40 years and in 2020, more than 37,000 students and workers
17 participated in WE&T training.⁷⁸ PG&E works closely with
18 stakeholders to regularly update programs and strategies to address
19 changing needs and emerging trends. PG&E plans to continue its
20 WE&T work in 2024-2027.

21 PG&E prioritizes the safety of our customers, employees,
22 contractors, and the communities we serve. As such, PG&E's
23 WE&T programs incorporate safety during each training session.
24 This can include ensuring workplace ergonomics, contacting Call
25 Before you Dig, identifying proper personal protective equipment for
26 the job, and making the area safe for work. In addition, PG&E,
27 delivers training on topics such as the safe use of refrigerants in
28 HVAC systems as well as Natural Gas Appliance Testing (NGAT)
29 training that prepares technicians to conduct post-installation
30 inspections to confirm compliance with applicable safety regulations.

⁷⁸ PG&E, *2020 Energy Efficiency Annual Report*, pp. 74 and 76 (May 3, 2021).

2) Summary of Goals and Strategies

For 2024-2027, PG&E's WE&T programs help reach PG&E's portfolio goals of optimized delivery of TSB and supporting carbon neutrality in 2045. Figure 4-11 summarizes PG&E's WE&T goals and strategies.

FIGURE 4-11
PG&E'S WE&T CROSS-CUTTING SECTOR: GOALS AND STRATEGIES



3) Support for Request

PG&E's WE&T sector and the budget forecasts for its three programs serve multiple audiences at different stages of a career pathway to enable optimized delivery of TSB and support carbon neutrality in 2045. Additionally, PG&E's WE&T program serves people who want to enter the energy workforce, but that may have personal and/or systemic barriers to entry.

**TABLE 4-23
PG&E'S WE&T PROGRAMS**

Line No.	Program ID	Program Name	Program Description	Program Type
1	SW_WET_CC	Workforce Education and Training – Career Connections	Career Connections provides K-12 schools and instructors with teaching materials and resources to educate students about energy and sustainability fundamentals. Schools and instructors also receive green career awareness and exploration resources to guide K-12 students toward EE education and career pathways. Career Connections is a Statewide Third-Party Program being led by PG&E.	Statewide PG&E-Led Third-Party
2	SW_WET_Work	Workforce Education and Training Career & Workforce Readiness	Trains, provides social services to, and places disadvantaged workers ^(a) into EE jobs. Career and Workforce Readiness (CWR) also provides job retention services for up to 12 months to participants placed in these jobs. CWR is a Statewide Third-Party Program being led by PG&E.	Statewide PG&E-Led Third-Party
F3	PGE21071	Integrated Energy Education and Training	Integrated Energy Education and Training (IEET) two components—Core Energy Education Collaboration (CEEC) and Technical Upskill (TU). Through CEEC, PG&E collaborates with post-secondary educational institutions (e.g., union training programs, community colleges, 4-year universities, vocational training programs) that are training the energy workforce. Depending on the agreement, PG&E assists those training organizations' students and enhances the EE parts of their training programs. Through the TU component, PG&E provides technical advice and resources, and trains members of the current energy workforce to reduce energy use and to electrify the buildings they are designing, building, operating, and maintaining. IEET is a local subprogram implemented by PG&E.	Local PG&E-Implemented
<p>(a) A disadvantaged worker is 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 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. D.18-10-008, p. 79, OP 9.</p>				

b. Sector Overview

PG&E's WE&T sector is informed by PG&E's deep market experience, knowledge, and relationships. It is designed to address an audience that is large in number, is geographically dispersed across California, and is diverse in the types of occupations and their training needs.

WE&T's target audience consists of individuals that design, build, maintain, and operate buildings and building systems. This includes occupations such as architects, engineers, contractors, building

operators, commercial food service workers, building inspectors, energy consultants, and other occupations. While much of WE&T's target audience lives and works in the San Francisco Bay Area counties, a significant portion is from counties including Kern, Sacramento, and Fresno. For example, in 2019 PG&E's WE&T target audience included more than 500,000 students spread across 10 counties.⁷⁹

To reach this audience WE&T plans to implement several tactics, including targeted marketing, conducting training over the internet, collaborating with local training organizations to enhance or expand the EE part of their training programs, taking in-person classes to where the audience is located, developing technical advisory committees (TAC), and seeking input from industry and community stakeholders. To market WE&T classes to disadvantaged workers, PG&E plans to continue leveraging community-based organizations and workforce development organizations that serve them. The sections below further describe PG&E's approaches to implementing these tactics.

c. Support for Strategies, Activities, and Forecast Drivers

This section describes PG&E's three goals and strategies for the WE&T cross-cutting sector.

1) Goal: Continue to Provide EE, Electrification, and Decarbonization Training That Develops a Highly-Skilled Energy Workforce

A highly skilled energy workforce is critical to the successful implementation of many of PG&E's EE programs. Incorporating electrification and decarbonization measures into homes and buildings will require more specialized workforce training. PG&E aims to be a leader in this space.

2) Goal: Enable PG&E and California to Achieve Their EE Savings and Decarbonization Goals

PG&E intends to leverage WE&T to be a leading enabler of the drive towards a carbon neutral California by 2045.

⁷⁹ "PG&E Occupational Profiles", Centers of Excellence, 2020, p. 2.

3) Goal: Be a Valued Partner That Is Integrated Into Energy Workforce Communities and Professions

To effectively train the energy workforce, PG&E must be a valued partner in its communities and professions. PG&E plans to continue and strengthen its current partnerships with these stakeholders.

a) Strategy 1: Align With the WE&T Audience

WE&T's guiding principle is to deliver the right training to the right audience while working with the right set of partners. This principle underlies PG&E's first WE&T strategy to align with the WE&T audience by using targeted marketing, attendance data, participant feedback, and stakeholder and advisory committee input.

PG&E's WE&T programs use different sources to identify the right training, including student input, insight from subject matter-specific TACs, in-house expertise, and recommendations from other PG&E program managers across the customer sectors.

WE&T intends to leverage PG&E's internal program staff, learning strategists',⁸⁰ and instructional designers'⁸¹ expertise to determine the appropriate duration, difficulty, delivery methods and platforms (e.g., live in-person, live webinar, on-demand/self-paced). The appropriate class duration can range from stand-alone lectures that introduce new knowledge to learning plans extending over weeks or months. The same

⁸⁰ Learning strategists are professionals who assist with technical and/or professional development learning solutions and projects. Job responsibilities may include but are not limited to: front-end needs analysis and project management as well as assistance with identifying training-related performance gaps, designing solutions, implementation of solutions, and evaluation of curriculum.

⁸¹ Instructional designers are professionals who design and develop technical and/or professional development curriculum content. Job responsibilities may include, but are not limited to: curriculum design, task analysis, content development, evaluation of training effectiveness, and training-related quality assurance.

expertise can be used to determine the best teaching methods (e.g., lecture, hands-on, problem-solving) for each class.

b) Strategy 2: Train for the Future

In addition to using data and feedback to understand the program audience, the WE&T program must also understand the EE, electrification, and decarbonization market, technologies, and trends to match the training and tools to meet those evolving market and technology needs. The WE&T sector's second strategy is to incorporate insights from market and technology trends and other information sources to offer updated and forward-looking training and tools.

Because of rapidly evolving technologies and policy priorities, PG&E plans to implement several tactics including:

- Every two years, conduct workforce market study to understand workforce geographic distribution and jobs forecasts;
- Expand and leverage student, TAC, curriculum designer, and stakeholder advice and feedback;
- Increase the percentage of WE&T classes that are focused on electrification;
- Identify and target new audiences associated with grid optimization, electrification and GHG reduction, resiliency, DG, microgrids, and climate change adaptation efforts; and
- Refresh curriculum annually to include code cycles, grid optimization, electrification and GHG reduction, TOU, resiliency, DG/microgrids, and climate change adaptation efforts.

c) Strategy 3: Build and Maintain Collaborative Relationships

WE&T's third strategy is to collaborate with other training organizations. PG&E intends to continue its current, successful collaborations and build new relationships with training organizations. PG&E's role would be to assist other training organizations to introduce, expand, or enhance the EE part of

- 1 an organization's training program. Table 4-24 below lists
 2 primary audiences and EE training partners.

TABLE 4-24
WE&T PROGRAMS, AUDIENCES, AND SAMPLE POTENTIAL COLLABORATORS

Line No.	WE&T program	Primary Audiences (sample)	Sample Organizations for Collaboration
1	WET Career Connections	K-12 students K-12 instructors Other educators serving K-12 students	K-12 schools Education and afterschool programs serving K-12 students Community-based organizations
2	WET Career and Workforce Readiness	Disadvantaged workers	Workforce investment boards Workforce development agencies Community-based organizations Job training organizations Community colleges
3	Integrated Energy Education and Training	CEEC: Post-secondary students Apprentices Post-secondary educators	CEEC: 4-year colleges Community colleges Job-training organizations Vocational schools Labor/Unions Trade associations Apprenticeship & Pre-apprenticeship Programs Community-based organizations
		TU: Energy consultants Engineers & designers Building operators Contractors Technicians	TU: Certification agencies & programs University extension programs Professional and trade associations

- 3 PG&E's WE&T sector plans to continue providing workforce
 4 and customer training that supports PG&E's resource
 5 acquisition, equity, and income-qualified programs. WE&T's
 6 trainings include building systems, HVAC, lighting, building
 7 envelope, renewables, and building types (such as residential,

commercial, institutional, government, multi-family, commercial food service, and agricultural).

WE&T serves a network of energy workforce, professionals, and trade organizations. Organizations such as those included in Table 4-24 advise WE&T about training content and needs and help PG&E reach their constituents and members and expand its reach to customers and the energy workforce. This collaboration may include: establishing collaborations with organizations that train the energy workforce including those with a demonstrated commitment to training disadvantaged workers; developing marketing campaigns for WE&T classes and resources; establishing advisory panels that will advise WE&T program on how to best serve the energy workforce; marketing continuing education credits through applicable professional organizations; and enrich existing collaborations and expand the number of collaborations with post-secondary organizations.

d) Strategy 4: Prioritize Low-Income Schools and Support Disadvantaged Workers

The WE&T Program plans to support K-12 students and teachers at schools in low-income areas as well as disadvantaged workers that have personal and/or systemic barriers to employment. These two audiences are an important part of California's future energy workforce. This strategy is in alignment with PG&E's stand for our serving our communities and the CPUC's ESJ Action Plan Draft 2.0 to "promote high road career paths and economic opportunity for residents of ESJ communities".⁸²

The WE&T Career Connections program plans to implement various tactics for helping K-12 students learn about EE including:

⁸² CPUC Environmental & Social Justice Action Plan, Version 2, (October 2021), p. 1. [DRAFT CPUC ESJ 2.0 10.26.2021 \(ca.gov\)](#). (accessed Jan. 21, 2022).

- Developing and disseminating energy, EE, and sustainability teaching materials and resources;
- Developing and disseminating career awareness and career exploration materials and resources;
- Providing instructor training and professional development opportunities;
- Partnering with programs and organizations that serve K-12 students, including community-based organizations and afterschool programs;
- Providing high school students job shadowing and field trip opportunities; and
- Having students conduct EE projects at home and at school.

Using these tactics, Career Connections strives to address barriers that teachers and instructors may face, including time and resources required to develop EE teaching materials and access to organizations that can help them with additional materials and resources.

Through the WE&T CWR program, a statewide third-party-implemented program administered by PG&E as the lead program administrator, PG&E aims to assist disadvantaged workers overcome barriers they may have to entering the energy workforce using tactics such as:

- Developing partnerships with local and regional training and workforce development organizations;
- Providing program participants with tailored wraparound services;⁸³
- Providing technical EE training that participants will be able to use on the job;

83 Wraparound services may include transportation assistance, childcare coordination, English language development.

- Placing program participants into jobs where they can use the knowledge and skills they acquired during their training; and
- Providing provide job retention services to increase the chances that they remain employed.

IEET also supports educating disadvantaged workers through its no-cost trainings available to all members of the energy workforce and people looking to enter the energy workforce. Over the past 2 years, almost half of WE&T class attendance has been by disadvantaged workers.⁸⁴ PG&E plans to continue to market its free training opportunities through organizations and agencies that serve disadvantaged workers. PG&E also plans to continue to collaborate with training organizations that serve disadvantaged workers to help them introduce or expand the EE part of their training programs.

d. Sector-Specific Coordination

As a cross-cutting program, WE&T supports all sectors across the portfolio by providing a knowledgeable and skilled workforce that can implement EE strategies and by educating communities about of energy management and electrification.

e. Categorization by Segment

TABLE 4-25
WE&T PROGRAM SEGMENT CATEGORIZATION

Line No.	Program ID	Program Name	Segment
1	SW_WET_CC	Workforce Education and Training-Career Connections	Market Support
2	SW_WET_Work	Workforce Education and Training Career & Workforce Readiness	Equity
3	PGE2071	WE&T Integrated Energy Education and Training	Market Support

⁸⁴ PG&E, *2019 Energy Efficiency Annual Report*, (May 15, 2020), pp. 62-64 & PG&E, *2020 Energy Efficiency Annual Report* pp. 73-74 (May 3, 2021).

1 **f. Program Details**

2 Program Cards are provided in Attachment I.

3 **g. New programs Being Proposed as Part of This Application**

4 PG&E is not proposing any new WE&T programs in this Application.

5 **6. Finance**

6 **a. Introduction**

7 **1) Scope and Purpose**

8 This section provides an overview of PG&E's Finance sector
 9 and PG&E's approaches to providing access to capital for
 10 customers. PG&E's EE financing programs have been a significant
 11 driver in encouraging EE participation and thus have contributed to
 12 the utility's goal of decarbonization. OBF is a successful tool that
 13 allows customers to proceed with energy efficiency investments that
 14 might not have been approved if a non-OBF funding source was
 15 required.⁸⁵ Customer demand for OBF has been high with
 16 approximately 1,500 loans totaling more than \$200 million during the
 17 last three years. Furthermore, PG&E collaborates with the
 18 California State Treasurer's Office in delivering the GoGreen
 19 financing programs which have supported approximately
 20 2,000 loans statewide.

21 In this application, PG&E is requesting approval for additional
 22 funding for its loan pool of \$10 million annually. PG&E plans to seek
 23 approval for new financing structures that increase access to
 24 financing for EE projects in other CPUC proceedings.⁸⁶

25 This section of PG&E's testimony also includes information
 26 about other PG&E financing efforts to provide a more complete
 27 description of how PG&E plans to enable financing programs to

85 Cadmus, *Evaluation of the On-Bill Financing – Alternative Pathway, PY2018-2019*, (Aug. 3, 2020), p. 3.
http://www.calmac.org/publications/OBF-AP_PY18-19_Process_Evaluation_Final.pdf.
 (accessed Feb. 3, 2022).

86 PG&E is requesting approval for significant changes and improvements to the financing programs through the CPUC's Clean Energy Financing Options (CEFO) proceedings, R.20-08-022.

increase demand-side energy investments and help customers manage and reduce energy use, strengthen the clean energy economy, and help California reach carbon neutrality by 2045. The discussion below describes the impact PG&E expects these improvements to make on PG&E's overall portfolio.

2) Summary of Goals, Objectives, and Strategies

PG&E's Finance programs are a key driver to enabling its EE resource programs and help optimize delivery of TSB, support carbon neutrality, enable shaping energy demand to match supply, and support customer resiliency. In support of these portfolio goals PG&E has identified two goals, three objectives, and five strategies. Figure 4-12 summarizes PG&E's Finance goals, objectives, and strategies and how they interrelate.

FIGURE 4-12
PG&E'S FINANCE CROSS-CUTTING SECTOR: GOALS, OBJECTIVES, AND STRATEGIES



3) Support for Request

PG&E's Finance sector includes its primary offering, OBF, which includes one program shown in Table 4-26 below. The OBF Loan Pool Contribution is not a forecasted expenditure and is excluded from the total portfolio budget in the CEDARS, however, it is included as part of the revenue requirement request for the portfolio plan filing for 2024-2027.

**TABLE 4-26
PG&E'S FINANCE SECTOR PROGRAMS**

Line No.	Program ID	Program Name	Program Description	Program Type
1	PGE_OBFAP	OBF Alternative Pathway	<p>The OBF AP Program creates an alternative means for customers and contractors to participate in OBF and enables incremental energy savings to be generated without payment of a rebate or incentive. The OBF AP Program intends to leverage metered energy data that can be used to further enhance program design with early metered energy savings project information.</p> <p>Allows eligible PG&E non-residential customers to obtain loans of \$5,000-\$4,000,000, with payback periods of up to 120 months for a variety of EE projects. The OBF loan is paid back based on projected energy savings, via installments on the customer's monthly PG&E bill. After the loan is repaid, any energy savings that result from the new, EE equipment can translate into lower utility costs.</p>	Local PG&E-Implemented
2	PGE_LoanPool	Financing Loan Pool Addition	This Program ID serves as the mechanism for requesting additional funds for the OBF Loan Pool Contribution	Local PG&E-implemented

b. Sector Overview

The Finance sector includes the OBF offering, which includes OBF Alternative Pathway (AP) and OBF Loan Pool Contribution. OBF is an offering that PG&E provides to its customers for addressing barriers to accessing capital. It uses a revolving loan pool – as OBF funds are repaid, they are re-issued in the form of new loans with new projects. PG&E requests incremental funds to replenish and grow the loan pool. PG&E manages the OBF loan receipts and available funds in the loan

pool to determine the amount of incremental funding to request for the OBF loan pool contribution. The loan pool supports the access to capital for all qualifying EE projects via third-party implemented programs, PG&E-implemented programs and via PG&E's OBF AP Program.

EE accomplishments (e.g., TSB and cost-effectiveness) for the projects that are implemented by non-third-party contracted vendors (e.g., Trade Professional Alliance members) that leverage OBF without incentives are attributed to the OBF AP Program. EE project accomplishments for projects that are implemented by non-third-party contracted vendors that leverage OBF with incentives are attributed to PG&E-implemented programs.⁸⁷ EE project accomplishments for third-party implementers contracted with PG&E who leverage OBF are attributed to their respective programs. This is summarized in Table 4-27 below.

TABLE 4-27
OBF EE ACCOMPLISHMENT ATTRIBUTION

Line No.	EE Project Type	Program to Which EE Accomplishments Is Attributed		
		OBF AP Program	PG&E-implemented Programs	Third-Party Implemented Programs
1	OBF with calculated or meter-based incentive		X	X
2	OBF without incentives	X		X
3	OBF with deemed rebates	PG&E does not currently allow this but may consider it in the future		

While incentives encourage customers to implement projects that save energy and move California towards reaching its climate goals, many customers still face competing needs for capital.⁸⁸ PG&E's financing programs help customers proceed with energy projects while still considering other investments.

⁸⁷ Such as Commercial Calculated Incentives or Industrial Calculated Incentives.

⁸⁸ Cadmus, *Evaluation of the On-Bill Financing – Alternative Pathway, PY2018-2019*, (Aug. 3, 2020), p. 19. [OBF-AP PY18-19 Process Evaluation Final.pdf \(calmac.org\)](#). (accessed Jan. 21, 2022).

OBF is not able to support all customers with their projects: it is not available for Residential customers, has a maximum term of ten years and does not overcome split incentives between a renter and a tenant where the renter is responsible for the energy bills.⁸⁹ OBF, as currently structured, also relies on 100 percent funding from energy efficiency balancing accounts,⁹⁰ limiting the scalability of the program. Thus, there is a need to develop financing tools that expand the availability of capital and reach those customers who are currently underserved by the existing financing offerings.

c. Support for Strategies, Activities, and Forecast Drivers

To continue the Finance sector's contribution to enabling PG&E's EE portfolio and address existing barriers in 2024-2027, PG&E has identified two goals, three objectives, and four strategies that are described below.

1) Goal: Make Attractive Financing Options Available to All Customers

Traditional incentive programs do not overcome barriers for all customers who may be interested in making an investment in EE. Incentives may only represent a portion of a project's cost, meaning customers still need capital available to proceed with their energy investment. The combination of OBF and the GoGreen financing programs can provide financing opportunities for some of PG&E's customers but they do not cover all projects or all customers. To overcome these barriers, PG&E plans to seek authorization to create new tools and expand existing offerings through the CEFO proceeding, R.20-08-022. Providing customers with financing solutions that support both EE and other demand-side energy

⁸⁹ Maximum loan terms for an OBF loan are 120 months, and project annual costs savings must be forecast to exceed annual loan payments based on engineering estimates. This constraint means projects with long term paybacks cannot be easily funded using OBF. Maximum loan term is outlined in the OBF Tariff, [G-OBF/E-OBF](#). (accessed Jan. 21, 2022).

⁹⁰ (Public Purpose Program Energy Efficiency Balancing Account (gas) and Procurement Energy Efficiency Balancing Account (electric) (referred to herein as the EE Balancing Accounts).

management solutions would allow more customers to participate in programs that support decarbonization and resiliency.

2) Goal: Use Financing to Reduce the Cost of Delivering EE

OBF provides avoided cost benefits with a relatively small budget compared to other programs. OBF has achieved a relatively high Program Administrator Cost (PAC) benefit-cost ratio, while its TRC benefit-cost ratio has been relatively low.⁹¹ The high PAC ratio achievements are due in part to OBF's relatively lower program costs indicate that it is an efficient way to use EE funds to help meet PG&E's⁹² TSB goal. The lower TRC ratio results are driven primarily by the measure cost associated with OBF; these measure costs are borne by customers participating in the OBF program.⁹³ PG&E's EE Finance team understands through discussions with its customers that the access to affordable capital through OBF is essential to completing EE projects and customers are willing to bear the measure costs for these projects. PG&E's OBF offering provides good value for customers and PG&E plans to continue leveraging it to meet EE goals.

a) Objective: Obtain Regulatory Approval to Expand OBF and Create New Financing Tools

PG&E customers who may not be well served by the available EE financing tools include customers who rent

⁹¹ In 2020 PG&E reported a PAC for OBF AP of 25.55, and a TRC of 0.25. https://cedars.sound-data.com/programs/PGE210911/details/2020/?include_c_n_s=true. (accessed Jan. 21, 2022).

⁹² The PAC test compares the Utility Avoided costs to the program administrative and incentive costs. A high ratio means that a high number of benefits have been obtained relative to the administrative and incentive expenses. PAC test p. 23, [California Standard Practice Manual \(October 2001\)](#). (accessed Jan. 21, 2022).

⁹³ In 2020 over 90 percent of the costs reported under program were customer measure costs. https://cedars.sound-data.com/programs/PGE210911/details/2020/?include_c_n_s=true. (accessed Jan. 21, 2022).

properties where there is split incentive⁹⁴ and those whose project costs exceed the current OBF funding scale or have longer term payback. The CEFO proceeding represents an opportunity to improve OBF, create new financing tools, and support customer investments in comprehensive demand-side energy management.

b) Objective: Seek Alternatives to EE Funds for Use in Financing EE Programs

PG&E plans to seek alternatives to EE Balancing Account funds to support its financing program. This could result in an increase in the amount of financing available and expand the number and types of projects funded. PG&E will rely on Strategy 2 and Strategy 3 to achieve this objective.

c) Objective: Increase the use of Financing without Incentives

PG&E plans to increase the total TSB delivered by financing programs through 2027 to reduce the cost of delivering EE goals for customers. PG&E expects to achieve this by increasing participation in PG&E's financing programs and seeking financing from non-ratepayer sources to add to the OBF loan program. PG&E's primary strategy for achieving this will be through the expansion of the OBF loan pool with other sources of capital as described in Strategy 2.

i) Strategy 1: Continue the Availability of the OBF

Starting in 2024, PG&E is requesting an incremental \$10 million annually to the OBF loan pool to support the continuation of the OBF broadly at its current level of loan issuance (about \$65 million – \$70 million annually).

OBF has been a popular tool for customers seeking EE investments with significant growth in participation since

⁹⁴ The split incentive refers to the situation where a building owner is not incentivized to make an energy investment as they do not pay the energy bills, but the customer is also not incentivized to make the energy investment as they do not own the building, nor can they rely on seeing the benefits over the full payback period of the investment.

1 inception; in 2015 OBF provided approximately \$14 million
 2 in EE loans and more than \$65 million in loans in 2021.
 3 Demand started to outpace supply of available funds in
 4 2020, which led to PG&E implementing stricter
 5 requirements to qualify for the OBF loan funds at the start of
 6 2021 and shifted 2020 and 2021 program funds into the
 7 revolving loan pool to meet demand.⁹⁵ Even with those
 8 fund shifts PG&E was unable to fund several projects in
 9 2021, including deep comprehensive retrofits⁹⁶ because of
 10 insufficient funding in the loan pool.

11 These incremental funds will likely allow PG&E to
 12 continue to offer OBF to implementers who are
 13 incorporating OBF into their program offerings and as a
 14 market support tool to independent trade professionals
 15 offering EE projects to customers. These savings come at a
 16 low cost to non-participating customers as OBF loans have
 17 a low free-ridership level, low administration costs, and low
 18 customer acquisition costs.⁹⁷

⁹⁵ Typical development cycles are nine months to fifteen months depending on project sizes. PG&E introduced customer borrowing limits and tighter exception criteria for large projects at the start of 2021 to ensure funding availability could be maintained through 2022. These fund shifts are reported in PG&E's monthly EE reports filed with the CPUC.

⁹⁶ Deep comprehensive retrofits would typically include measures such as lighting, controls, HVAC, windows, and other building envelope improvements, and reduce the customers energy usage by 15%+.

⁹⁷ NTG of 0.94. Cadmus, Evaluation of the OBF – AP, PY 2018-2019, p. 3 (Aug. 3, 2020) http://www.calmac.org/publications/OBF-AP_PY18-19_Process_Evaluation_Final.pdf. (accessed Feb. 4, 2022) p. 3, PG&E expects to receive a new impact evaluation soon after this application is filed. The forecast PAC ratio for OBF_AP for 2024-2027 is 4.17 and the forecast TRC ratio for 2024-2027 is 0.72.

TABLE 4-28
FORECAST OBF LOAN POOL FUNDS 2024-2027

Line No.	Description	2024	2025	2026	2027
1	a. Forecast Repayments \$(m)	\$52.30	\$54.91	\$57.66	\$60.54
2	b. Loan Pool funds brought forward from prior year \$(m)	\$9.68	\$7.26	\$7.21	\$7.30
3	c. Additional Funding to the loan pool \$(m)	\$10.00	\$10.00	\$10.00	\$10.00
4	Total funds available for OBF loans \$(m) (a+b+c)	\$71.97	\$72.18	\$74.87	\$77.84
5	Forecast Loans issued \$(m) ^(a)	\$(64.71)	\$(64.96)	\$(67.57)	\$(70.72)

(a) The difference between the loans funded and the available loan pool represents the carry-over funds for the next year show in line b.

ii) Strategy 2: Incorporate New Sources of Capital into OBF

The OBF loan pool is currently entirely funded with EE funds. PG&E plans to seek supplemental sources of capital for the OBF loan pool that can be incorporated alongside these funds. PG&E will provide details of the proposed financing structures and impacts and will request formal approval for these new programs through the CEFO proceeding.

The additional funding from other sources would likely enable PG&E to provide additional OBF opportunities. Additional funding would allow PG&E to obtain increased TSB from the same level of the customer funds.⁹⁸

iii) Strategy 3: Support the California Alternative Energy and Advanced Transportation Financing Authority in Implementing the GoGreen Financing Programs

PG&E plans to continue supporting the California Alternative Energy and Advanced Transportation Financing Authority (CAEATFA) in implementing statewide financing programs including On-Bill Repayment (OBR) through to

⁹⁸ Depending on the outcome of the CEFO proceeding expected in fall 2022, PG&E may submit supplemental testimony in this proceeding.

2026 as ordered in D.21-08-006.⁹⁹ PG&E expects to assist with program implementation and marketing, supporting information technology solutions for OBR, leveraging connections to trade professionals and lenders. By working with CAEATFA to support statewide financing programs, PG&E can integrate the CAEATFA offerings into the programs operated by third party implementers and offer more customers an EE project financing solution. The CAEATFA GoGreen programs offer financing for small business, residential, and multi-family customers meaning that along with OBF most customers have access to at least one financing offering. A key component of these programs is securing private lender participation by reducing default risk with customer funded loan loss reserves. The loan loss reserves leverage customer funds at approximately 5:1 times; this means that approximately \$5 of private capital is supplied for every \$1 of customer funded loan loss reserves.¹⁰⁰ By providing the loan loss reserve funding, the IOUs enable lenders to offer EE loans with minimal risk and offer participating customers interest rates lower than those commercially available, longer financing periods and greater access to capital for those customers who may otherwise struggle to afford EE investments.

PG&E is also supporting the pilot of OBR,¹⁰¹ which is intended to work like OBF but without using EE funds as

⁹⁹ [D.21-08-006](#), Decision Extending California Hub for Energy Efficiency Financing Programs and Conditionally Approving Use of Platform for Non-Ratepayer Funded Programs. p. 55, OP 1.

¹⁰⁰ Loan loss reserves are allocated to lender loan pools based on the customer credit profile of the loan pool. The Residential program GoGreen Home offers loan loss reserves between 11 and 20 percent of the total value of the loan. GoGreen Business offers loan loss reserves between 5 and 20 percent. Cal Code of Regulations, pp. 18, 36, <https://www.treasurer.ca.gov/caeatfa/cheef/reel/regulations/current.pdf> (accessed Feb. 3, 2022).

¹⁰¹ [D.13-09-044](#), Decision Implementing 2013-2014 Energy Efficiency Financing Pilot Programs pp. 113-115, OP 1.

capital. Under OBR, private lenders can offer EE loans to PG&E customers, with the repayments collected by PG&E through its billing and collection and passed through to the lender. This provides a benefit to the lender as it means that if the customer fails to pay their whole utility bill (including both the loan payment and the energy charge) the customer is subject to PG&E collection activities, including disconnection. If successful, OBR could provide a more scalable, more flexible alternative to OBF. For example, loan terms would be set by the lender and may not be restricted to 120 months, nor would loan payments be limited to the expected energy savings. By enacting OBR, PG&E could offer a solution for project developers and customers who cannot fit their EE projects within the constraints of OBF.

iv) Strategy 4: Develop New Financing Tools and Expand the Scope of OBF

PG&E intends to seek approval for the expansion of both OBF and the creation of new financing options and tools through the CEFO proceeding. PG&E expects to propose changes to OBF and initiate new programs to expand the availability of financing and make it available to support comprehensive demand-side investments from customers.

d. Sector-Specific Coordination

As a cross-cutting sector, Finance supports all sectors across the portfolio by providing funding that enables the sector strategies and by eliminating a key barrier to EE projects.

e. Categorization by Segment

Finance's OBF AP is categorized in the market support segment.

TABLE 4-29
FINANCING SEGMENT CATEGORIZATION

Line No.	Program ID	Program Name	Segment
1	PGE_OBFAP	OBf Alternative Pathway	Market Support
2	PGE_LoanPool	Financing Loan Pool Addition	Loan Pool

f. Program Details

Program Cards are provided in Attachment J.

g. New Programs Being Proposed as Part of This Application

There are no new programs being proposed as a part of this application. New Financing programs will be requested in the CEFO proceeding, R.20-08-022.

PACIFIC GAS AND ELECTRIC COMPANY
CHAPTER 4
ATTACHMENT A
RESIDENTIAL PROGRAM CARDS

Program Name: Residential Behavioral Program	
Program ID: PGE_Res_002d	
New / Existing	
Link to implementation plan if existing (see D.21-05-031): See below	
Portfolio Segment: Resource Acquisition	Implementation Party: Oracle
Applicable Sector: Residential	Market Sub-Sector: Residential
Sector Challenge: Lack of awareness of how energy is used and what actions can lower energy bills and use	Sector Opportunity: Educate and empower residential customers to manage and lower household electricity and gas consumption
Known Equity Concerns in the Selected Markets: The Residential Behavioral Program is not available in multiple languages.	Proposed Solutions to Equity Concerns: Investigate the development of language diversification.
Program Description: The Residential Behavior Program uses multiple behavior-based energy efficiency strategies to support customers in understanding and empowering them to manage and lower their household electricity and gas consumption. This program uses information and customer engagement strategies to prompt non-rebated behavior change that can be measured using Randomized Controlled Trials (RCT) to validate savings and demonstrate attribution. As a result of changed behaviors, customers can better manage their energy use and energy behaviors, make more efficient purchasing decisions, and take better energy related actions to lower their energy bills and energy footprint.	
Intervention Strategy: Behavior	2024-2027 Forecast Program Metrics: 824,000,000 kWh, 29,840,000 Therms, \$95,866,530 TSB
High-level description of delivery workforce including necessary scale and its risks: Customers are automatically enrolled into the program and are chosen based on different characteristics, including overall energy use, dwelling type, and geography. The program will include relevant and tailored messaging, e-mail, and video communications that provide personalized information to customers about their energy use, tips to reduce consumption, and education about electric plans with Time of Use (TOU) or demand rates. Actionable insights and recommendations are provided on how to shift or reduce electric use to save money and motivate customers to lower their electricity and/or gas usage.	
Market Actors necessary for success: <ul style="list-style-type: none"> • None 	
Solicitation Strategy: Third Party Solicited	Transition Plan: Not applicable
Expected Program Life: 2013-TBD ^(a)	Short Term Plan Increased awareness about energy use and how energy use patterns affect residential energy bills

Program Name: Residential Behavioral Program	
Cost Effectiveness TRC: 1.26	Long Term Outlook Increased participation in deep retrofit programs and increased behavioral savings
Proposed Annual Budgets for 2024-2027: 2024: \$19,205,498 2025: \$19,198,019 2026: \$18,709,252 2027: \$18,683,286	Anticipated directional and scale changes in budget for years 2028-2031: Relatively flat budget anticipated
Implementation Plan: https://cedars.sound-data.com/documents/download/1983/main/	
(a) The inclusion of a program forecast for this program ID beyond the current implementation party's contract termination date does not guarantee that the party's current contract will be extended. PG&E will evaluate vendor performance and determine the appropriate action	

Program Name: Universal Audit Tool Program	
Program ID: PGE_Res_002a	
Existing	
Link to implementation plan if existing (see D.21-05-031): See below	
Portfolio Segment: Resource Acquisition	Implementation Party: Oracle
Applicable Sector: Residential	Market Sub-Sector: Residential
Sector Challenge: Lack of awareness of how energy is used and what actions can lower energy bills and use	Sector Opportunity: Educate and empower residential customers to manage and lower household electricity and gas consumption
Known Equity Concerns in the Selected Markets: That the Universal Audit Tool Program is not available in multiple languages.	Proposed Solutions to Equity Concerns: Look into the development of language diversification for the Universal Audit Tool Program.
Program Description: The Universal Audit Tool program is a self-guided online assessment that helps customers understand where they use energy in their homes. It also provides energy-saving tips and suggestions based on the customer's specific responses and generates a simple checklist plan that is saved on the customer's PG&E Your Account website to track progress as they complete the items.	
Intervention Strategy: Behavior	2024-2027 Forecast Program Metrics: 52,286,604 kWh 803,828 Therms \$5,227,948 TSB
High-level description of delivery workforce including necessary scale and its risks: The Universal Audit Tool Program is an online "do-it-yourself" audit tool that offers different services to PG&E's residential customers via one single platform using behavior-based energy efficiency strategies.	
Market Actors necessary for success: <ul style="list-style-type: none"> • None 	

Program Name: Universal Audit Tool Program	
Solicitation Strategy: Third Party Solicited	Transition Plan: Not applicable
Expected Program Life: 2013-TBD ^(b)	Short Term Plan Increased awareness of energy use profile and savings opportunities in residential customers
Cost Effectiveness TRC: 0.51	Long Term Outlook Sustained kWh and Therm savings in participating residential customer households
Proposed Annual Budgets for 2024-2027: 2024: \$2,552,640 2025: \$2,575,898 2026: \$2,591,761 2027: \$2,601,689	Anticipated directional and scale changes in budget for years 2028-2031: Relatively flat budget anticipated
Implementation Plan: https://cedars.sound-data.com/documents/download/1979/main/	
^(b) The inclusion of a program forecast for this program ID beyond the current implementation party's contract termination date does not guarantee that the party's current contract will be extended. PG&E will evaluate vendor performance and determine the appropriate action	

Program Name: Multifamily Program	
Program ID: PGE_Res_003	
Existing	
Link to implementation plan if existing (see D.21-05-031): See below	
Portfolio Segment: Resource Acquisition	Implementation Party: TRC
Applicable Sector: Residential	Market Sub-Sector: Multifamily
Sector Challenge: Difficult to convince property managers/building owners to invest in EE improvements when they are not the party who sees the immediate financial benefits. Costly to commit to multiple in-unit upgrades. Technical barriers, multiple decision makers, lack of access to specific multifamily energy efficiency tools and financing. Reluctance to try new technologies on a large scale.	Sector Opportunity: Create new energy efficiency opportunities by targeting underserved property owners and managers, as well as deeper retrofit opportunities with larger and more modern properties
Known Equity Concerns in the Selected Markets: Smaller properties and underserved regions have difficulty accessing energy efficiency programs without assistance.	Proposed Solutions to Equity Concerns: <ul style="list-style-type: none"> • Successfully identifying and engaging underserved properties through data analysis of PG&E's existing market • Develop multilingual program collateral
Program Description: The Multifamily Program provides property owners energy efficiency upgrade services to multifamily buildings of five units or greater throughout PG&E's service territory. The program is tailored to serve multifamily customers, including smaller properties and underserved regions that are likely to benefit most from property upgrades, and aims to create new energy efficiency	

Program Name: Multifamily Program	
opportunities by targeting underserved property owners and managers, while also providing scalability to achieve deeper retrofit opportunities with larger and more modern properties. End-to-end program implementation services, including marketing, outreach, engineering, operations, customer service, data management, and reporting are provided.	
Intervention Strategy: Incentive, Finance, Audit, Technical Assistance	2024-2027 Forecast Program Metrics: 40,805,617 kWh, 227,643 Therms, \$16,677,161 TSB
High-level description of delivery workforce including necessary scale and its risks: The Multifamily Program intends to deliver energy savings through strategic communication and direct customer outreach utilizing calls, emails, community events, digital content, and leveraging relationships with local trade professionals and other market influencers.	
Market Actors necessary for success: <ul style="list-style-type: none"> • Implementer • Outreach staff • Trade Professionals • Subcontractors • California Apartment Association • Decision makers for MF buildings/properties 	
Solicitation Strategy: Third Party Solicited	Transition Plan: Not applicable
Expected Program Life: 2021-TBD ^(c)	Short Term Plan Deliver cost-effective and persistent energy savings for multifamily properties
Cost Effectiveness TRC: 0.86	Long Term Outlook <ul style="list-style-type: none"> • Increase broader adoption of EE programs and services in multifamily dwellings
Proposed Annual Budgets for 2024-2027: 2024: \$4,608,007 2025: \$4,921,799 2026: \$5,232,865 2027: \$5,537,123	Anticipated directional and scale changes in budget for years 2028-2031: Small increase anticipated due to anticipated extra assistance needed by multifamily residents.
Implementation Plan: https://cedars.sound-data.com/documents/download/1893/main/	
^(c) The inclusion of a program forecast for this program ID beyond the current implementation party's contract termination date does not guarantee that the party's current contract will be extended. PG&E will evaluate vendor performance and determine the appropriate action	

Program Name: Virtual Energy Audit Program	
Program ID: PGE_Res_001b Existing Link to implementation plan if existing (see D.21-05-031): See below	
Portfolio Segment: Resource Acquisition	Implementation Party: Home Energy Analytics
Applicable Sector: Residential	Market Sub-Sector: Residential

Program Name: Virtual Energy Audit Program	
Sector Challenge: Lack of awareness of how energy is used and what actions can lower energy bills and use	Sector Opportunity: Educate and empower residential customers to manage and lower household electricity and gas consumption
Known Equity Concerns in the Selected Markets: Program information is only available in English and computer access	Proposed Solutions to Equity Concerns: Consider making the program website available in other languages, like Spanish, Chinese, Vietnamese
Program Description: The Virtual Energy Audit Program provides an in-depth analysis of a home's energy use with customized recommendations specific to the customer's energy profile to help reduce usage. Live energy coaches and monthly energy efficiency progress reports are also provided.	
Intervention Strategy: Behavioral including ongoing savings from appliance control setting adjustments	2024-2027 Forecast Program Metrics: 19,318,457 kWh, 705,135 Therms, \$2,935,531 TSB
High-level description of delivery workforce including necessary scale and its risks: The Virtual Energy Audit Program recruits customers using e-mail marketing campaigns, PG&E's monthly customer newsletter, and through partnerships with local governments. The program will review the energy use profile for the customer's home and will work directly with PG&E customers to recommend low and no-cost actions to determine the most cost-effective savings measures.	
Market Actors necessary for success: <ul style="list-style-type: none"> • Implementer • Local governments 	
Solicitation Strategy: Third Party Solicited	Transition Plan: Not applicable
Expected Program Life: 2017-TBD ^(d)	Short Term Plan Increased awareness of home energy use and potential bill savings
Cost Effectiveness TRC: 0.37	Long Term Outlook Increasing participating customers and maintaining recommended actions for persistent cost-effective energy savings
Proposed Annual Budgets for 2024-2027: 2024: \$1,954,175 2025: \$1,952,590 2026: \$1,964,815 2027: \$1,966,095	Anticipated directional and scale changes in budget for years 2028-2031: Plan to keep this program relatively consistent through its lifetime
Implementation Plan: https://cedars.sound-data.com/documents/download/2367/main/	
^(d) The inclusion of a program forecast for this program ID beyond the current implementation party's contract termination date does not guarantee that the party's current contract will be extended. PG&E will evaluate vendor performance and determine the appropriate action.	

PACIFIC GAS AND ELECTRIC COMPANY
CHAPTER 4
ATTACHMENT B
COMMERCIAL PROGRAM CARDS

Program Name: High Tech and Bio Tech Efficiency Program	
Program ID: PGE_Com_004	
Existing	
Link to implementation plan if existing (see D.21-05-031) See below	
Portfolio Segment: Resource Acquisition	Implementation Party: Resource Innovations
Applicable Sector: Commercial	Market Sub-Sector: High-tech and Biotech
Sector Challenge: Lack of awareness, expertise, time, installation support	Sector Opportunity: Increased participation in EE program and adoption of EE measures
Known Equity Concerns in the Selected Markets: Many disadvantaged community (DAC) customers are in the remote areas of selected market operations	Proposed Solutions to Equity Concerns: Conduct customer portfolio analyses and targeted data-driven campaigns to identify, engage, and maximize participation of customers located in DACs
Program Description: The High Tech and Bio Tech Efficiency Program will support PG&E's High-Tech and biotech (HTBT) customers in achieving next-generation energy performance by providing concierge level support, multi-stage strategic engagements, expert technical assistance, innovative incentives, financing solutions, and turnkey project implementation.	
Intervention Strategy: Incentive, Technical Assistance, Financing, Audit	2024-2027 Forecast Program Metrics: 38,940,558 kWh, 604,713 Therms, \$21,367,705 TSB
High-level description of delivery workforce including necessary scale and its risks: Delivery will use a multi-faceted, scalable, and cost-effective marketing and outreach strategy to engage customers. Key approaches include relationship-based direct outreach and the use of data analytics to conduct targeted campaigns. Existing relationships with large HTBT customers, PG&E intends to leverage Account Representatives, market partners, and other market participants (e.g., contractors, vendors, and industry associations) leveraged to increase awareness, identify leads, and reach customer decision makers to drive action through direct outreach. PG&E intends to use data-driven customer targeting, insights, and analytics to identify, prioritize, engage customers and enhance outcomes.	
Market Actors necessary for success: <ul style="list-style-type: none"> • Account Representatives • HTBT Customers • Contractors • Vendors • Industry associations 	
Solicitation Strategy: Third Party Solicited	Transition Plan: Not applicable
Expected Program Life: 2021-TBD ^(a)	Short Term Plan Increased participation of EE measures at participant sites and within the sector
Cost Effectiveness TRC: 1.02	Long Term Outlook Long-term trusted relationships developed with HTBT and market partners

Program Name: High Tech and Bio Tech Efficiency Program	
Proposed Annual Budgets for 2024-2027: 2024: \$3,612,924 2025: \$3,622,282 2026: \$3,655,671 2027: \$3,668,093	Anticipated directional and scale changes in budget for years 2028-2031: TBD based on performance of program and future potential in the market.
Implementation Plan: https://cedars.sound-data.com/documents/download/1970/main/	
^(a) The inclusion of a program forecast for this program ID beyond the current implementation party's contract termination date does not guarantee that the party's current contract will be extended. PG&E will evaluate vendor performance and determine the appropriate action	

Program Name: Grocery Efficiency Program	
Program ID: PGE_Com_001 Existing Link to implementation plan if existing (see D.21-05-031) See below	
Portfolio Segment: Resource Acquisition	Implementation Party: kW Engineering
Applicable Sector: Commercial	Market Sub-Sector: Commercial Supermarkets
Sector Challenge: The commercial grocery segment has high energy use and, in many cases, poor energy management practices	Sector Opportunity: Improve efficiency of commercial refrigeration optimizing features using a comprehensive approach to achieve deep EE savings
Known Equity Concerns in the Selected Markets: DAC and hard-to-reach (HTR) customers may find difficulty contacting a third-party to support them	Proposed Solutions to Equity Concerns: Ensure all customers have access to virtual tools
Program Description: Grocery Efficiency Program is a comprehensive retrofit and commissioning program focused primarily on refrigeration load, secondarily on heating, ventilation and air conditioning (HVAC) and lighting, targeting regional and national chains. Its pay-for-performance, efficiency and demand response (DR) approach utilizes the site-level normalized metered energy consumption (NMEC) methodology and offers high potential for greenhouse gas (GHG) reduction. This program has a strong focus on refrigeration load and control, contributing to peak demand reduction and enabling participation in DR and integrated demand side management (IDSM) efforts. Using a mix of retro-commissioning and targeted retrofits, such as head pressure resets, tuning of antisweat heater controls, and case door retrofits to reduce load and optimize system operation. Replacement of site-built refrigeration systems, known to have high refrigerant leak rates, should directly and substantially contribute to GHG reduction.	
Intervention Strategy: Retrofit, Retro-Commissioning, Incentive, Financing Assistance, and Technical Assistance	2024-2027 Forecast Program Metrics: 20,036,261 kWh, 0 Therms, \$27,984,574 TSB
High-level description of delivery workforce including necessary scale and its risks:	

Program Name: Grocery Efficiency Program	
Direct and indirect outreach efforts to potential customers include one-to-one outreach to owners, operators, and trade allies, a program website, industry-focused webinars, outreach through industry groups, social-media posts, and direct email.	
Market Actors necessary for success: <ul style="list-style-type: none"> • Trade Organizations • Industry Groups 	
Solicitation Strategy: Third Party Solicited	Transition Plan: Not applicable
Expected Program Life: 2020-TBD ^(b)	Short Term Plan Increased DR capacity in grocery sector
Cost Effectiveness TRC: 1.84	Long Term Outlook Increased market awareness of commercial refrigeration and DR potential in grocery sector
Proposed Annual Budgets for 2024-2027: 2024: \$3,505,756 2025: \$3,513,259 2026: \$3,826,030 2027: \$3,838,465	Anticipated directional and scale changes in budget for years 2028-2031: TBD based on performance of program and future potential in the market.
Implementation Plan: https://cedars.sound-data.com/documents/download/1889/main/	
^(b) The inclusion of a program forecast for this program ID beyond the current implementation party's contract termination date does not guarantee that the party's current contract will be extended. PG&E will evaluate vendor performance and determine the appropriate action	

Program Name: Healthcare Efficiency Program	
Program ID: PGE_Com_005	
Existing	
Link to implementation plan if existing (see D.21-05-031) See Below	
Portfolio Segment: Resource Acquisition	Implementation Party: Resource Innovations
Applicable Sector: Commercial	Market Sub-Sector: Healthcare
Sector Challenge: Large multi-site healthcare systems, complexity of approvals, sensitive facilities, data security concerns, lack of awareness and installation support	Sector Opportunity: Increased participation in EE program and adoption of EE measures
Known Equity Concerns in the Selected Markets: Many DAC customers are in the remote areas of selected market operations	Proposed Solutions to Equity Concerns: Conduct customer portfolio analyses and targeted data-driven segmented campaigns to identify, engage, and maximize participation of customers located in DACs.
Program Description: The Healthcare Efficiency Program supports PG&E's healthcare customers to optimize the energy performance of their complex and sensitive facilities by providing concierge-level support, multi-stage strategic engagements, expert technical assistance, innovative incentives and financing solutions, and turnkey project implementation.	

Program Name: Healthcare Efficiency Program	
Intervention Strategy: Incentives, Technical Assistance, Financing and Audits	2024-2027 Forecast Program Metrics: 41,987,024 kWh, 797,864 Therms, \$18,085,779 TSB
High-level description of delivery workforce including necessary scale and its risks: Delivery will use a multi-faceted, scalable, and cost-effective marketing and outreach strategy to engage customers. Key approaches include relationship-based direct outreach and the use of data analytics to conduct targeted campaigns. PG&E intends to leverage existing relationships with healthcare customers, PG&E Account Representatives, market partners, and other market actors (e.g. contractors, vendors, and industry associations) to increase awareness, identify leads, and reach customer decision makers to drive action through direct outreach. PG&E intends to use data-driven customer targeting, insights, and analytics to identify, prioritize, engage customers and enhance outcomes.	
Market Actors necessary for success: <ul style="list-style-type: none"> • Account Representatives • Healthcare Customers • Contractors • Vendors • Industry associations 	
Solicitation Strategy: Third Party Solicited	Transition Plan: Not applicable
Expected Program Life: 2021-TBD ^(c)	Short Term Plan Increase participation and awareness
Cost Effectiveness TRC: 1.14	Long Term Outlook Long-term trusted relationships developed with healthcare customers and market partners
Proposed Annual Budgets for 2024-2027: 2024: \$3,299,213 2025: \$3,308,967 2026: \$3,330,740 2027: \$3,333,820	Anticipated directional and scale changes in budget for years 2028-2031: Small budget decrease
Implementation Plan: https://cedars.sound-data.com/documents/download/1971/main/	
^(c) The inclusion of a program forecast for this program ID beyond the current implementation party's contract termination date does not guarantee that the party's current contract will be extended. PG&E will evaluate vendor performance and determine the appropriate action	

Program Name: Commercial Efficiency Program	
Program ID: PGE_Com_003	
Existing	
Link to implementation plan if existing (see D.21-05-031): See below	
Portfolio Segment: Resource Acquisition	Implementation Party: Ecology Action of Santa Cruz
Applicable Sector: Commercial	Market Sub-Sector: Commercial
Sector Challenge:	Sector Opportunity: Increased participation in EE programs and resulting energy savings

Program Name: Commercial Efficiency Program	
Inadequate/limited resources and general lack of understanding of energy efficiency benefits and savings.	
Known Equity Concerns in the Selected Markets: Many DAC customers are in the remote areas of selected market operations	Proposed Solutions to Equity Concerns: Incorporate HTR and DAC customers into the program and targeted based on EE opportunities
Program Description: The Commercial Efficiency Program is a downstream program that will provide energy efficiency services, technical services and incentive processing. Innovative program design provides a suite of incentives to commercial customers to install refrigeration, HVAC, lighting, and meter-based energy savings using the Deemed, Custom, and NMEC platforms. Eligible customers include Commercial Retail and Real Estate, hospitality, grocery, warehousing, and auto dealerships.	
Intervention Strategy: Direct Install, Incentive, Finance, Audit and Technical Assistance	2024-2027 Forecast Program Metrics: 44,167,700 kWh, 1,691,058 Therms, \$34,645,354 TSB
High-level description of delivery workforce including necessary scale and its risks: The Commercial Efficiency Program delivers downstream energy savings to commercial customers in both larger enterprise-level accounts and via an open partner network to serve smaller scalable accounts.	
Market Actors necessary for success: <ul style="list-style-type: none"> • Partner and Vendor Networks • IOU Staff 	
Solicitation Strategy: Third Party Solicited	Transition Plan: Not applicable
Expected Program Life: 2021-TBD ^(d)	Short Term Plan Increased awareness of savings potential
Cost Effectiveness TRC: 1.17	Long Term Outlook Greater awareness of efficient practices and improved safety within subsector and with participants
Proposed Annual Budgets for 2024-2027: 2024: \$5,504,110 2025: \$5,525,872 2026: \$5,618,805 2027: \$5,644,608	Anticipated directional and scale changes in budget for years 2028-2031: Small budget decrease
Implementation Plan: https://cedars.sound-data.com/documents/download/1969/main/	
^(d) The inclusion of a program forecast for this program ID beyond the current implementation party's contract termination date does not guarantee that the party's current contract will be extended. PG&E will evaluate vendor performance and determine the appropriate action	

Program Name: Laboratory Performance Efficiency Program
Program ID: PGE_Com_002

Program Name: Laboratory Performance Efficiency Program	
Existing Link to implementation plan if existing (see D.21-05-031) See below	
Portfolio Segment: Resource Acquisition	Implementation Party: kW Engineering
Applicable Sector: Commercial	Market Sub-Sector: Medium and large commercial laboratory buildings
Sector Challenge: Risk avoidance associated with any changes in ventilation paired with lack of information on appropriate ventilation and improper airflow in labs	Sector Opportunity: Increased participation in EE program and adoption of EE measures
Known Equity Concerns in the Selected Markets: Not Applicable	Proposed Solutions to Equity Concerns: Not Applicable
Program Description: The Laboratory Performance Efficiency Program specializes in laboratory ventilation system optimization. It offers lab owners expert technical assessments and the development of a performance management plan which includes an extensive hazard report which establishes the foundation for adjustments to ventilation, fume hoods, and controls, as well as performance-based incentives to drive project completion. This is a completely meter-based and pay-for-performance program which uses the NMEC approach to calculate savings.	
Intervention Strategy: Technical Assistance, Incentive	2024-2027 Forecast Program Metrics: 8,208,000 kWh, 342,000 Therms, \$7,323,125 TSB
High-level description of delivery workforce including necessary scale and its risks: Direct and indirect outreach efforts to potential customers may include one-to-one outreach, industry outreach, webinars, and a website where potential program participants can find information about program details and request a call from staff.	
Market Actors necessary for success: <ul style="list-style-type: none"> • Trade Allies • Existing owners and operators 	
Solicitation Strategy: Third Party Solicited	Transition Plan: Not applicable
Expected Program Life: 2020-TBD ^(e)	Short Term Plan Increased awareness of savings potential and hazards
Cost Effectiveness TRC: 0.52	Long Term Outlook Greater awareness of efficient ventilation practices and improved safety within subsector and with participants
Proposed Annual Budgets for 2024-2027: 2024: \$1,562,428 2025: \$1,569,545 2026: \$1,582,860 2027: \$1,592,110	Anticipated directional and scale changes in budget for years 2028-2031: TBD based on performance of program and future potential in the market.
Implementation Plan: https://cedars.sound-data.com/documents/download/1890/main/	

Program Name: Laboratory Performance Efficiency Program

^(e) The inclusion of a program forecast for this program ID beyond the current implementation party's contract termination date does not guarantee that the party's current contract will be extended. PG&E will evaluate vendor performance and determine the appropriate action

Program Name: Commercial Calculated Incentives**Program ID:** PGE21011**Existing****Link to implementation plan if existing (see D.21-05-031)** See below**Portfolio Segment:**

Resource Acquisition

Implementation Party:

PG&E

Applicable Sector:

Commercial

Market Sub-Sector:

Commercial

Sector Challenge:

General lack of awareness of the benefits of energy efficiency, and uncertainty and skepticism over long-term energy and cost savings.

Sector Opportunity:

Increased participation in EE programs and resulting energy savings

Known Equity Concerns in the Selected Markets:

Not Applicable

Proposed Solutions to Equity Concerns:

Not Applicable

Program Description:

The Commercial Calculated program provides financial incentives for non-residential customers to install new equipment or systems which meet or exceed applicable code and/or industry standards in existing buildings. Incentives are provided for customized and integrated energy efficiency/DR projects for retrofit NMEC, and retro-commissioning (RCx) projects while also providing technical assistance. This program is intended to serve as overflow for projects not suited for/qualified for current 3P programs.

Intervention Strategy:

Strategic energy planning support; technical support services, such as facility audits; and financial support through rebates, incentives, and financing options.

2024-2027 Forecast Program Metrics:

2,484,203 kWh,
165,308 Therms,
\$935,141 TSB

High-level description of delivery workforce including necessary scale and its risks:

The Commercial Calculated Incentives Program utilizes strategic partnerships with trade association and industry groups to deliver energy efficiency practices and programs to targeted users. The program is delivered consistently across Investor Owned Utilities (IOUs) using the same application materials and energy savings calculation to ensure consistency. Design assistance and calculation assistance is provided to influence customers to select the most efficient design and equipment options within demand response, energy efficiency and conservation programs. Both retrofit and added load projects for commercial customers are eligible for incentives.

Market Actors necessary for success:

- Government Agencies
- Municipalities
- IOU Staff
- Industry Associations
- Third-party programs

Program Name: Commercial Calculated Incentives	
Solicitation Strategy: IOU-Implemented	Transition Plan: Not applicable
Expected Program Life: 2013-TBD	Short Term Plan Program will ramp down to continue to make room for new third-party program and any future programs in this sector
Cost Effectiveness TRC: 0.20	Long Term Outlook Minimized role and reduction in program funding to allow new third-party programs to operate in this sector
Proposed Annual Budgets for 2024-2027: 2024: \$1,418,261 2025: \$974,367 2026: \$893,419 2027: \$837,259	Anticipated directional and scale changes in budget for years 2028-2031: Budget will continue to be reduced as program ramps down
Implementation Plan: https://cedars.sound-data.com/documents/download/1919/main/	

Program Name: Commercial Deemed Incentives	
Program ID: PGE21012	
Existing	
Link to implementation plan if existing (see D.21-05-031) See below	
Portfolio Segment: Resource Acquisition	Implementation Party: PG&E
Applicable Sector: Commercial	Market Sub-Sector: Commercial
Sector Challenge: General lack of awareness of the benefits of energy efficiency, and uncertainty and skepticism over long-term energy and cost savings.	Sector Opportunity: Increased participation in EE programs and resulting energy savings
Known Equity Concerns in the Selected Markets: Not Applicable	Proposed Solutions to Equity Concerns: Not Applicable
Program Description: The Commercial Deemed Incentives program offers prescriptive rebates directly to customers, vendors, or distributors for the installation or sale of energy-efficient equipment. A select group of measures across technology segments are offered, including lighting, HVAC, food service, refrigeration, and water heating. Although PG&E anticipates most commercial deemed measures to be submitted through new 3P programs, this program ID remains open to assist customers with locating rebates directly on PG&E's website.	
Intervention Strategy: Strategic energy planning support; technical support services, such as facility audits; and financial support through rebates, incentives, and financing options.	2024-2027 Forecast Program Metrics: 5,943,014 kWh, 153,309 Therms \$2,661,760 TSB

Program Name: Commercial Deemed Incentives	
High-level description of delivery workforce including necessary scale and its risks: The Commercial Deemed Incentives program will utilize IOU staff, third-party programs, education, outreach and other marketing. Measures and incentive levels will be the same across IOUs, unless markets in the individual IOUs require adjustments based on research, communication with industry, and/or changes in the economic landscape.	
Market Actors necessary for success: <ul style="list-style-type: none"> • Industry Networks • IOU Staff • Third-party programs • Trade Associations • NGOs • CBOs 	
Solicitation Strategy: IOU-Implemented	Transition Plan: Not applicable
Expected Program Life: 2013-TBD	Short Term Plan Program will ramp down to continue to make room for new third-party program and any future programs in this sector
Cost Effectiveness TRC: 0.70	Long Term Outlook Minimized role and reduction in program funding to allow new third-party programs to operate in this sector
Proposed Annual Budgets for 2024-2027: 2024: \$783,829 2025: \$750,365 2026: \$727,991 2027: \$707,170	Anticipated directional and scale changes in budget for years 2028-2031: Budget will continue to be reduced as program ramps down
Implementation Plan: https://cedars.sound-data.com/documents/download/1919/main/	

Program Name: Commercial Energy Advisor	
Program ID: PGE21014 Existing Link to implementation plan if existing (see D.21-05-031): See below	
Portfolio Segment: Resource Acquisition	Implementation Party: PG&E
Applicable Sector: Commercial	Market Sub-Sector: Commercial
Sector Challenge: General lack of awareness of the benefits of energy efficiency, and uncertainty and skepticism over long-term energy and cost savings.	Sector Opportunity: Increased participation in EE programs and resulting energy savings
Known Equity Concerns in the Selected Markets:	Proposed Solutions to Equity Concerns:

Program Name: Commercial Energy Advisor	
Program Description: The Commercial Energy Advisor Program supports customer education and participation in EE, demand response, self-generation energy reducing opportunities and benefits, and promotes awareness of GHG and water conservation activities.	
Intervention Strategy: Audits	2024-2027 Forecast Program Metrics: Not Applicable
High-level description of delivery workforce including necessary scale and its risks: The Commercial Energy Advisor Program utilizes a variety of delivery channels including IOU customer energy efficiency staff and contractors, service and sales representatives, website and/or marketing and outreach efforts.	
Market Actors necessary for success: <ul style="list-style-type: none"> • Industry Associations • IOU staff • Government partnerships • DOE/CPUC sponsored labs and consultants 	
Solicitation Strategy: IOU-Implemented	Transition Plan: Not applicable
Expected Program Life: 2013-TBD	Short Term Plan Minimized role to allow new third-party programs to operate in this sector while maintaining customer online tool access
Cost Effectiveness TRC: Not Applicable	Long Term Outlook Continue to offer a website for customer experience
Proposed Annual Budgets for 2024-2027: 2024: \$1,257,869 2025: \$1,261,661 2026: \$1,253,582 2027: \$1,260,027	Anticipated directional and scale changes in budget for years 2028-2031: relatively flat budget with funding included for maintaining website for customer experience
Implementation Plan: https://cedars.sound-data.com/documents/download/46/main/	

PACIFIC GAS AND ELECTRIC COMPANY
CHAPTER 4
ATTACHMENT C
PUBLIC PROGRAM CARDS

Program Name: Government and K-12 Comprehensive Program	
Program ID: PGE_Pub_09	
Existing	
Link to implementation plan if existing (see D.21-05-031) See below	
Portfolio Segment: Resource Acquisition	Implementation Party: Willdan
Applicable Sector: Public	Market Sub-Sector: Government and K-12 buildings
Sector Challenge: Limited knowledge and access to energy data, lack of awareness, limited staff and funds	Sector Opportunity: Increased participation in EE program and resulting energy savings
Known Equity Concerns in the Selected Markets: Lack of available technical and economic resources for comprehensive retrofits	Proposed Solutions to Equity Concerns: Plan to engage nearly half of its enrolled customers from the hard-to-reach (HTR) and disadvantaged community (DAC) sectors
Program Description: The government and K-12 program includes a broad offering of EE measures to diverse markets of local governments and K-12 public and charter schools. Utilizing all project application channels (deemed, customized, and normalized metered energy consumption (NMEC) the program offers heating, ventilation and air conditions (HVAC) and lighting equipment and control system upgrades, retro commissioning recommendations, and behavioral strategies to optimize system efficiencies.	
Intervention Strategy: Direct Install, Incentive, Finance, Audit, and Technical Assistance	2024-2027 Forecast Program Metrics: 31,991,942 kWh 313,715 Therms \$11,181,791TSB
High-level description of delivery workforce including necessary scale and its risks: Multi-faceted approach to customer enrollment leveraging relationships with building trade professionals, municipalities, trade associations, and prior participating and served customers across segments. PG&E intends to leverage partnerships with trusted HTR/DAC experts to identify decision-makers, build customer trust, and reduce costs.	
Market Actors necessary for success: <ul style="list-style-type: none"> • Trade Pro Network • Municipalities • Community Based Organizations • Trade Associations 	
Solicitation Strategy: Third Party Solicited	Transition Plan: Not applicable
Expected Program Life: 2020-TBD ^(a)	Short Term Plan Maximize savings with DR and IDSM offerings to customers
Cost Effectiveness TRC: 0.72	Long Term Outlook Increased penetration of EE measures at participant sites and within the industrial sector
Proposed Annual Budgets for 2024-2027: 2024: \$4,129,233 2025: \$4,149,751	Anticipated directional and scale changes in budget for years 2028-2031: Small budget decrease

Program Name: Government and K-12 Comprehensive Program	
2026: \$4,181,269	
2027: \$4,191,543	
Implementation Plan: https://cedars.sound-data.com/documents/download/1901/main/	
(a) The inclusion of a program forecast for this program ID beyond the current implementation party's contract termination date does not guarantee that the party's current contract will be extended. PG&E will evaluate vendor performance and determine the appropriate action	

Program Name: Wastewater Process Efficiency Program	
Program ID: PGE_Pub_10	
Existing	
Link to implementation plan if existing (see D.21-05-031) See below	
Portfolio Segment: Resource Acquisition	Implementation Party: Alternative Energy Systems Consulting (AESC)
Applicable Sector: Public	Market Sub-Sector: Municipal and public agency wastewater customers
Sector Challenge: Savings potential limitations due to lack of staff resources, understanding and expertise to analyze options or to incorporate energy related benefits	Sector Opportunity: Increased participation in EE program and resulting energy savings
Known Equity Concerns in the Selected Markets: Not Applicable	Proposed Solutions to Equity Concerns: Not Applicable
Program Description: Wastewater Process Efficiency Program is a Local third-party program which will remain active until the launch of the broader statewide water/wastewater program. Program focus is on optimization of all the pumping, filtration, and water remediation systems through application of retro-commissioning and additional controls as well as providing guidance in development of Climate and Energy Action Plans. It offers financing solutions and focuses on the cascading effects of operational measures on downstream energy, process loads, and operational efficiency.	
Intervention Strategy: Audits, Energy Action Plans, Technical Assistance, Design Assistance, Optional Submetering, Incentives, Financing Support, and Performance Monitoring	2024-2027 Forecast Program Metrics: 3,719,700 kWh 54,000 Therms \$2,125,360 TSB
High-level description of delivery workforce including necessary scale and its risks: Wastewater professionals, process specialists and energy engineers at AESC, ASK Energy, Dudek and Cascade Energy will tailor services to each client based on the observations and findings of preliminary customer research and kick-off operations and maintenance (O&M) workshop	
Market Actors necessary for success: <ul style="list-style-type: none"> PG&E's Customer Account Representatives Design engineering firms Design-build contractors Trade Associations 	

Program Name: Wastewater Process Efficiency Program	
<ul style="list-style-type: none"> • Vendors, manufacturers, equipment distributors • Local Government Partnerships (LGPs) • Community Choice Aggregators (CCAs) • California Water Environment Association (CWEA) • Water Environment Federation (WEF) • California Association of Sanitation Agencies (CASA) • Association of California Water Agencies (ACWA) 	
Solicitation Strategy: Third Party Solicited	Transition Plan: Not applicable
Expected Program Life: 2021-2025 ^(b)	Short Term Plan Identify customers and engage in energy savings plan
Cost Effectiveness TRC: 0.46	Long Term Outlook Program will ramp down to make room for new Statewide third-party program in this sector
Proposed Annual Budgets for 2024-2027: 2024: \$1,897,036 2025: \$1,091,507 2026: \$0 2027: \$0	Anticipated directional and scale changes in budget for years 2028-2031: Not Applicable
Implementation Plan: https://cedars.sound-data.com/documents/download/1898/main/	
^(b) The inclusion of a program forecast for this program ID beyond the current implementation party's contract termination date does not guarantee that the party's current contract will be extended. PG&E will evaluate vendor performance and determine the appropriate action	

Program Name: Institutional Partnerships - Government	
Program ID: SW_IP_Gov	
Existing	
Link to implementation plan if existing (see D.21-05-031) See below	
Portfolio Segment: Resource Acquisition	Implementation Party: AESC
Applicable Sector: Public	Market Sub-Sector: California State Agencies
Sector Challenge: Staffing and capacity constraints, funding constraints, inefficient building stock, restrictions on efficient technology options	Sector Opportunity: Increased participation in EE program and adoption of EE measures
Known Equity Concerns in the Selected Markets: Not Applicable	Proposed Solutions to Equity Concerns: Not Applicable

Program Name: Institutional Partnerships - Government	
Program Description: The State of California Energy Strategy and Support program provides direct state agency guidance to develop projects at state owned buildings by providing financial, policy, technical, and project/installer management support. The primary goal of the program is to provide agencies with support and resources required to meet energy savings and greenhouse gas reduction goals. The program plans to accomplish this by providing staff augmentation to increase project completion rates, expedite the pre-qualification of trade allies (TAs) and energy service companies (ESCOs) for the Pre-Qualified Trade Professional (PQTP) list, and provide structure and guidance among agencies and their project developers.	
Intervention Strategy: Portfolio-level Energy Action Plans, Site-Specific Audits, Energy Concierge, Technical Assistance, Policy Assistance, Pre-Qualified Trade Professional List, Staff Augmentation, Incentives, Disadvantaged Community (DAC) Incentive Enhancement, Financing Support, Select Submetering, Select Facility Manager Coaching, Select Monitoring, Integrated Demand Side Management (IDSM) integration, and Publicly Owned Utilities (POU) coordination	2024-2027 Forecast Program Metrics: 59,949,963 kWh 683,912 Therms \$41,286,689 TSB
High-level description of delivery workforce including necessary scale and its risks: Program will be delivered by a team of expert program managers and energy engineers familiar with California state agencies at AESC, ASK Energy, and Energy Resource Integration (ERI) and by workforce development professionals at Strategic Energy Innovations (SEI). The team will work with state agencies to understand how the program can best serve them and will direct each participating agency to one of two pathways (high-touch, customized strategic portfolio wide and engineering support, or individual project support as identified and pursued), thus providing flexibility to support each agency as most appropriate for their needs.	
Market Actors necessary for success: <ul style="list-style-type: none"> • California state agencies • Sustainable Building Working Group • Trade Professionals • IOU Customer Account Representatives 	
Solicitation Strategy: Third Party Solicited	Transition Plan: Not applicable
Expected Program Life: 2021-2028 ^(c)	Short Term Plan Provide State Agencies with Energy Efficiency support and savings plan
Cost Effectiveness TRC: 0.60	Long Term Outlook Increased penetration of EE measures at participant sites and within the industrial sector
Proposed Annual Budgets for 2024-2027¹: 2024: \$6,850,516 2025: \$6,897,878 2026: \$6,871,777	Anticipated directional and scale changes in budget for years 2028-2031: Small budget decrease

¹ Total SW budget, PA costs excluded

Program Name: Institutional Partnerships - Government	
2027: \$6,919,397	
Implementation Plan: https://cedars.sound-data.com/documents/download/2307/main/	
^(c) The inclusion of a program forecast for this program ID beyond the current implementation party's contract termination date does not guarantee that the party's current contract will be extended. PG&E will evaluate vendor performance and determine the appropriate action	

PACIFIC GAS AND ELECTRIC COMPANY
CHAPTER 4
ATTACHMENT D
AGRICULTURAL PROGRAM CARDS

Program Name: Agricultural Efficiency Program	
Program ID: PGE_Ag_001 Existing Link to implementation plan if existing (see D.21-05-031): See below	
Portfolio Segment: Resource Acquisition	Implementation Party: TRC
Applicable Sector: Agricultural	Market Sub-Sector: Agricultural
Sector Challenge: Agricultural customers are often hard-to-reach (HTR) customers due to their rural locations and minimal exposure to EE programs and benefits.	Sector Opportunity: Increased participation in EE program and resulting energy savings
Known Equity Concerns in the Selected Markets: Hard to reach and underserved customers in existing market face obstacles to participation due to language barriers, access to capital markets and financing vehicles, and lack of resources	Proposed Solutions to Equity Concerns: 70 percent of program budget directed to marketing, outreach, and engineering services for HTR and disadvantaged community (DAC) customers
Program Description: The Agricultural Efficiency Program supports PG&E's vision for the Agricultural Segment to maximize yield while reducing energy consumption using data, technical assistance, analytics, energy efficiency measures and marketing to reduce demand, increase operational efficiency, and broaden customer participation while leveraging the Custom, Deemed, and Meter-Based savings platforms. The program also promotes and leverages on-bill financing (OBF) and other private options as a tool to off-set the barrier of capital to fund projects.	
Intervention Strategy: Incentive, financing, technical assistance	2024-2027 Forecast Program Metrics: 58,646,539 kWh 232,049 Therms \$35,195,886 TSB
High-level description of delivery workforce including necessary scale and its risks: Trade professionals and program outreach staff and partners will all receive training, tools and support to encourage identification of all EE opportunities	
Market Actors necessary for success: <ul style="list-style-type: none"> • Trade Professionals • Team of Subcontractors 	
Solicitation Strategy: Third Party Solicited	Transition Plan: Not applicable
Expected Program Life: 2021-TBD ^(a)	Short Term Plan Increased customer recruitment and participation with early program energy savings and GHG reduction
Cost Effectiveness TRC: 1.08	Long Term Outlook Increased adoption of higher efficiency equipment leading to market transformation and long-term energy savings

Program Name: Agricultural Efficiency Program	
Proposed Annual Budgets for 2024-2027: 2024: \$ 8,244,588 2025: \$ 8,235,061 2026: \$ 7,725,516 2027: \$ 9,128,130	Anticipated directional and scale changes in budget for years 2028-2031: Moderate budget decrease
Implementation Plan: https://cedars.sound-data.com/documents/download/1891/main/	
(a) The inclusion of a program forecast for this program ID beyond the current implementation party's contract termination date does not guarantee that the party's current contract will be extended. PG&E will evaluate vendor performance and determine the appropriate action	

Program Name: Agricultural Calculated Incentives	
Program ID: PGE_21031 Existing Link to implementation plan if existing (see D.21-05-031): See below	
Portfolio Segment: Resource	Implementation Party: PG&E
Applicable Sector: Agricultural	Market Sub-Sector: Agriculture
Sector Challenge: Diverse and geographically widespread sector with capital constraints and general lack of awareness of energy efficiency benefits and cost savings	Sector Opportunity: Increased participation in EE programs and resulting energy savings by providing an integrated customer solution
Known Equity Concerns in the Selected Markets: Not Applicable	Proposed Solutions to Equity Concerns: Not Applicable
Program Description: The Agricultural Calculated Incentives program provides services to improve the energy efficiency of agriculture facilities in California. Incentives are offered for a wide range of energy-efficient technologies including steam systems, refrigeration equipment, and lighting technologies, and include financial incentives based on calculated energy savings. This program is intended to serve as overflow for projects not suited for/qualified for current 3P programs.	
Intervention Strategy: Technical assistance, audits, incentives, outreach	2024-2027 Forecast Program Metrics: 1,765,279 kWh 0 Therms \$965,542 TSB
High-level description of delivery workforce including necessary scale and its risks: Delivery mechanisms include Investor Owned Utility (IOU) Account Representatives, trade allies, educational, outreach and other marketing activities. PG&E account representatives and engineering experts work closely with customers throughout the design and installation process to evaluate, and help customers implement the most energy-efficient technologies.	
Market Actors necessary for success: <ul style="list-style-type: none"> • Contractors • Trade Allies • PG&E staff 	

Program Name: Agricultural Calculated Incentives	
Solicitation Strategy: IOU-Implemented	Transition Plan: Not applicable
Expected Program Life: 2013-TBD	Short Term Plan Diminishing role as portfolio makes room for new third-party program and any future programs in this sector
Cost Effectiveness TRC: 0.78	Long Term Outlook Program will ramp down to continue to make room for new third-party program and any future programs in this sector
Proposed Annual Budgets for 2024-2027: 2024: \$260,954 2025: \$233,557 2026: \$213,928 2027: \$210,073	Anticipated directional and scale changes in budget for years 2028-2031: Budget will continue to be reduced as program ramps down
Implementation Plan: https://cedars.sound-data.com/documents/download/53/main/	

Program Name: Agricultural Deemed Incentives	
Program ID: PGE_21032	
Existing	
Link to implementation plan if existing (see D.21-05-031): See below	
Portfolio Segment: Resource Acquisition	Implementation Party: PG&E
Applicable Sector: Agricultural	Market Sub-Sector: Agricultural
Sector Challenge: Diverse and geographically widespread sector with capital constraints and general lack of awareness of energy efficiency benefits and cost savings	Sector Opportunity: Increased participation in EE programs and resulting energy savings by utilizing simplified processes that reduce the cost of retrofitting outdated and inefficient equipment
Known Equity Concerns in the Selected Markets: Not Applicable	Proposed Solutions to Equity Concerns: Not Applicable
Program Description: The Agricultural Deemed Incentives subprogram provides fixed rebates for high volume measures such as variable frequency drives (VFDs) for irrigation pumps or process fans. Projects are typically identified through utility EE audits, customer communications with local PG&E account representatives, or partnerships with equipment vendors and trade allies. Although PG&E anticipates most agricultural deemed measures to submit through new 3P programs, this program ID remains open to assist customers with locating rebates directly on our website.	
Intervention Strategy: Incentive, technical support, outreach	2024-2027 Forecast Program Metrics: 986,249 kWh 0 Therms \$511,934 TSB

Program Name: Agricultural Deemed Incentives	
High-level description of delivery workforce including necessary scale and its risks: The Agricultural Deemed Incentives Program information is communicated to a customer base of over 33,000 agricultural customers through training events, mass media advertising, and the expertise of PG&E's dedicated agricultural local account representatives and call center representatives. The program provides IOU representatives, equipment vendors, and customers with an easy-to-use mechanism to cost- effectively subsidize and encourage adoption of mass market energy efficiency measures through fixed incentive amounts.	
Market Actors necessary for success: <ul style="list-style-type: none"> • PG&E Account Representatives • Trade Allies • Equipment • Publicly Owned Utilities 	
Solicitation Strategy: IOU-Implemented	Transition Plan: Not applicable
Expected Program Life: 2013- TBD	Short Term Plan Diminishing role as portfolio makes room for new third-party program and any future programs in this sector
Cost Effectiveness TRC: 0.19	Long Term Outlook Program will ramp down to continue to make room for new third-party program and any future programs in this sector
Proposed Annual Budgets for 2024-2027: 2024: \$560,856 2025: \$548,620 2026: \$542,730 2027: \$538,887	Anticipated directional and scale changes in budget for years 2028-2031: slight reduction
Implementation Plan: https://cedars.sound-data.com/documents/download/303/main/	

Program Name: Agricultural Energy Advisor	
Program ID: PGE_21034 Existing Link to implementation plan if existing (see D.21-05-031): See below	
Portfolio Segment: Resource Acquisition	Implementation Party: PG&E
Applicable Sector: Agricultural	Market Sub-Sector: Agricultural
Sector Challenge: Informational and technical customer barriers as well as a lack of awareness of energy efficiency benefits and cost savings and lack of consideration of energy usage as core part of daily operations	Sector Opportunity: Increased participation in EE programs and resulting energy savings opportunities and continuous improvement over time
Known Equity Concerns in the Selected Markets:	Proposed Solutions to Equity Concerns:

Program Name: Agricultural Energy Advisor	
DAC and HTR customers may find difficulty contacting a Third-Party to support them	Ensure all customers have access to virtual tools
Program Description: The Agricultural Energy Advisor program supports customer education and encourages participation in EE, DR, self-generation subprograms and promotes awareness of GHG and water conservation activities.	
Intervention Strategy: Technical Assistance, Outreach, Audits, Financing, Incentives	2024-2027 Forecast Program Metrics: Not Applicable
High-level description of delivery workforce including necessary scale and its risks: IOU energy efficiency staff and contractors, service and sales representatives, website and/or marketing efforts deliver a coordinated and customer-specific experience through the Agricultural Energy Advisor Program, promoting energy efficiency, demand response, distributed generation and emerging technologies as appropriate to the customer needs.	
Market Actors necessary for success: <ul style="list-style-type: none"> • PG&E staff and contractors • Service and Sales Representatives • Contractors 	
Solicitation Strategy: IOU-Implemented	Transition Plan: Not applicable
Expected Program Life: 2013-TBD	Short Term Plan Increase participation by simplifying participation
Cost Effectiveness TRC: Not Applicable	Long Term Outlook Continue to offer a website for customer experience
Proposed Annual Budgets for 2024-2027: 2024: \$201,524 2025: \$201,179 2026: \$197,937 2027: \$198,065	Anticipated directional and scale changes in budget for years 2028-2031: TBD based on performance of the program and future potential in the market
Implementation Plan: https://cedars.sound-data.com/documents/download/52/main/	

PACIFIC GAS AND ELECTRIC COMPANY
CHAPTER 4
ATTACHMENT E
INDUSTRIAL PROGRAM CARDS

Program Name: Petroleum and Chemical Efficiency Program	
Program ID: PGE_Ind_002	
Existing	
Link to implementation plan if existing (see D.21-05-031): See below	
Portfolio Segment: Resource	Implementation Party: CLEAResult
Applicable Sector: Industrial	Market Sub-Sector: Petroleum, Chemical, and Mineral
Sector Challenge: Small number of large consumption facilities with general lack of understanding how best to evaluate and implement cost effective energy efficiency improvements due to limited opportunity and/or hesitation to adopt new technologies.	Sector Opportunity: Increased participation in EE program and resulting energy savings
Known Equity Concerns in the Selected Markets: Many hard-to-reach (HTR) and disadvantaged community (DAC) customers are in the remote areas of selected market operations	Proposed Solutions to Equity Concerns: HTR and DAC customers will be incorporated into the Petroleum and Chemical Efficiency Program and targeted based on EE opportunities. PG&E intends to offer language support and promote career opportunities for disadvantaged workers and prioritize support for vendors who hire them.
Program Description: The Petroleum and Chemical Efficiency Program provides energy efficiency services, technical assistance, and incentives to the industrial sector within PG&E's service territory. The program targets the Petroleum, Chemical and Minerals subsegments using a downstream market approach and by leveraging the Deemed and Custom savings platforms to deliver cost-effective energy savings. It also promotes and leverages on-bill financing (OBF) as a tool to off-set the barrier of capital to fund projects.	
Intervention Strategy: Incentives, financing, and technical assistance via manufacturers, distributors, vendors, industry and trade organizations, PG&E account managers and direct marketing to engage customers	2024-2027 Forecast Program Metrics: 50,602,236 kWh 5,803,797 Therms \$81,543,631 TSB
High-level description of delivery workforce including necessary scale and its risks: Availability of services and realization of energy savings is critical to the Petroleum and Chemical Efficiency Program's success. To meet these needs, the program intends to develop and provide participants with the comprehensive tools and training they need to help customers navigate the decision-making process and drive project adoption. The program will also support workforce education, and training (WE&T) for market participants.	
Market Actors necessary for success: <ul style="list-style-type: none"> • Industry and Trade Allies • PG&E Account Representatives • Manufacturers, distributors, and vendors 	

Program Name: Petroleum and Chemical Efficiency Program	
Solicitation Strategy: Third Party Solicited	Transition Plan: Not applicable
Expected Program Life: 2021-TBD ^(a)	Short Term Plan Reach available customers and savings opportunities by aligning customer outreach with recommendations for best-fit energy efficiency options
Cost Effectiveness TRC: 1.15	Long Term Outlook Increased understanding and support of sustainability goals and energy efficient opportunities for participating customers
Proposed Annual Budgets for 2024-2027: 2024: \$11,750,076 2025: \$11,726,679 2026: \$11,814,674 2027: \$11,814,209	Anticipated directional and scale changes in budget for years 2028-2031: Small budget decrease
Implementation Plan: https://cedars.sound-data.com/documents/download/1892/main/	
^(a) The inclusion of a program forecast for this program ID beyond the current implementation party's contract termination date does not guarantee that the party's current contract will be extended. PG&E will evaluate vendor performance and determine the appropriate action.	

Program Name: Compressed Air and Vacuum Optimization Program	
Program ID: PGE210212	
Existing	
Link to implementation plan if existing (see D.21-05-031): See below	
Portfolio Segment: Resource Acquisition	Implementation Party: Advanced Air Leak Detection Services
Applicable Sector: Industrial	Market Sub-Sector: Food Manufacturing, Fabrication Process, Manufacturing
Sector Challenge: Lack of awareness of energy use/loss, lack of operating personnel, limited labor and capital resources, and existing manual controlling of compressor systems	Sector Opportunity: Increased participation in EE program and adoption of EE measures
Known Equity Concerns in the Selected Markets: Not Applicable	Proposed Solutions to Equity Concerns: Not Applicable
Program Description: The Industrial Compressed Air Systems Efficiency (ICASE) Program focuses on improving performance of industrial compressed air and vacuum systems while optimizing how the air is being used. Optimization is based on tested and proven audit techniques and aims to ensure long lasting energy savings through remote automation control systems. The ICASE Program targets industrial customers with large (greater than 100 horsepower) compressed air and	

Program Name: Compressed Air and Vacuum Optimization Program	
vacuum systems and promotes and installs a state-of-the art control and data monitoring system.	
Intervention Strategy: ICASE will work directly with industrial customers to retrofit, optimize, and monitor compressed air system operation.	2024-2027 Forecast Program Metrics: 12,237,831 kWh 0 Therms \$2,943,952 TSB
High-level description of delivery workforce including necessary scale and its risks: ICASE program participants are recruited via trade networks of large industrial customers and PG&E account representatives.	
Market Actors necessary for success: <ul style="list-style-type: none"> Existing Trade networks PG&E Account Representatives 	
Solicitation Strategy: Third Party Solicited	Transition Plan: Not applicable
Expected Program Life: 2016-TBD ^(b)	Short Term Plan Increased awareness and knowledge of more efficient operations and maintenance (O&M) practices and proper use and maintenance of equipment
Cost Effectiveness TRC: 0.96	Long Term Outlook Increased penetration of EE measures at participant sites and within the industrial sector
Proposed Annual Budgets for 2024-2027: 2024: \$675,042 2025: \$701,316 2026: \$734,101 2027: \$769,492	Anticipated directional and scale changes in budget for years 2028-2031: TBD based on performance of program and future potential in the market.
Implementation Plan: https://cedars.sound-data.com/documents/download/85/main/	
^(b) The inclusion of a program forecast for this program ID beyond the current implementation party's contract termination date does not guarantee that the party's current contract will be extended. PG&E will evaluate vendor performance and determine the appropriate action	

Program Name: Industrial Calculated Incentives	
Program ID: PGE21021	
Existing	
Link to implementation plan if existing (see D.21-05-031): See below	
Portfolio Segment: Resource	Implementation Party: PG&E
Applicable Sector: Industrial	Market Sub-Sector: Industrial
Sector Challenge: <ul style="list-style-type: none"> Overcoming existing information, technical, and financial barriers 	Sector Opportunity: Improved energy efficiency of industrial facilities in California, especially through

Program Name: Industrial Calculated Incentives	
<ul style="list-style-type: none"> Emerging technologies are slow to penetrate the market 	support of integrated solutions and optimized energy management
Known Equity Concerns in the Selected Markets: Not Applicable	Proposed Solutions to Equity Concerns: Not Applicable
Program Description: Industrial Calculated Incentives provides customized incentives, as well as comprehensive technical and design assistance for non-residential EE retrofit and new construction projects involving the installation of high-efficiency equipment or systems. Energy savings are calculated for the recommended measures that are installed based on the comprehensive technical and design assistance for customized projects. Integrated projects are encouraged to combine energy efficiency and demand response. Eligible projects include new construction, retrofit, and retro-commissioning. This program is intended to serve as overflow for projects not suited for/qualified for current third-party programs.	
Intervention Strategy: Information and services delivered through Investor Owned Utility (IOU) account reps, call centers and internet sites, and local government partnerships	2024-2027 Forecast Program Metrics: 302,400 kWh 0 Therms \$199,022 TSB
High-level description of delivery workforce including necessary scale and its risks: Delivery mechanisms include account representatives, technical services personnel, incentives processing staff, and inspection officials. Also important to program delivery are customer facility owners and managers, energy efficient equipment manufacturers, distributors, and service contractors, and industry trade associations	
Market Actors necessary for success: <ul style="list-style-type: none"> IOU Account Representatives Government Partnerships Trade allies 	
Solicitation Strategy: IOU-Implemented	Transition Plan: Not Applicable
Expected Program Life: 2013-TBD	Short Term Plan Program will ramp down to continue to make room for new third-party program and any future programs in this sector
Cost Effectiveness TRC: 0.11	Long Term Outlook Minimized role and reduction in program funding to allow new third-party programs to operate in this sector
Proposed Annual Budgets for 2024-2027: 2024: \$723,882 2025: \$703,071 2026: \$227,313 2027: \$228,815	Anticipated directional and scale changes in budget for years 2028-2031: Budget will continue to be reduced as program ramps down
Implementation Plan: https://cedars.sound-data.com/documents/download/54/main/	

Program Name: Industrial Deemed Incentives	
Program ID: PGE21022	
Existing	
Link to implementation plan if existing (see D.21-05-031): See below	
Portfolio Segment: Resource	Implementation Party: PG&E
Applicable Sector: Industrial	Market Sub-Sector: Industrial
Sector Challenge: Overcoming existing information, technical, and financial barriers	Sector Opportunity: Improved energy efficiency of industrial facilities in California, especially through support of integrated solutions and optimized energy management
Known Equity Concerns in the Selected Markets: Not Applicable	Proposed Solutions to Equity Concerns: Not Applicable
Program Description: The Industrial Deemed Incentives subprogram provides rebates for the installation of new EE equipment and measures. Deemed retrofit measures have fixed incentive amounts per unit/measure and are intended for projects that have well-defined energy and demand savings. In many cases, projects are identified through utility EE audits, communications with PG&E account representatives, or partnerships with equipment vendors and trade allies. Although PG&E anticipates most industrial deemed measures to submit through new 3P programs, this program ID remains open to assist customers with locating rebates directly on our website.	
Intervention Strategy: Direct customer outreach through trade and community-based associations, third parties, government partnerships and core IOU programs	2024-2027 Forecast Program Metrics: 376,640 kWh 534,414 Therms \$3,469,608 TSB
High-level description of delivery workforce including necessary scale and its risks: Delivery mechanisms include account representatives, technical services personnel, incentives processing staff, and inspection officials. Also important to program delivery are customer facility owners and managers, energy efficient equipment manufacturers, distributors, and service contractors, and industry trade associations.	
Market Actors necessary for success: <ul style="list-style-type: none"> • IOU Account Representatives • Government Partnerships • Trade allies 	
Solicitation Strategy: IOU-Implemented	Transition Plan: Not applicable
Expected Program Life: 2013-TBD	Short Term Plan Minimized role to allow new third-party programs to operate in this sector.
Cost Effectiveness TRC: 2.22	Long Term Outlook Program will ultimately ramp down to continue to make room for new third-party program and any future programs in this sector
Proposed Annual Budgets for 2024-2027: 2024: \$334,247	Anticipated directional and scale changes in budget for years 2028-2031:

Program Name: Industrial Deemed Incentives	
2025: \$351,418 2026: \$356,966 2027: \$363,588	Budget will be reduced as program ramps down
Implementation Plan: https://cedars.sound-data.com/documents/download/54/main/	

Program Name: Industrial Energy Advisor	
Program ID: PGE21024 Existing Link to implementation plan if existing (see D.21-05-031): See below	
Portfolio Segment: Resource Acquisition	Implementation Party: PG&E
Applicable Sector: Industrial	Market Sub-Sector: Industrial
Sector Challenge: Overcoming existing information, technical, and financial barriers	Sector Opportunity: Improved energy efficiency of industrial facilities in California, especially through support of integrated solutions and optimized energy management
Known Equity Concerns in the Selected Markets: DAC and HTR customers may find it difficult contacting a third-party to support them	Proposed Solutions to Equity Concerns: Ensure all customers can access virtual tools
Program Description: Industrial Energy Advisor Program supports customer education and participation in EE, demand response, self-generation energy reducing opportunities and benefits and promotes awareness of GHG and water conservation activities.	
Intervention Strategy: Direct customer outreach through IOU customer energy efficiency staff and contractors, service and sales representatives, website and/or marketing, and outreach efforts	2024-2027 Forecast Program Metrics: Not Applicable
High-level description of delivery workforce including necessary scale and its risks: PG&E intends to deliver program offerings through IOU customer energy efficiency staff and contractors, service and sales representatives. Trade and community-based associations, third parties, government partnerships and core IOU programs will provide outreach to customers.	
Market Actors necessary for success: <ul style="list-style-type: none"> • IOU Customer Energy Efficiency Staff and Contractors • Government Partnerships • Trade allies and Community Based Organizations 	
Solicitation Strategy: IOU-Implemented	Transition Plan: Not applicable
Expected Program Life: 2013-TBD	Short Term Plan Minimize role to allow new third-party programs to operate in this sector while maintaining customer online tool access

Program Name: Industrial Energy Advisor	
Cost Effectiveness TRC: Not Applicable	Long Term Outlook Continue to offer an online website for customer experience
Proposed Annual Budgets for 2024-2027: 2024: \$148,817 2025: \$147,261 2026: \$141,934 2027: \$141,992	Anticipated directional and scale changes in budget for years 2028-2031: slight reduction
Implementation Plan: https://cedars.sound-data.com/documents/download/54/main/	

Program Name: Manufacturing and Food Processing Efficiency Program	
Program ID: PGE_Ind_003 New / Existing Link to implementation plan if existing (see D.21-05-031): See below	
Portfolio Segment: Market Support	Implementation Party: Cascade Energy
Applicable Sector: Industrial	Market Sub-Sector: Industrial Manufacturing and Food Processing
Sector Challenge: Cost-effective project scoping and implementation, particularly where equipment is not past useful life, but building code has evolved	Sector Opportunity: Reduce market barriers and influence project implementation for industrial manufacturing and food processing customers
Known Equity Concerns in the Selected Markets: Not Applicable	Proposed Solutions to Equity Concerns: Not Applicable
Program Description: The Manufacturing and Food Processing Efficiency Program targets the industrial manufacturing and food processing market segments, focusing on training, retro-commissioning, and capital projects with systems-level optimization. The program offers technical support to identify and implement projects, energy management coaching, and energy management and collaboration software.	
Intervention Strategy: Incentives, financing, and technical assistance	2024-2027 Forecast Program Metrics: 25,341,684 kWh, 3,861,706 Therms, \$27,084,181 TSB
High-level description of delivery workforce including necessary scale and its risks: Program delivery is accomplished by providing customers with training that builds trust and helps customers understand the benefits of EE projects. Customers are reached through early and ongoing engagement with key influencers and decision-makers relevant to the industrial manufacturing and food processing sectors.	
Market Actors necessary for success: <ul style="list-style-type: none"> • Industry associations • Vendors and contractors who serve the manufacturing and food processing sectors 	

Program Name: Manufacturing and Food Processing Efficiency Program	
<ul style="list-style-type: none"> Manufacturing and food processing sector peers Facility and maintenance managers, and plant engineers 	
Solicitation Strategy: Third Party Solicited	Transition Plan: Not applicable
Expected Program Life: 2021-TBD ^(c)	Short Term Plan Broader program participation resulting in deeper savings and improved cost effectiveness from shifts in usage and increased adoption of next-generation innovative technologies
Cost Effectiveness TRC: 1.13	Long Term Outlook Advancement of Energy Management Practices through refinement of methods and increase in customer familiarity and fluency with energy management
Proposed Annual Budgets for 2024-2027: 2024: \$5,615,477 2025: \$5,600,420 2026: \$5,618,411 2027: \$5,612,858	Anticipated directional and scale changes in budget for years 2028-2031: Small budget decrease
Implementation Plan: https://cedars.sound-data.com/documents/download/1894/main/	
^(c) The inclusion of a program forecast for this program ID beyond the current implementation party's contract termination date does not guarantee that the party's current contract will be extended. PG&E will evaluate vendor performance and determine the appropriate action	

Program Name: Industrial Strategic Energy Management - Food Processing	
Program ID: PGE_Ind_001a	
Existing	
Link to implementation plan if existing (see D.21-05-031): See below	
Portfolio Segment: Resource Acquisition	Implementation Party: CLEAResult
Applicable Sector: Industrial	Market Sub-Sector: Food Processing
Sector Challenge: Existing food processing facilities lack comprehensive understanding of how energy usage impacts energy costs and potential for energy savings	Sector Opportunity: Long-term engagement with food processing facilities to utilize normalized metered energy consumption (NMEC) in determining energy savings
Known Equity Concerns in the Selected Markets: Not Applicable	Proposed Solutions to Equity Concerns: Not Applicable
Program Description: The SEM Food Processing Program is a whole facility approach that uses NMEC and dynamic baseline models to determine energy savings from all program activities at the facility, including capital projects, custom and deemed calculated retrofits, maintenance and operation, and retro-	

Program Name: Industrial Strategic Energy Management - Food Processing	
commissioning projects. The program requires a multi-year customer commitment to participate in multiple cohort-type training workshops, individual or cohort energy analysis, and Evaluation and Measurement (M&V) activities based on information and characteristics of the facility's specific processes.	
Intervention Strategy: SEM Food Processing will utilize a cohort format for training workshops and a mix of individual and cohort site activities.	2024-2027 Forecast Program Metrics: 73,158,873 kWh, 5,841,303 Therms \$50,192,011 TSB
High-level description of delivery workforce including necessary scale and its risks: PG&E intends to coordinate customer outreach through PG&E Account Executives to recruit facilities to participate. External technical assistance will be critical for assistance with establishing a Strategic Energy Management (SEM) approach	
Market Actors necessary for success: <ul style="list-style-type: none"> PG&E Account Representatives 	
Solicitation Strategy: Third Party Solicited ¹	Transition Plan: Not applicable
Expected Program Life: 2018-TBD ^(d)	Short Term Plan Identify, implement, and track organizational and operational changes that will help save energy at participating facilities for each program cycle
Cost Effectiveness TRC: 1.95	Long Term Outlook Continued customer engagement beyond two-year program cycles to advance participant EE projects and introduce IDSM fundamentals
Proposed Annual Budgets for 2024-2027: 2024: \$6,338,617 2025: \$6,308,468 2026: \$6,952,287 2027: \$6,841,931	Anticipated directional and scale changes in budget for years 2028-2031: Moderate budget increase
Implementation Plan: https://cedars.sound-data.com/documents/download/1829/main/	
^(d) The inclusion of a program forecast for this program ID beyond the current implementation party's contract termination date does not guarantee that the party's current contract will be extended. PG&E will evaluate vendor performance and determine the appropriate action	

Program Name: Industrial Strategic Energy Management - Manufacturing	
Program ID: PGE_Ind_001b Existing	
Link to implementation plan if existing (see D.21-05-031): See below	
Portfolio Segment: Resource Acquisition	Implementation Party: Leidos Engineering

¹ SEM was Third Party Solicited but does not meet the current definition of "Third-Party" per D.16-08-019, OP 10, p. 111. 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 portfolio administrator."

Program Name: Industrial Strategic Energy Management - Manufacturing	
Applicable Sector: Industrial	Market Sub-Sector: Manufacturing
Sector Challenge: Existing manufacturing facilities lack comprehensive understanding of how energy usage impacts energy costs and potential for energy savings	Sector Opportunity: Long-term engagement with manufacturing facilities to utilize NMEC in determining energy savings
Known Equity Concerns in the Selected Markets: Not Applicable	Proposed Solutions to Equity Concerns: Not Applicable
Program Description: The SEM Manufacturing program combines cohort format, individual site visits and web-based activities to deliver program services to participating Industrial Manufacturing customers. Customers receive frequent communications identifying opportunities for EE projects, and implementers track energy usage before and after energy efficiency actions are performed to determine effectiveness and persistence.	
Intervention Strategy: SEM Manufacturing will use a cohort format for establishing better energy management practices at enrolled customer sites.	2024-2027 Forecast Program Metrics: 11,876,604 kWh, 7,893,192 Therms, \$28,846,097 TSB
High-level description of delivery workforce including necessary scale and its risks: Workforce requirements are specific to the direct outreach that will be done in coordination with PG&E Account Executives.	
Market Actors necessary for success: <ul style="list-style-type: none"> PG&E Account Representatives 	
Solicitation Strategy: Third Party Solicited ²	Transition Plan: Not applicable
Expected Program Life: 2018-TBD ^(e)	Short Term Plan Identify and recruit cohorts made up of 5 industrial manufacturing customers in each.
Cost Effectiveness TRC: 1.37	Long Term Outlook Expand continuous energy management programs at participant sites with sustained increases in customer savings. Continued work with cohorts beyond two-year commitment to implement new SEM designs.
Proposed Annual Budgets for 2024-2027: 2024: 7,005,819 2025: 7,002,602 2026: 7,348,440 2027: 6,060,208	Anticipated directional and scale changes in budget for years 2028-2031: Slight budget increase
Implementation Plan: https://cedars.sound-data.com/documents/download/1830/main/	

² SEM was Third Party Solicited but does not meet the current definition of “Third-Party” per D.16-08-019, OP 10, p. 111. 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 portfolio administrator.”

Program Name: Industrial Strategic Energy Management - Manufacturing
(e) The inclusion of a program forecast for this program ID beyond the current implementation party's contract termination date does not guarantee that the party's current contract will be extended. PG&E will evaluate vendor performance and determine the appropriate action

PACIFIC GAS AND ELECTRIC COMPANY
CHAPTER 4
ATTACHMENT F
CODES AND STANDARDS PROGRAM CARDS

Program Name: Codes and Standards National Codes Advocacy	
Program ID: SW_CSA_Natl New / Existing Link to implementation plan if existing (see D.21-05-031): See below	
Portfolio Segment: Codes and Standards	Implementation Party: PG&E
Applicable Sector: Codes and Standards	Market Sub-Sector:
Sector Challenge: Industry opposition remains the most significant barrier to proposal adoption	Sector Opportunity: Development of robust codes and standards, enhancement proposals and other advocacy efforts which influence DOE, Energy Star, ASHRAE, IECC and other public proceedings
Known Equity Concerns in the Selected Markets: Not applicable	Proposed Solutions to Equity Concerns: Not applicable
Program Description: <p>Codes and Standards (C&S) advocacy subprograms support California’s rulemaking processes to update its Appliance Efficiency Regulations (otherwise known as Title 20 or the US Department of Energy Appliance Standards) as well as its Building Energy Efficiency Standards (otherwise known as the Energy Code or Title 24, Part 6 and the energy portions of Part 11) by authoring Codes and Standards Enhancement (CASE) studies/comment letters, conduct data collection and engage in advocacy for promising design practices and technologies.</p> <p>The National Codes and Standards Advocacy subprogram is one of three advocacy subprograms under C&S, which along with State Building Codes and Statewide Appliance Standards Advocacy subprograms work to reduce building and appliance energy use and associated GHG emissions through the advancement of test procedures, building codes, and appliance standards. These subprograms work with federal, state, and local governments to develop ordinances that exceed statewide minimum requirements and complement incentive programs and utility information offerings to customers.</p> <p>National Codes and Standards specifically advocates for national building codes and appliance standards that support California by encouraging adoption of transformative technologies and construction processes. Alignment between national and state codes also helps reduce barriers to compliance by harmonizing the requirements across state borders.</p>	
Intervention Strategy: Advocacy, outreach, and data collection	2024-2027 Forecast Program Metrics: Not Applicable
High-level description of delivery workforce including necessary scale and its risks: <p>C&S deliverables and activities include, but are not limited to, comment letters and CASE studies and/or roadmap proposals, stakeholder engagement and coalition building, attendance and participation in public meetings, dissemination of compliance tools, coordination with other energy efficiency proponents (such as Natural Resources Defense Council and Appliance Standards Awareness Project), data modeling, lab 4 testing, legal consulting, industry outreach, field metering, building energy modeling, and product testing.</p>	
Market Actors necessary for success: <ul style="list-style-type: none"> • US Department of Energy • Environmental advocates 	

Program Name: Codes and Standards National Codes Advocacy	
<ul style="list-style-type: none"> Manufacturers and industry groups Other state governments Utilities outside of California 	
Solicitation Strategy: One PRG public competitive bidding process completed. Potentially other public competitive processes to add new qualified implementors	Transition Plan: Not applicable
Expected Program Life: The statewide Advocacy programs commenced in 2020. The Codes & Standards program (including all the subprograms) will continue if they remain cost-effective and working towards energy efficiency goals .	Short Term Plan Improved Title 20, Title 24 and federal standards proposals and increased compliance with existing state and federal codes and standards
Cost Effectiveness Not Applicable	Long Term Outlook Broadened industry relationships and increased support for continuous upgrading of State and federal energy efficiency codes and standards
Proposed Annual Budgets for 2024-2027¹: 2024: \$5,088,827 2025: \$5,088,827 2026: \$5,088,827 2027: \$5,088,827	Anticipated directional and scale changes in budget for years 2028-2031: Budgets are expected to be relatively flat.
Implementation Plan: https://cedars.sound-data.com/documents/download/1661/main/	

Program Name: Codes and Standards Appliance Advocacy	
Program ID: SW_CSA_Appl	
New / Existing	
Link to implementation plan if existing (see D.21-05-031): See below	
Portfolio Segment: Codes and Standards	Implementation Party: PG&E
Applicable Sector: Codes and Standards	Market Sub-Sector:
Sector Challenge: Industry opposition remains the most significant barrier to proposal adoption	Sector Opportunity: Development of robust regulatory proposals supported by other advocacy efforts which have a positive influence on California appliance standards rulemakings
Known Equity Concerns in the Selected Markets: Not applicable	Proposed Solutions to Equity Concerns: Not applicable
Program Description: Codes and Standards (C&S) advocacy subprograms support California's rulemaking processes to update its Appliance Efficiency Regulations (otherwise known as Title 20 or the US Department of Energy Appliance Standards) as well as its Building Energy Efficiency Standards	

¹ Total SW budget, PA costs excluded

Program Name: Codes and Standards Appliance Advocacy	
<p>(otherwise known as the Energy Code or Title 24, Part 6 and the energy portions of Part 11) by authoring Codes and Standards Enhancement (CASE) studies/comment letters, conduct data collection and engage in advocacy for promising design practices and technologies.</p> <p>The Statewide Appliance Standards Advocacy (ASA) subprogram is one of three advocacy subprograms under C&S, which along with State Building Codes and National Codes and Standards Advocacy subprograms work to reduce building and appliance energy use and associated GHG emissions through the advancement of test procedures, building codes, and appliance standards. These subprograms work with federal, state, and local governments to develop ordinances that exceed statewide minimum requirements, and compliment incentive programs and utility information offerings to customers.</p> <p>ASA specifically targets improvements to Title 20 by the California Energy Commission. Advocacy activities include developing Title 20 code enhancement proposals and participating in the California Energy Commission public rulemaking process as well as monitoring state and federal legislation and intervening, as appropriate.</p>	
Intervention Strategy: Advocacy, data collection and industry outreach	2024-2027 Forecast Program Metrics: Not Applicable
<p>High-level description of delivery workforce including necessary scale and its risks: C&S deliverables and activities include, but are not limited to, comment letters and CASE studies and/or roadmap proposals, stakeholder engagement and coalition building, attendance and participation in public meetings, dissemination of compliance tools, coordination with other energy efficiency proponents (such as Natural Resources Defense Council and ASAP), data modeling, lab 4 testing, legal consulting, industry outreach, field metering, building energy modeling, and product testing.</p>	
<p>Market Actors necessary for success:</p> <ul style="list-style-type: none"> • Environmental advocates • Manufacturers and industry groups • Other state agencies 	
Solicitation Strategy: One Procurement Review Group public competitive bidding process completed. Potentially other public competitive processes to add new qualified implementors	Transition Plan: Not applicable
Expected Program Life: The statewide Advocacy programs commenced in 2020. The Codes & Standards program (including all the subprograms) will continue if it remains cost-effective and working towards energy efficiency goals.	Short Term Plan Improved title 20, title 24 and federal standards proposals and increased compliance with existing state and federal codes and standards
Cost Effectiveness Not Applicable	Long Term Outlook Broadened industry relationships and increased support for continuous upgrading of State and federal energy efficiency codes and standards

Program Name: Codes and Standards Appliance Advocacy	
Proposed Annual Budgets for 2024-2027²: 2024: \$4,248,447 2025: \$2,798,447 2026: \$2,348,447 2027: \$3,998,447	Anticipated directional and scale changes in budget for years 2028-2031: Budgets are expected to be relatively flat.
Implementation Plan: https://cedars.sound-data.com/documents/download/1661/main/	

Program Name: Codes and Standards Building Codes Advocacy	
Program ID: SW_CSA_Bldg New / Existing Link to implementation plan if existing (see D.21-05-031): See below	
Portfolio Segment: Codes and Standards	Implementation Party: PG&E
Applicable Sector: Codes and Standards	Market Sub-Sector:
Sector Challenge: Building industry opposition remains the most significant barrier to proposal adoption.	Sector Opportunity: Development of robust regulatory proposals supported by other advocacy efforts which have a positive influence on California's building rulemakings
Known Equity Concerns in the Selected Markets: Building codes updates must consider the potential impacts on building occupants and assure the benefits of proposals outweigh the costs.	Proposed Solutions to Equity Concerns: Include the appropriate factors in proposal development to assure that equity concerns are addressed.

² Total SW budget, PA costs excluded

Program Name: Codes and Standards Building Codes Advocacy	
<p>Program Description: Codes and Standards (C&S) advocacy subprograms support California’s rulemaking processes to update its Appliance Efficiency Regulations (otherwise known as Title 20 or the US Department of Energy Appliance Standards) as well as its Building Energy Efficiency Standards (otherwise known as the Energy Code or Title 24, Part 6 and the energy portions of Part 11) by authoring Codes and Standards Enhancement (CASE) studies/comment letters, conduct data collection and engage in advocacy for promising design practices and technologies.</p> <p>The Statewide Building Codes Advocacy subprogram is one of three advocacy subprograms under C&S, which along with State Appliance Standards and National Codes and Standards Advocacy subprograms work to reduce building and appliance energy use and associated GHG emissions through the advancement of test procedures, building codes, and appliance standards. These subprograms work with federal, state, and local governments to develop ordinances that exceed statewide minimum requirements, and compliment incentive programs and utility information offerings to customers.</p> <p>The Statewide Building Codes Advocacy subprogram specifically supports the California Energy Commission’s triennial update to the Energy Code (Title 24, Part 6) to include new EE regulations or to strengthen existing regulations for various technologies or measures. Advocacy activities include the development of Codes and Standards Enhancement (CASE) proposals, research to provide the data needed to advance EE regulations, and participation in the public rulemaking processes. The subprogram also supports the Energy Commission in preparing recommendations to the Building Standards Commission to update the California Green Buildings Standards (Title 24, Part 11 or CALGreen).</p>	
<p>Intervention Strategy: Research and Analysis, Proposal Development, Coalition Building, Stakeholder Outreach</p>	<p>2024-2027 Forecast Program Metrics: Not Applicable</p>
<p>High-level description of delivery workforce including necessary scale and its risks: C&S deliverables and activities include but are not limited to: comment letters and CASE studies and/or roadmap proposals; stakeholder engagement and coalition building; attendance and participation in public meetings; dissemination of compliance tools; coordination with other energy efficiency proponents (such as Natural Resources Defense Council and ASAP); data modeling, laboratory testing, legal consulting, industry outreach, field metering, building energy modeling, and product testing.</p>	
<p>Market Actors necessary for success:</p> <ul style="list-style-type: none"> • California Energy Commission • Manufacturers and industry groups • Builders, designers, and contractors • Environmental advocacy organizations • Other state agencies 	
<p>Solicitation Strategy: One competitive bidding process was completed. Potentially, there may be another public competitive process to add new qualified implementors for future code cycles.</p>	<p>Transition Plan: Not applicable</p>

Program Name: Codes and Standards Building Codes Advocacy	
Expected Program Life: The statewide Advocacy programs commenced in 2020. The Codes & Standards program (including all the subprograms) will continue if it remains cost-effective and working towards energy efficiency goals.	Short Term Plan Improved Title 24 proposals that advance EE for covered building types and support broader state energy policy goals.
Cost Effectiveness Not Applicable	Long Term Outlook Broadened industry relationships and increased support for continuous improvements and advancements of State and Federal energy efficiency codes and standards
Proposed Annual Budgets for 2024-2027³: 2024: \$8,149,584 2025: \$9,599,584 2026: \$10,049,584 2027: \$8,399,584	Anticipated directional and scale changes in budget for years 2028-2031: Budgets are expected to be fluctuate relative to the change in code cycles
Implementation Plan: https://cedars.sound-data.com/documents/download/1661/main/	

Program Name: Compliance Improvement	
Program ID: PGE21053	
New / Existing	
Link to implementation plan if existing (see D.21-05-031): See below	
Portfolio Segment: Codes and Standards	Implementation Party: PG&E
Applicable Sector: Codes and Standards	Market Sub-Sector:
Sector Challenge: <ul style="list-style-type: none"> Compliance is perceived as overly burdensome 	Sector Opportunity: <ul style="list-style-type: none"> Empower market actors throughout the building energy code and appliance efficiency compliance supply chains with the knowledge, skills and resources they need to perform their work tasks Continue to simplify and automate the compliance process
Known Equity Concerns in the Selected Markets: <ul style="list-style-type: none"> People lack time and ability to access training and helpful resources 	Proposed Solutions to Equity Concerns: <ul style="list-style-type: none"> Help is available to all who have internet access via www.energycodeace.com and info@energycodeace.com
Program Description: The Codes and Standards (C&S) Compliance Improvement (CI) subprogram targets market actors throughout the entire compliance chain, providing education, outreach, technical support, and resources to improve compliance with Title 24, Part 6, Title 20, and federal EE regulations. CI subprogram activities complement other C&S subprogram work by maximizing persistent savings from C&S advocacy activities.	

³ Total SW budget, PA costs excluded

Program Name: Compliance Improvement	
Intervention Strategy: Training, Web-based Tools, Technical Assistance, Outreach	2024-2027 Forecast Program Metrics: Not Applicable
High-level description of delivery workforce including necessary scale and its risks: The CI Subprogram drives higher Title 24, Part 6 and Title 20 compliance rates by enacting behavior change throughout the building and appliance efficiency supply chains. All program offerings are informed by and developed with market actors ranging from architects, energy consultants, plans examiners, installers, building inspectors on the building code side and manufacturers, distributors and retailers on the appliance side. Performance solutions are delivered under the Energy Code Ace banner (EnergyCodeAce.com) where users can register for training, complete on-line self-study courses at their leisure, use web-based tools that help Title 24, Part 6 and Title 20 Compliance Supply Chain automate their work tasks.	
Market Actors necessary for success: <ul style="list-style-type: none"> • Architects • Energy Consultants • Plans Examiners • Installers • Building Inspectors • Manufacturers • Distributors • Retailers 	
Solicitation Strategy: Third party contractors will be engaged to maintain existing and develop new performance solutions	Transition Plan: Not applicable
Expected Program Life: The Codes & Standards program (including all the subprograms) will continue as long as it remains cost-effective and working towards energy efficiency goals.	Short Term Plan: <ul style="list-style-type: none"> • Prepare building and appliance industries for implementing existing and new Codes and Standards • Automate verification and completion of compliance forms submitted for permits and forms completed by installers • Improve appliance certification and verification process
Cost Effectiveness Not Applicable	Long Term Outlook Maximize compliance with existing and newly adopted building codes and appliance efficiency standards
Proposed Annual Budgets for 2024-2027: 2024: \$6,292,800 2025: \$6,854,261 2026: \$6,882,523 2027: \$6,313,545	Anticipated directional and scale changes in budget for years 2028-2031: Budgets are expected to be relatively flat.
Implementation Plan: https://cedars.sound-data.com/documents/download/2033/main/	

Program Name: Reach Codes	
Program ID: PGE21054 Existing Link to implementation plan if existing (see D.21-05-031): See below	
Portfolio Segment: Codes and Standards	Implementation Party: PG&E
Applicable Sector: Codes and Standards	Market Sub-Sector: Local jurisdictions
Sector Challenge: Need for a coordinated approach to provide consistent support across the state and reduce duplication of efforts and/or market confusion as more organizations offer support for jurisdictions.	Sector Opportunity: <ul style="list-style-type: none"> • Provide effective and flexible tools to achieve local policy objectives through collaboration with cities, counties and stakeholders • Drive reach code development and adoption for long-term decarbonization and energy efficiency benefits
Known Equity Concerns in the Selected Markets: Local energy policies that increase up-front costs may disproportionately affect low- and middle-income residents	Proposed Solutions to Equity Concerns: Include appropriate rates and considerations in analysis
Program Description: As part of the Statewide Codes and Standards Program, the Reach Codes subprogram helps cities and counties leverage their unique authority to adopt local energy ordinances that require increased efficiency and performance beyond the statewide Title 24 minimum requirements for new buildings, additions, or alterations. Local energy ordinances accelerate the adoption of new equipment, technologies, code compliance, and energy-savings strategies to help pave the way for future code cycles. Ordinances may modify portions of the building code, such as the energy, or green code requirements or may directly modify a municipal code such as a zoning or health and safety code.	
Intervention Strategy: Technical Assistance, outreach, and marketing	2024-2027 Forecast Program Metrics: Not Applicable
High-level description of delivery workforce including necessary scale and its risks: The Reach Codes subprogram will continue to collaborate with jurisdictions and advocate with stakeholders including RENs, CCA/CCEs, Councils of Government, Energy Commission, and others to identify and provide the analyses and technical assistance needed to support adoption. Collaboration will also continue with the Energy Commission to provide support for developing voluntary standards, such as Title 24, Part 11 (CALGreen) to encourage buildings to achieve exemplary performance.	
Primary Reach Code subprogram activities include preparing single family, multifamily, and non-residential cost effectiveness studies for each of the CA climate zones, updating ordinance options and opportunities documents, developing model ordinance language, providing resources and tools, and attending and presenting at workshops or conferences.	
Market Actors necessary for success: <ul style="list-style-type: none"> • Local jurisdictions • Advocacy organizations 	

Program Name: Reach Codes	
<ul style="list-style-type: none"> • Builders, designers, and contractors • California Energy Commission 	
Solicitation Strategy:	Transition Plan: Not applicable
Expected Program Life: The Reach Codes program began in 2016. The Codes & Standards program (including all the subprograms) will continue if it remains cost-effective and working towards energy efficiency goals. The Reach Codes Subprogram will adjust according to demand by jurisdictions for support for the development and adoption of local ordinances.	Short Term Plan Local reach code adoption support
Cost Effectiveness Not Applicable	Long Term Outlook Continue targeting energy use reductions associated with carbon emissions and increasing level of interest in building electrification, both at the local level, and at the state Advancement of energy policy goals and increased code readiness for future code rulemakings
Proposed Annual Budgets for 2024-2027: 2024: \$2,134,369 2025: \$2,300,377 2026: \$2,976,117 2027: \$2,694,868	Anticipated directional and scale changes in budget for years 2028-2031: Budgets are expected to be relatively flat.
Implementation Plan: https://cedars.sound-data.com/documents/download/2035/main/	

Program Name: Code Readiness	
Program ID: PGE21056	
Existing	
Link to implementation plan if existing (see D.21-05-031): See below	
Portfolio Segment: Codes and Standards	Implementation Party: PG&E
Applicable Sector: Codes and Standards	Market Sub-Sector: Residential, Commercial, and State facilities
Sector Challenge: Opposition to rulemakings with higher efficiency requirement codes & standards	Sector Opportunity: Collect data which supports codes and standards advocacy
Known Equity Concerns in the Selected Markets: Not applicable	Proposed Solutions to Equity Concerns: Not applicable

Program Name: Code Readiness	
Program Description: The Code Readiness subprogram accelerates achievement of state policy goals related to energy efficiency, decarbonization, and grid harmonization by supporting the adoption of new Codes & Standards through data acquisition and industry outreach. Advanced technologies and new technologies are tested and demonstrated with the aim of collecting high-quality information and data needed to support future advocacy; specifically, test procedure representativeness, as well as measure cost-effectiveness, feasibility, and compliance efficacy.	
Intervention Strategy: Technical assistance, data collection	2024-2027 Forecast Program Metrics: Number of measures supported through analysis or data collection
High-level description of delivery workforce including necessary scale and its risks: Code Readiness subprogram activities include data collection, customer and contractor inducements, knowledge transfer, and marketing. All activities are aimed at future regulations and supplementing existing advocacy efforts.	
Market Actors necessary for success: Not applicable	
Solicitation Strategy: Third Party contractors will be engaged to implement research and/or procure data that support specific code requirements.	Transition Plan: Not applicable
Expected Program Life: The Codes & Standards program (including all the subprograms) will continue if it remains cost-effective and working towards energy efficiency goals.	Short Term Plan Conduct analysis and data collection to support future building code and appliance standards rulemakings.
Cost Effectiveness: Not Applicable	Long Term Outlook <ul style="list-style-type: none"> • Achieve improved advocacy support • Greater market transformation and improved savings for the program
Proposed Annual Budgets for 2024-2027: 2024: \$10,982,764 2025: \$10,977,539 2026: \$11,013,282 2027: \$10,997,043	Anticipated directional and scale changes in budget for years 2028-2031: Budgets are expected to be relatively flat.
Implementation Plan: https://cedars.sound-data.com/documents/download/2036/main/	

Program Name: Planning and Coordination	
Program ID: PGE21055 Existing Link to implementation plan if existing (see D.21-05-031): See below	
Portfolio Segment: Codes and Standards	Implementation Party: PG&E
Applicable Sector: Codes and Standards	Market Sub-Sector:

Program Name: Planning and Coordination	
Sector Challenge: Planning and operational complexities caused by the long-term nature of C&S work and impacts on many other groups	Sector Opportunity: Improved collective efficacy of code readiness, new construction, emerging technology, market transformation, and other efforts
Known Equity Concerns in the Selected Markets: None	Proposed Solutions to Equity Concerns: None
Program Description: The Planning and Coordination (P&C) subprogram guides research for codes and standards advocacy and continuous innovation, supports collaboration between programs within the Codes, Standards, and Crosscutting (CS&C) sector as well as interdepartmental and inter-IOU coordination. The program analyzes regulations that directly impact incentive programs, other utility lines of business, and affect industry change and market transformation. .	
Intervention Strategy: Coalition Building	2024-2027 Forecast Program Metrics: Not Applicable
High-level description of delivery workforce including necessary scale and its risks: The P&C subprogram is designed to support advocacy and other CS&C programs which influence California's policy objectives. The planning element of this subprogram includes: long-term planning and scenario analyses; modeling of impacts from potential C&S program activities relative to California policy goals and incentive programs; development of business and implementation plans; responses to CPUC and other data requests; updating the incremental measure costs for C&S measures; and maintenance of a C&S savings database consistent with evaluation protocols. The coordination element includes internal and external coordination with other groups. Internal activities have traditionally included collaboration with several departments: incentive, workforce education and training, clean energy transportation and DR programs; decarbonization strategies, policy, regulatory, and corporate affairs; and emerging technology and product teams.	
Market Actors necessary for success: <ul style="list-style-type: none"> • PG&E teams • Other utilities • Industry organizations 	
Solicitation Strategy: Not applicable	Transition Plan: Not applicable
Expected Program Life: The Codes & Standards program (including all the subprograms) will continue if it remains cost-effective and working towards energy efficiency goals.	Short Term Plan Coordination, analysis, reporting support within PG&E and with other stakeholders to support program objectives.
Cost Effectiveness Not Applicable	Long Term Outlook Expanded coordination and scope towards fully integrating new construction with codes and standards, and robust coordination with market transformation, emerging technologies, and other efforts

Program Name: Planning and Coordination	
Proposed Annual Budgets for 2024-2027: 2024: \$1,186,308 2025: \$1,185,664 2026: \$1,189,938 2027: \$1,187,970	Anticipated directional and scale changes in budget for years 2028-2031: Relatively flat budget
Implementation Plan: https://cedars.sound-data.com/documents/download/2051/main/	

PACIFIC GAS AND ELECTRIC COMPANY
CHAPTER 4
ATTACHMENT G
NEW CONSTRUCTION PROGRAM CARDS

Program Name: New Construction - Residential - All Electric	
Program ID: SW_NC_Res_electric	
New / Existing	
Link to implementation plan if existing (see D.21-05-031): See below	
Portfolio Segment: Market Support	Implementation Party: TRC Solutions
Applicable Sector: Residential	Market Sub-Sector: Single-family, low-rise multifamily, and manufactured housing
Sector Challenge: Lack of education on electrification and misperceptions about fuel-substitution	Sector Opportunity: <ul style="list-style-type: none"> • Opportunity to enroll homes in electrification programs on a large scale with production builders • Provide a pathway to serve affordable and disadvantaged communities • Address the distinct needs of alterations projects • Support future codes and standards which impact the entire sector
Known Equity Concerns in the Selected Markets: New construction programs target builders and developers as opposed to individual customers. Builders are generally not incentivized to invest in EE measures beyond minimum code standards	Proposed Solutions to Equity Concerns: TRC intends to target to achieve 20% of program dwelling units and savings from hard-to-reach (HTR) and disadvantaged community (DAC) populations.
Program Description: The Statewide New Construction All Electric Program is a residential new construction program, serving all-electric new construction projects and alterations where the participant will be installing electric appliances and equipment or is completely removing all industry-standard natural gas appliances and equipment to install electric appliances and equipment, constituting a complete change in technology. Additionally, support data collection to inform future codes and standards proposals.	
Intervention Strategy: Technical assistance, incentive, outreach	2024-2027 Forecast Program Metrics: 30,818,450 kWh, 1,685,576 Therms, \$53,009,030 TSB
High-level description of delivery workforce including necessary scale and its risks: The Program intends to: educate potential participants and stakeholders on the features of all-electric homes; enroll projects; emphasize the installation of advanced energy efficiency measures; and facilitate future opportunities through non-incentivized, prerequisite measures that position homes to install high-impact demand response technologies more easily in the future.	
Market Actors necessary for success: <ul style="list-style-type: none"> • Trade/Industry Organizations and Networks • Builders • Energy Consultants • Design Teams 	

Program Name: New Construction - Residential - All Electric	
<ul style="list-style-type: none"> • Contractors • Manufactured housing factories and retailers • Property managers 	
Solicitation Strategy: Third Party Solicited	Transition Plan: Not applicable
Expected Program Life: 2024-TBD ^(a)	Short Term Plan Continue to ramp-up third-party program to full implementation
Cost Effectiveness TRC: 1.40	Long Term Outlook TBD
Proposed Annual Budgets for 2024-2027¹: 2024: \$8,647,763 2025: \$8,600,920 2026: \$8,567,403 2027: \$8,422,519	Anticipated directional and scale changes in budget for years 2028-2031: Flat budget anticipated
Implementation Plan: https://cedars.sound-data.com/documents/download/2050/main/	
^(a) The inclusion of a program forecast for this program ID beyond the current implementation party's contract termination date does not guarantee that the party's current contract will be extended. PG&E will evaluate vendor performance and determine the appropriate action.	

Program Name: New Construction - Residential - Mixed Fuel	
Program ID: SW_NC_Res_mixed	
New / Existing	
Link to implementation plan if existing (see D.21-05-031): See below	
Portfolio Segment: Market Support	Implementation Party: TRC Solutions
Applicable Sector: Residential	Market Sub-Sector: Single family, low-rise multifamily, and alterations
Sector Challenge: Lack of education about electrification and misperceptions about fuel-substitution	Sector Opportunity: <ul style="list-style-type: none"> • Opportunity to enroll homes in electrification programs on a large scale with production builders • Provide a pathway to serve affordable and disadvantaged communities • Address the distinct needs of alterations projects • Support future codes and standards which impact the entire sector
Known Equity Concerns in the Selected Markets: New construction programs target builders and developers as opposed to individual customers. Builders are generally not	Proposed Solutions to Equity Concerns: TRC intends to target to achieve 20% of program dwelling units and savings from HTR and DAC populations

¹ Total SW budget, PA costs excluded

Program Name: New Construction - Residential - Mixed Fuel	
incentivized to invest in EE measures beyond minimum code standards	
Program Description: The Statewide New Construction Mixed Fuel Program is a residential new construction program, serving mixed fuel new construction projects that are too far into design to switch to all-electric, and alterations in which the participant will be installing electric appliances and equipment to replace fossil fuel burning appliances and equipment. Additionally, support data collection to inform future codes and standards proposals.	
Intervention Strategy: Technical assistance, incentive, outreach	2024-2027 Forecast Program Metrics: 64,807,465 kWh, 59,959 Therms, \$23,366,046 TSB
High-level description of delivery workforce including necessary scale and its risks: The Program intends to: educate potential participants and stakeholders on the features of mixed-fuel and electric-ready homes; enroll projects; emphasize the installation of advanced energy efficiency measures; and facilitate future opportunities through non-incentivized, prerequisite measures that position homes to install electric equipment and appliances, as well as high-impact demand response technologies more easily in the future.	
Market Actors necessary for success: <ul style="list-style-type: none"> • Trade/Industry Organizations and Networks • Builders • Energy Consultants • Design Teams • Contractors • Property Managers 	
Solicitation Strategy: Third Party Solicited	Transition Plan: Not applicable
Expected Program Life: 2024-TBD ^(b)	Short Term Plan Continue ramp-up third-party program to full implementation
Cost Effectiveness TRC: 1.49	Long Term Outlook TBD
Proposed Annual Budgets for 2024-2027²: 2024: \$3,093,053 2025: \$3,156,096 2026: \$3,103,547 2027: \$3,345,983	Anticipated directional and scale changes in budget for years 2028-2031: Flat budget anticipated
Implementation Plan: https://cedars.sound-data.com/documents/download/2308/main/	
^(b) The inclusion of a program forecast for this program ID beyond the current implementation party's contract termination date does not guarantee that the party's current contract will be extended. PG&E will evaluate vendor performance and determine the appropriate action.	

² Total SW budget, PA costs excluded

Program Name: New Construction - NonResidential - All Electric	
Program ID: PGE_SW_NC_NonRes_Ag_electric, PGE_SW_NC_NonRes_Com_electric, PGE_SW_NC_NonRes_Ind_electric, PGE_SW_NC_NonRes_Pub_electric, and PGE_SW_NC_NonRes_Res_electric	
Existing	
Link to implementation plan if existing (see D.21-05-031): See below	
Portfolio Segment: Market Support	Implementation Party: Willdan
Applicable Sector: Agricultural, Commercial, Industrial, Public, Residential	Market Sub-Sector: All New Construction and Alterations, High Rise Multifamily (NC and Alts)
Sector Challenge: New nonresidential buildings and processes are inefficient and costly to implement designs that exceed Title 24 or industry standard practice (ISP)	Sector Opportunity: Opportunity to provide education and incentives to influence the nonresidential design and developer community to design buildings and/or processes that exceed Title 24 and/or ISP, to drive the design community to employ advanced energy efficiency and decarbonization technologies, and to support future codes and standards which impact the entire sector.
Known Equity Concerns in the Selected Markets: <ul style="list-style-type: none"> • Builders not incentivized to invest in EE beyond minimum code standards • Nearly impossible to adjust building design after design phase completed • Customers cannot accept utility incentives near construction end 	Proposed Solutions to Equity Concerns: <ul style="list-style-type: none"> • Monetize utility allowances • Incentive multiplier-HTR customers receive 40% higher incentive • Upfront incentive - Up to 50% paid after entitlement and construction • Timely outreach - Engage customers before or during design phase to prioritize EE
Program Description: The Statewide New Construction Non-Residential All-Electric Program serves commercial, public, high-rise multifamily, industrial, and agricultural new construction and major alterations facilities across all California IOU service territories. The objective of the program is to enroll and influence the nonresidential new construction market to achieve deeper energy savings and decarbonize through key activities such as outreach and education, real-time energy modeling, verification, and data collection to inform future codes and standards proposals.	
Intervention Strategy: Technical Assistance, Incentive	2024-2027 Forecast Program Metrics: 30,544,857 kWh, 5,455,054 Therms, \$102,226,963 TSB
High-level description of delivery workforce including necessary scale and its risks: Marketing and outreach to non-residential and multifamily developers/builders; sector specific marketing and engineering support team; multifamily and non-residential decarbonization design assistance/Title 24 modeling; Utility Allowance modeling	
Market Actors necessary for success: <ul style="list-style-type: none"> • Architects/Engineers (A/E) • Owners/Developers • Utility account representatives 	

Program Name: New Construction - NonResidential - All Electric	
Solicitation Strategy: Third party Solicited	Transition Plan: Not applicable
Expected Program Life: 2024-TBD ^(c)	Short Term Plan Continue ramp-up third-party program to full implementation
Cost Effectiveness TRC: 1.05	Long Term Outlook TBD
Proposed Annual Budgets for 2024-2027³: 2024: \$10,466,573 2025: \$16,405,208 2026: \$13,310,024 2027: \$16,637,530	Anticipated directional and scale changes in budget for years 2028-2031: Flat budget anticipated
Implementation Plan: https://cedars.sound-data.com/documents/download/1984/main/	
^(c) The inclusion of a program forecast for this program ID beyond the current implementation party's contract termination date does not guarantee that the party's current contract will be extended. PG&E will evaluate vendor performance and determine the appropriate action.	

Program Name: New Construction - NonResidential – Mixed Fuel	
Program ID: PGE_SW_NC_NonRes_Ag_mixed, PGE_SW_NC_NonRes_Com_mixed, PGE_SW_NC_NonRes_Ind_mixed, PGE_SW_NC_NonRes_Pub_mixed, and PGE_SW_NC_NonRes_Res_mixed	
Existing Link to implementation plan if existing (see D.21-05-031): See below	
Portfolio Segment: Market Support	Implementation Party: Willdan
Applicable Sectors: Agricultural, Commercial, Industrial, Public, Residential	Market Sub-Sector: All New Construction and Alterations, High Rise Multifamily (NC and Alts)
Sector Challenge: New nonresidential buildings and processes are inefficient and costly to implement designs that exceed Title 24 or industry standard practice (ISP)	Sector Opportunity: Opportunity to provide education and incentives to influence the non-residential design and developer community to design buildings and/or processes that exceed Title 24 and/or ISP, to drive the design community to employ advanced energy efficiency and decarbonization technologies, and to support future codes and standards which impact the entire sector.
Known Equity Concerns in the Selected Markets: <ul style="list-style-type: none">Builders not incentivized to invest in EE beyond minimum code standards	Proposed Solutions to Equity Concerns: <ul style="list-style-type: none">Monetize utility allowancesIncentive multiplier-HTR customers receive 40% higher incentive

³ Total SW budget, PA costs excluded

Program Name: New Construction - NonResidential – Mixed Fuel	
<ul style="list-style-type: none"> Nearly impossible to adjust building design after design phase completed Customers cannot accept utility incentives near construction end 	<ul style="list-style-type: none"> Upfront incentive-Up to 50% paid after entitlement and construction Timely outreach-Engage customers before or during design phase to prioritize EE
Program Description: The Statewide New Construction Non-Residential Mixed Fuel program serves commercial, public, high-rise multifamily, industrial, and agricultural new construction and major alterations facilities across all California IOU service territories. The objective of the program is to enroll and influence the non-residential new construction market to achieve deeper energy savings and decarbonize through key activities such as outreach and education, real-time energy modeling, verification, and data collection to inform future codes and standards proposals.	
Intervention Strategy: Technical Assistance, Incentive	2024-2027 Forecast Program Metrics: 116,273,499 kWh 4,695,587 Therms \$147,764,196 TSB
High-level description of delivery workforce including necessary scale and its risks: Marketing and outreach to nonresidential and multifamily developers/builders; sector specific marketing and engineering support team; multifamily and non-residential decarbonization design assistance/Title 24 modeling; Utility Allowance modeling	
Market Actors necessary for success: <ul style="list-style-type: none"> Architects/Engineers (A/E) Owners/Developers Utility account representatives 	
Solicitation Strategy: Third Party Solicited	Transition Plan: Not applicable
Expected Program Life: 2024 - TBD ^(d)	Short Term Plan Continue ramp-up third-party program to full implementation
Cost Effectiveness TRC: 0.99	Long Term Outlook TBD
Proposed Annual Budgets for 2024-2027⁴: 2024: \$16,627,662 2025: \$16,423,773 2026: \$12,612,048 2027: \$9,510,040	Anticipated directional and scale changes in budget for years 2028-2031: Flat budget anticipated
Implementation Plan: https://cedars.sound-data.com/documents/download/1985/main/	
^(d) The inclusion of a program forecast for this program ID beyond the current implementation party's contract termination date does not guarantee that the party's current contract will be extended. PG&E will evaluate vendor performance and determine the appropriate action	

⁴ Total SW budget, PA costs excluded

PACIFIC GAS AND ELECTRIC COMPANY
CHAPTER 4
ATTACHMENT H
LOCAL GOVERNMENT PARTNERSHIPS PROGRAM CARDS

Program Name: Central California Local Government Partnership	
Program ID: PGE_PUB_004	
Existing	
Link to implementation plan if existing (see D.21-05-031) See below	
Portfolio Segment: Market Support	Implementation Party: San Joaquin Valley Clean Energy Organization (SJVCEO)
Applicable Sector: Public	Market Sub-Sector: Public, K-12, special districts
Sector Challenge: Lack of understanding, time, and access to EE resources	Sector Opportunity: Scaled energy savings and reduced energy costs with an aware and educated customer base
Known Equity Concerns in the Selected Markets: Access to resources and increased costs due to rural disadvantaged communities (DAC) and hard-to-reach (HTR) locations	Proposed Solutions to Equity Concerns: Create a common approach to support efficient systems while maintaining the ability to respond to local concerns and avoiding labor and travel costs associated with accessing rural communities
Program Description: Central California Local Government Partnership is a public agency focused program to help hard to reach and disadvantaged communities access, understand and participate in energy efficiency through IOU administered, third party programs. Builds on existing relationships, data, processes, and experiences to align to the PG&E portfolio vision for local government partnerships (LGPs).	
Intervention Strategy: Technical assistance, capacity building	2024-2027 Forecast Program Metrics: Not Applicable
High-level description of delivery workforce including necessary scale and its risks: The program intends to provide interpersonal customer attention blended with opportunity aggregation to support knowledge transfer among public agencies, facilitation of EE projects with deeper savings and more comprehensive EE tactics, leveraging of Strategic Energy Plans, and creation of a common platform through data and approach. All in largely DAC and HTR communities.	
Market Actors necessary for success: <ul style="list-style-type: none"> • Energy Champions • Local elected officials • Public Agency Staff 	
Solicitation Strategy: Third Party Solicited	Transition Plan: Not applicable
Expected Program Life: 2024-2027 ^(a)	Short Term Plan Increased EE education and initiated projects within regional agencies
Cost Effectiveness TRC: Not Applicable	Long Term Outlook Regional agencies integrate EE as standard practice
Proposed Annual Budgets for 2024-2027: 2024: \$816,229 2025: \$817,140 2026: \$822,009	Anticipated directional and scale changes in budget for years 2028-2031: Small increase

Program Name: Central California Local Government Partnership	
2027: \$801,429	
Implementation Plan: https://cedars.sound-data.com/documents/download/1758/main/	
^(a) The inclusion of a program forecast for this program ID beyond the current implementation party's contract termination date does not guarantee that the party's current contract will be extended. PG&E will evaluate vendor performance and determine the appropriate action.	

Program Name: Central Coast Local Government Partnership	
Program ID: PGE_PUB_001	
Existing	
Link to implementation plan if existing (see D.21-05-031) See below	
Portfolio Segment: Market Support	Implementation Party: The Energy Coalition
Applicable Sector: Public	Market Sub-Sector: Public Agencies, K-12 schools, Water/Wastewater agencies
Sector Challenge: Limited Staffing, technical expertise, and access to resources, and lengthy decision-making timelines	Sector Opportunity: Increased participation in EE program and adoption of EE measures
Known Equity Concerns in the Selected Markets: Lack of access to EE products and services	Proposed Solutions to Equity Concerns: Focus on ensuring greater access to EE and DR products and services
Program Description: The Central Coast Local Government Partnership Program is available to public agencies within the County of San Luis Obispo and parts of the County of Santa Barbara serviced by PG&E. It intends to provide customized project management, engineering, and financing support services as a “one-stop shop” to enable agencies such as local governments, special districts, and K-12 public schools, to identify and implement cost-effective energy retrofits that generate cost savings.	
Intervention Strategy: Technical assistance, audit, financing support	2024-2027 Forecast Program Metrics: Not Applicable
High-level description of delivery workforce including necessary scale and its risks: The Program will provide a dedicated project manager for each agency as a single point of contact for streamlined delivery of services and to ensure excellent customer service.	
Market Actors necessary for success: <ul style="list-style-type: none"> • Engineering Firms • ESCOs • Financial Partners • Contractors 	
Solicitation Strategy: Third Party Solicited	Transition Plan: Not applicable
Expected Program Life: 2024-2027 ^(b)	Short Term Plan Increased EE education and initiated projects within regional agencies

Program Name: Central Coast Local Government Partnership	
Cost Effectiveness TRC: Not Applicable	Long Term Outlook Regional agencies integrate EE as standard practice
Proposed Annual Budgets for 2024-2027: 2024: \$401,592 2025: \$435,136 2026: \$449,960 2027: \$343,078	Anticipated directional and scale changes in budget for years 2028-2031: Small increase
Implementation Plan: https://cedars.sound-data.com/documents/download/1756/main/	
^(b) The inclusion of a program forecast for this program ID beyond the current implementation party's contract termination date does not guarantee that the party's current contract will be extended. PG&E will evaluate vendor performance and determine the appropriate action.	

Program Name: San Francisco Local Government Partnership	
Program ID: PGE_PUB_006	
Existing	
Link to implementation plan if existing (see D.21-05-031) See Below	
Portfolio Segment: Market Support	Implementation Party: City and County of San Francisco, Department of the Environment (SFE)
Applicable Sector: Residential and Commercial	Market Sub-Sector: HTR and SMB customers, Residential
Sector Challenge: Lack of capital, awareness and time; EE interventions not aligned with customer needs; and DAC and HTR customers are expensive to reach	Sector Opportunity: Significantly expand use and application of energy data to effectively reach DAC and HTR customer groups
Known Equity Concerns in the Selected Markets: Lack of access to EE products and services	Proposed Solutions to Equity Concerns: Focus on customers meeting HTR criteria, ensuring greater access to EE and DR products and services
Program Description: The San Francisco Local Government Partnership Program targets hard-to-reach residential and Small- and Medium-Sized Businesses (SMB) customers with high energy savings potential and propensity, using a two-stage process - employing energy consumption analysis and then layering with City datasets to identify prospective customers with high savings potential and propensity to participate.	
Intervention Strategy: Marketing, Outreach, Audits, Technical Assistance	2024-2027 Forecast Program Metrics: Not Applicable
High-level description of delivery workforce including necessary scale and its risks: After a two-stage process to identify potential participants, the program staff use innovative outreach methods to target HTR customers, then provides on-site assessments and energy coaching services to SMBs to scope projects and pass these leads onto third-party implementers.	
Market Actors necessary for success: <ul style="list-style-type: none"> PG&E Staff BayREN Ohm Connect 	

Program Name: San Francisco Local Government Partnership	
Solicitation Strategy: Third Party Solicited	Transition Plan: Not applicable
Expected Program Life: 2024-2027 ^(c)	Short Term Plan <ul style="list-style-type: none"> Increased awareness and resulting number of eligible customers Data collected on site informs program optimization and targeting
Cost Effectiveness TRC: Not Applicable	Long Term Outlook Increase penetration rate in residential and HTR SMB by 5% annually
Proposed Annual Budgets for 2024-2027: 2024: \$1,117,666 2025: \$1,134,868 2026: \$1,169,096 2027: \$1,184,803	Anticipated directional and scale changes in budget for years 2028-2031: Small increase
Implementation Plan: https://cedars.sound-data.com/documents/download/1761/main/	
^(c) The inclusion of a program forecast for this program ID beyond the current implementation party's contract termination date does not guarantee that the party's current contract will be extended. PG&E will evaluate vendor performance and determine the appropriate action.	

Program Name: Marin Local Government Partnership	
Program ID: PGE_PUB_002	
Existing	
Link to implementation plan if existing (see D.21-05-031) See below	
Portfolio Segment: Market Support	Implementation Party: County of Marin
Applicable Sector: Public	Market Sub-Sector: Public and HTR Commercial
Sector Challenge: Limited availability to consistent technologies, resource programs and financing opportunities	Sector Opportunity: Increased participation in EE program and adoption of EE measures
Known Equity Concerns in the Selected Markets: Lack of access to EE products and services	Proposed Solutions to Equity Concerns: Focus on ensuring greater access to EE and DR products and services
Program Description: The Marin Local Government Partnership Program will provide energy efficiency and climate action plan services and support to Marin's public sector including the County, cities, towns, school districts and special districts. The program will also engage with the SMB HTR community in the San Rafael Canal area to connect them with third-party efficiency resources.	
Intervention Strategy: Technical Assistance, Referrals	2024-2027 Forecast Program Metrics: Not Applicable
High-level description of delivery workforce including necessary scale and its risks:	

Program Name: Marin Local Government Partnership	
The intent of the program is to focus on building relationships with public sector staff to assist them in identifying EE opportunities and navigating resource programs and financing opportunities. Through existing networks and established relationships in the community, the program will provide a means for PG&E, third-party program providers, and vendors to more cost effectively reach public and HTR sector customers.	
Market Actors necessary for success: <ul style="list-style-type: none"> • Marin Climate and Energy Partnership • CBOs • IOU Staff • Public Agencies • Marin County Staff 	
Solicitation Strategy: Third Party Solicited	Transition Plan: Not applicable
Expected Program Life: 2024-2027 ^(d)	Short Term Plan Increased understanding of energy use and programs available for public facilities
Cost Effectiveness TRC: Not Applicable	Long Term Outlook Increased collaboration among small jurisdictions, increased energy savings and more efficient public facility stock
Proposed Annual Budgets for 2024-2027: 2024: \$174,090 2025: \$175,822 2026: \$178,765 2027: \$181,096	Anticipated directional and scale changes in budget for years 2028-2031: Small increase
Implementation Plan: https://cedars.sound-data.com/documents/download/1763/main/	
^(d) The inclusion of a program forecast for this program ID beyond the current implementation party's contract termination date does not guarantee that the party's current contract will be extended. PG&E will evaluate vendor performance and determine the appropriate action.	

Program Name: Redwood Local Government Partnership	
Program ID: PGE_PUB_003	
Existing	
Link to implementation plan if existing (see D.21-05-031) See below	
Portfolio Segment: Market Support	Implementation Party: Redwood Coast Energy Authority
Applicable Sector: Public	Market Sub-Sector: Public Agencies and Local Governments
Sector Challenge: Rural and HTR communities need additional assistance to participate in EE programs and grow local capacity.	Sector Opportunity: Increased participation in EE programs and potential to pursue deeper retrofits in the future.
Known Equity Concerns in the Selected Markets: Lack of access to EE products and services	Proposed Solutions to Equity Concerns:

Program Name: Redwood Local Government Partnership	
	Focus on ensuring greater access to EE and DR products and services
Program Description: The Redwood Local Government Partnership Program will assist local governments and public agencies with becoming energy efficiency leaders. The program will support cost-effective delivery of resource program services to the public and HTR sectors of Humboldt County and will use an integrated energy management approach to services that presents customers with progressively stepped solutions encouraging deeper retrofits.	
Intervention Strategy: Financing, Audit, Referrals	2024-2027 Forecast Program Metrics: Not Applicable
High-level description of delivery workforce including necessary scale and its risks: The intent of the program is to increase opportunities to save energy in local public building and for HTR customers to save energy by reducing administrative and participant costs through outreach, prequalification, assessments, energy advising and project bundling.	
Market Actors necessary for success: <ul style="list-style-type: none"> Public Agency Staff Local Government Officials Local Educational Agencies NGOs 	
Solicitation Strategy: Third Party Solicited	Transition Plan: Not applicable
Expected Program Life: 2024-2027 ^(e)	Short Term Plan Pipeline of viable project referrals in place, services rendered, and projects completed by resource programs as a result of RCEW referrals
Cost Effectiveness TRC: Not Applicable	Long Term Outlook <ul style="list-style-type: none"> Programs intends to leverage RCEW's outreach and assessment activities to meet their savings goals PG&E intends to develop new strategies to further reduce participant costs in coordination with RCEW
Proposed Annual Budgets for 2024-2027: 2024: \$479,179 2025: \$480,522 2026: \$484,380 2027: \$485,952	Anticipated directional and scale changes in budget for years 2028-2031: Small increase
Implementation Plan: https://cedars.sound-data.com/documents/download/1710/main/	
^(e) The inclusion of a program forecast for this program ID beyond the current implementation party's contract termination date does not guarantee that the party's current contract will be extended. PG&E will evaluate vendor performance and determine the appropriate action.	

Program Name: San Mateo Local Government Partnership	
Program ID: PGE_PUB_005	
Existing	
Link to implementation plan if existing (see D.21-05-031) See below	
Portfolio Segment: Market Support	Implementation Party: City and County Association of Governments
Applicable Sector: Public	Market Sub-Sector: Public, K-12, HTR SMBs
Sector Challenge: Lack of knowledge about available resources and services; lack of funding; lack of key decision maker support with buy-in and prioritization of EE improvements.	Sector Opportunity: Increased participation in EE program and adoption of EE measures
Known Equity Concerns in the Selected Markets: Lack of access to EE products and services	Proposed Solutions to Equity Concerns: Focus on ensuring greater access to EE and DR products and services
Program Description: San Mateo Local Government Partnership assists public agencies, K-12 public schools, small, and small hard-to-reach businesses in accessing energy efficiency programs, trade professionals, and financing opportunities. The program provides coordination, outreach, referrals, and educational resources to help community members pursue energy efficiency projects. Through the Regionally Integrated Climate Action Planning Suite (RICAPS) initiative, the program also assists cities in meeting GHG reduction goals by developing annual community inventories and hosting a monthly working group to support energy efficiency and other measures in climate action planning.	
Intervention Strategy: Technical assistance, outreach, referrals, audits	2024-2027 Forecast Program Metrics: Not Applicable
High-level description of delivery workforce including necessary scale and its risks: The program will set up meetings with municipalities, special districts, and school districts to discuss energy saving and energy management opportunities, and when available, results of benchmarking analysis and remote audits.	
Market Actors necessary for success: <ul style="list-style-type: none"> • San Mateo County Office of Education • San Mateo County Green Business Program • BayREN • CBOs • Local Governments 	
Solicitation Strategy: Third Party Solicited	Transition Plan: Not applicable
Expected Program Life: 2024-2027 ^(f)	Short Term Plan Increased understanding of energy use and optimal energy use time
Cost Effectiveness TRC: Not Applicable	Long Term Outlook Deep savings and reduction in energy usage at zero or low cost
Proposed Annual Budgets for 2024-2027: 2024: \$580,598	Anticipated directional and scale changes in budget for years 2028-2031:

Program Name: San Mateo Local Government Partnership	
2025: \$569,800 2026: \$573,926 2027: \$575,110	Small increase
Implementation Plan: https://cedars.sound-data.com/documents/download/1762/main/	
^(f) The inclusion of a program forecast for this program ID beyond the current implementation party's contract termination date does not guarantee that the party's current contract will be extended. PG&E will evaluate vendor performance and determine the appropriate action.	

Program Name: Sierra Local Government Partnership	
Program ID: PGE_Pub_007	
New / Existing	
Link to implementation plan if existing (see D.21-05-031) See below	
Portfolio Segment: Market Support	Implementation Party: Sierra Business Council
Applicable Sector: Public	Market Sub-Sector: HTR/DAC, SMB, Public, K-12 Schools, Special Districts
Sector Challenge: Lack of financial resources, need for staff support and lack of data to support decision-making by local government leaders.	Sector Opportunity: Increased participation in EE program and adoption of EE measures
Known Equity Concerns in the Selected Markets: Increased cost of communicating, building capacity, sharing information, and securing EE engagement in HTR/DAC communities	Proposed Solutions to Equity Concerns: <ul style="list-style-type: none"> • Supplement local government staff capacity • Increase outreach efficiency to offset distance/time/cost of working in rural HTR areas • Maximize each project's energy savings to increase overall savings and help offset cost of small but locally beneficial projects
Program Description: The Sierra Local Government Partnership Program is designed to further PG&E/CPUC energy efficiency goals through energy efficiency project development activities, planning and policy work, analysis, and outreach/education efforts designed to motivate public sector leaders and unserved Small- and Medium-Sized Businesses (SMB) to increase both capacity and on-the-ground energy efficiency action, especially in rural HTR and DACs of the Sierra Nevada.	
Intervention Strategy: Email and phone outreach, direct mailing, traditional media, distributor relationships, trainings, presentations, interactive web tool, and networking with local organizations	2024-2027 Forecast Program Metrics: Not Applicable
High-level description of delivery workforce including necessary scale and its risks:	

Direct consultation with public sector jurisdictions to simplify the process of choosing the right measures, finding and hiring contractors to do the work, and learning about available incentives and financial assistance.	
Market Actors necessary for success: <ul style="list-style-type: none"> • Trade Pros • Local Governments • Community Organizations • Energy Service Companies 	
Solicitation Strategy: Third Party Solicited	Transition Plan: Not applicable
Expected Program Life: 2024-2027 ^(g)	Short Term Plan <ul style="list-style-type: none"> • Targeted outreach to develop project pipeline for public sector, HTR, and DAC accounts • Assessment and development of funding opportunities, including consultations to identify financing options and assist with financing applications.
Cost Effectiveness TRC: Not Applicable	Long Term Outlook <ul style="list-style-type: none"> • Increased local government EE leadership • Increased community knowledge and benefits • Meaningful contribution by rural, HTR, and DAC local governments to statewide energy and emissions goals • Widespread local government EE expertise
Proposed Annual Budgets for 2024-2027: 2024: \$744,070 2025: \$745,074 2026: \$749,726 2027: \$750,640	Anticipated directional and scale changes in budget for years 2028-2031: Small increase
Implementation Plan: https://cedars.sound-data.com/documents/download/1759/main/	
^(g) The inclusion of a program forecast for this program ID beyond the current implementation party's contract termination date does not guarantee that the party's current contract will be extended. PG&E will evaluate vendor performance and determine the appropriate action.	

Program Name: Sonoma Local Government Partnership	
Program ID: PGE_PUB_008	
Existing	
Link to implementation plan if existing (see D.21-05-031) See below	
Portfolio Segment: Market Support	Implementation Party: County of Sonoma Energy and Sustainability Division
Applicable Sector: Public	Market Sub-Sector: Public, K-12 Schools, Special Districts

Program Name: Sonoma Local Government Partnership	
Sector Challenge: Lack of knowledge of available resources and services, lack of funding, lack of key decision maker support with buy-in and prioritization of EE improvements	Sector Opportunity: Provide no-cost behavioral training and no-cost professional training to industry professionals in facilities that generally do not have funds allocated to such services
Known Equity Concerns in the Selected Markets: Lack of access to EE products and services	Proposed Solutions to Equity Concerns: Focus on ensuring greater access to EE and DR products and services
Program Description: The Sonoma Local Government Partnership Program provides a suite of comprehensive services aimed primarily at reducing energy usage, reducing energy costs, and assisting with access to existing and future resources and services. These services are focused on facilitating upgrades to Public Facilities, K-12 Schools, Special Districts, HTR, and DAC customers located within Sonoma County.	
Intervention Strategy: Outreach, direct mail, trainings, presentations	2024-2027 Forecast Program Metrics: Not Applicable
High-level description of delivery workforce including necessary scale and its risks: The program intends to deliver services utilizing direct contact through phone and in-person meetings, workforce development trainings, partnering with outside agencies, direct mail and the use of collateral.	
Market Actors necessary for success: <ul style="list-style-type: none"> • PG&E Staff • Energy Code Ace • Sonoma County Energy Independence Program • Energy and Sustainability Division 	
Solicitation Strategy: Third Party Solicited	Transition Plan: Not applicable
Expected Program Life: 2024-2027 ^(h)	Short Term Plan Investigate, analyze, and identify no-cost and low-cost energy efficiency and demand response upgrade opportunities
Cost Effectiveness TRC: Not Applicable	Long Term Outlook Deep savings and reduction in energy usage at zero or low cost
Proposed Annual Budgets for 2024-2027: 2024: \$418,218 2025: \$419,638 2026: \$423,313 2027: \$402,886	Anticipated directional and scale changes in budget for years 2028-2031: Small increase
Implementation Plan: https://cedars.sound-data.com/documents/download/1777/main/	
^(h) The inclusion of a program forecast for this program ID beyond the current implementation party's contract termination date does not guarantee that the party's current contract will be extended. PG&E will evaluate vendor performance and determine the appropriate action.	

PACIFIC GAS AND ELECTRIC COMPANY
CHAPTER 4
ATTACHMENT I
WORKFORCE EDUCATION AND TRAINING PROGRAM CARDS

Program Name: WE&T Integrated Energy Education and Training	
Program ID: PGE21071	
Existing	
Link to implementation plan if existing (see D.21-05-031) See below	
Portfolio Segment: Market Support	Implementation Party: PG&E
Applicable Sector: Workforce Education and Training (WE&T)	Market Sub-Sector: Members of the energy workforce ¹ and post-secondary students and educators
Sector Challenge: Education institutions need to train their students on a wide range of topics beyond energy efficiency. Currently, energy efficiency programs require a significant time commitment and the energy workforce will likely benefit from shorter and job-specific energy efficiency training. PG&E and WE&T do not always have a direct path to engage with the current energy workforce or people enrolled in formal energy efficiency training programs.	Sector Opportunity: Expand WE&T audience and reach them through targeted marketing and collaborations with community and training organizations that train members of the future and current energy workforce. Support such training organizations to expand and enhance the energy efficiency part of their training programs. Through easily accessible training programs and resources, provide the current energy workforce with energy efficiency knowledge and skills that they can use on the job and that will lead to saving energy.
Known Equity Concerns in the Selected Markets: Some members of the workforce may experience barriers that limit access to training or limit access to information about available training.	Proposed Solutions to Equity Concerns: Leverage targeted marketing, partnerships and online training resources to increase awareness and remove barriers.
Program Description: The Workforce Education & Training Integrated Energy Education and training (IEET) program has two components: (1) Technical Upskill - Members of the current workforce are trained to decarbonize the buildings they are designing, building, operating, and maintaining; and (2) Core Energy Education Collaboration - PG&E collaborates with post-secondary education institutions that are training the incoming generation of building professionals to help those institutions train their students and enhance the energy efficiency parts of their training programs. Both components aim to improve the knowledge and skills of the California energy workforce to help PG&E and California meet their energy, electrification, and decarbonization goals.	
Intervention Strategy: Core Energy Education Collaboration, Technical Upskill	2024-2027 Forecast Program Metrics: Not Applicable
High-level description of delivery workforce including necessary scale and its risks: IEET utilizes a range of services, products, and resources to support the energy workforce in designing, building, maintaining, and operating buildings and building systems to be more energy efficient and to optimize comfort. These include instructor-led training, online resources	

¹ “Energy workforce” refers to people in energy efficiency, electrification, and decarbonization occupations.

Program Name: WE&T Integrated Energy Education and Training	
and on-demand training, tool lending library, support of relevant certification programs, fellowships, and collaborations with other training organizations.	
Market Actors necessary for success: <ul style="list-style-type: none"> • Members of the energy workforce • Post-secondary institutions that are training the incoming generation of the energy workforce 	
Solicitation Strategy: Not applicable (IOU-implemented)	Transition Plan: Not applicable
Expected Program Life: 2024 - TBD	Short Term Plan: Increased student awareness and participation in classes; WE&T's reach expanded through collaborations with other training organizations; increased focus on electrification training
Cost Effectiveness TRC: Not Applicable	Long Term Outlook EE educational opportunities widely available and accessible; training organizations continue to update and use resources PG&E provided and/or helped to develop; electrification training makes up an increasing percentage of class offerings; people use knowledge and skills on the job.
Proposed Annual Budgets for 2024-2027: 2024: \$7,922,567 2025: \$8,000,461 2026: \$7,766,761 2027: \$7,842,579	Anticipated directional and scale changes in budget for years 2028-2031: Relatively flat budget
Implementation Plan: https://cedars.sound-data.com/documents/download/2038/main/	

Program Name: Workforce Education and Training Career & Workforce Readiness	
Program ID: SW_WET_Work	
Existing	
Link to implementation plan if existing (see D.21-05-031): See below	
Portfolio Segment: Equity	Implementation Party: Strategic Energy Innovations (SEI)
Applicable Sector: Workforce Education and Training	Market Sub-Sector: Disadvantaged Workers ²

² Per D.18-10-008 (October 11, 2018), "Decision Addressing Workforce Requirements and Third Party Contract Terms & Conditions", a disadvantaged worker is "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 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."

Program Name: Workforce Education and Training Career & Workforce Readiness	
Sector Challenge: Disadvantaged workers have barriers to entering training programs and the energy workforce and benefit from specific services to overcome those barriers and to remain employed in the energy workforce.	Sector Opportunity: Through a statewide network of training and workforce development partners, provide high quality energy training, social support services, and placement into energy-related jobs while reducing statewide energy use and greenhouse gas emissions
Known Equity Concerns in the Selected Markets: Disadvantaged workers have barriers to entering energy training programs and to entering and remaining in the energy workforce.	Proposed Solutions to Equity Concerns: Collaborate with regional training and workforce development partners and provide focused outreach and marketing in regions with a high percentage of disadvantaged workers to deliver technical training, social services, and job placement and retention services.
Program Description: The Workforce Education and Training Career and Workforce Readiness program provides social services to and places disadvantaged workers into jobs where they can apply the energy efficiency knowledge and skills acquired during training. Job retention services are also provided for up to 12 months to participants placed in jobs.	
Intervention Strategy: Technical Training and partnerships	2024-2027 Forecast Program Metrics: Not Applicable
High-level description of delivery workforce including necessary scale and its risks: The intent of the program is for technical training partners to deliver training content directly to program participants with curriculum support from an implementer. The implementer and the technical training partners will also help connect participants to other service providers and industry partners. Risks include an unforeseen amount of attrition leading to fewer participants remaining in the jobs where they were placed, and changes in the market where there are fewer job openings.	
Market Actors necessary for success: <ul style="list-style-type: none"> • Workforce Development Agencies • Community-based organizations (CBOs) • Job Training Organizations • Community Colleges • Probation departments • Low-income housing agencies • Local Workforce Investment Boards (WIBs) 	
Solicitation Strategy: Third-Party Solicited	Transition Plan: Not applicable
Expected Program Life: 2024 – TBD ^(a)	Short Term Plan Participating disadvantaged workers will demonstrate an increased knowledge of energy topics and energy career pathways, feel more prepared to enter the energy workforce, acquire jobs where they can use the knowledge and skills acquired during training.
Cost Effectiveness TRC: Not Applicable	Long Term Outlook Disadvantaged workers receive energy efficiency training; participants placed in jobs

Program Name: Workforce Education and Training Career & Workforce Readiness	
	<p>using EE skills, participants in energy jobs for 12 months, partnerships established</p> <p>Beyond 2025: CWR continues to support disadvantaged workers at least at the scale indicated above through 2025.</p>
Proposed Annual Budgets for 2024-2027: 2024: \$2,000,000 2025: \$2,000,000 2026: \$2,000,000 2027: \$2,000,000	Anticipated directional and scale changes in budget for years 2028-2031: Flat budget
Implementation Plan: https://cedars.sound-data.com/documents/download/2020/main/	
^(a) The inclusion of a program forecast for this program ID beyond the current implementation party's contract termination date does not guarantee that the party's current contract will be extended. PG&E will evaluate vendor performance and determine the appropriate action	

Program Name: Workforce Education and Training - Career Connections	
Program ID: SW_WET_CC Existing Link to implementation plan if existing (see D.21-05-031) See below	
Portfolio Segment: Market Support	Implementation Party: The Energy Coalition
Applicable Sector: Workforce Education and Training	Market Sub-Sector: Kindergarten – 12 th Grade (K-12) Students; Educators serving K-12 Students
Sector Challenge: Energy efficiency is not a State-required topic in K-12 education, students are generally not aware of energy careers ³ , and K-12 educators have limited resources to support energy education and energy career pathways.	Sector Opportunity: Prepare and inspire K-12 students to enter the energy workforce ⁴ that will help California achieve its greenhouse gas reduction and decarbonization goals.
Known Equity Concerns in the Selected Markets: K-12 disadvantaged schools ⁵ are more likely to have difficulty attracting and retaining high-quality, experienced educators. Students in disadvantaged schools are less likely to have access to the same resources available in non-disadvantaged schools.	Proposed Solutions to Equity Concerns: Prioritize K-12 education provider ⁶ participants to include at least 75% that are considered disadvantaged. Career Connections will provide resources that include addressing barriers for education providers and students identified as disadvantaged.

³ Energy careers include careers in energy efficiency, electrification, and decarbonization

⁴ Energy workforce includes occupations in energy efficiency, electrification, and decarbonization

⁵ Disadvantaged students and schools will be identified through a combination of criteria. including: those that reside within Disadvantaged Communities (DAC), schools with >40% of the student population qualifying for Title 1 and/or Free and Reduced Meal Pricing (FRPM),

⁶ Education providers are K-12 schools and may include afterschool programs where barriers to supporting "formal" K-12 schools may exist.

Program Name: Workforce Education and Training - Career Connections	
Program Description: The Workforce Education and Training Career Connections Program will provide K-12 educators curriculum resources to increase their knowledge, skills, experience, and confidence in teaching energy topics and in preparing, inspiring, and supporting students to explore and enter energy career pathways.	
Intervention Strategy: Education - Grade- and learning-level-appropriate energy education and career pathway resources for K-12 educators and students, including teacher guides, student workbooks, and activities. Additional resources may include in-classroom support to educators and students in disadvantaged schools, and professional development training opportunities for educators. Partner with local departments of education, school staff, school district staff, postsecondary institutions, and community-based organizations.	2024-2027 Forecast Program Metrics: Not Applicable
High-level description of delivery workforce including necessary scale and its risks: Delivery workforce includes: <ul style="list-style-type: none"> • K-12 teachers, educators, schools, and school district staff • K-12 afterschool program educators and support staff Partner delivery workforce includes staff from: <ul style="list-style-type: none"> • Local Departments of Education (LDE) • Postsecondary institutions • Community-based organizations While program design can minimize barriers to enrollment, risks can include limited educator time and ability to enroll students; for example, potential changes to LDE requirements.	
Market Actors necessary for success: <ul style="list-style-type: none"> • K-12 students, schools, and afterschool programs • K-12 schools and afterschool program educators • Community-based organizations • Postsecondary institutions 	
Solicitation Strategy: Third Party Solicited	Transition Plan: Not applicable
Expected Program Life: 2024 - TBD ^(b)	Short Term Plan <ul style="list-style-type: none"> • Increased student and educator energy knowledge, skills and abilities • Increased student awareness of, and experiences with, energy career pathway opportunities • Disadvantaged education providers comprise a majority of program participants
Cost Effectiveness TRC: Not Applicable	Long Term Outlook <ul style="list-style-type: none"> • Students are implementing energy saving behavior changes • Increased number of educators confident teaching energy concepts

Program Name: Workforce Education and Training - Career Connections	
	<ul style="list-style-type: none"> Energy fundamentals and career pathway education are incorporated into teachers' and schools' curricula
Proposed Annual Budgets for 2024-2027: 2024: \$1,000,000 2025: \$1,000,000 2026: \$1,000,000 2027: \$1,000,000	Anticipated directional and scale changes in budget for years 2028-2031: Flat budget
Implementation Plan: https://cedars.sound-data.com/documents/download/2021/main/	
^(b) The inclusion of a program forecast for this program ID beyond the current implementation party's contract termination date does not guarantee that the party's current contract will be extended. PG&E will evaluate vendor performance and determine the appropriate action	

PACIFIC GAS AND ELECTRIC COMPANY
CHAPTER 4
ATTACHMENT J
FINANCE PROGRAM CARDS

Program Name: On-Bill Financing Alternative Pathway	
Program ID: PGE_OBFAP	
Existing	
Link to implementation plan if existing (see D.21-05-031): See below	
Portfolio Segment: Market Support	Implementation Party: PG&E
Applicable Sector: Financing	Market Sub-Sector: Commercial, Industrial, Agricultural, Public
Sector Challenge: High cost of implementation; difficulty accessing capital financing; limited opportunities to engage with customers; and insufficient project support to ensure that EE investments deliver on their economic promise	Sector Opportunity: Leverage an innovative program design that enables incremental energy savings without a rebate or incentive
Known Equity Concerns in the Selected Markets: On-Bill Financing (OBF) is not able to support all customers with their projects. There is a need to develop financing tools that expand the availability of capital and reach those customers who are currently underserved by the existing financing offerings.	Proposed Solutions to Equity Concerns: To support all customers with their projects, the CEFO proceeding represents an opportunity to improve OBF, create new financing tools, and support customer investments in comprehensive demand side energy management.
Program Description: The OBF Alternative Pathway Program creates an alternative means for customers and contractors to participate in the OBF program and enables incremental energy savings to be generated without payment of a rebate or incentive. The OBF Alternative Pathway Program will also leverage metered energy data that can be used to further enhance program design with early metered energy savings project information.	
Intervention Strategy: Finance	2024-2027 Forecast Program Metrics: 98,051,947 kWh, 786,048 Therms, \$84,495,367 TSB
High-level description of delivery workforce including necessary scale and its risks: The OBF Alternative Pathway Program will allow customers and contractors to use the PG&E OBF Revolving Loan Fund (RLF) without also participating in another PG&E EE program. Under this model, the OBF loan would be the sole incentive for customers and contractors to complete high-quality EE projects. Participating customers will be provided with an OBF loan for the full cost of the EE project, including M&V and QA costs, as required. The customer will not receive a traditional rebate or incentive. PG&E will use the existing OBF RLF that is funded by ratepayers. While the loan functions as an incentive, it differs from traditional incentives in that participating customers are required to repay the entire loan amount with the threat of service interruption in the event of default.	
Market Actors necessary for success: <ul style="list-style-type: none"> • Contractors • Trade Professionals 	
Solicitation Strategy: Not applicable	Transition Plan: Not applicable

Program Name: On-Bill Financing Alternative Pathway	
Expected Program Life: 2017-TBD	Short Term Plan PG&E intends to obtain regulatory approval to expand OBF and create new financing tools, seek alternatives to ratepayer funds for use in financing EE programs, and increase TSBs created by projects using financing without incentives.
Cost Effectiveness TRC: 0.72	Long Term Outlook PG&E plans to enable financing programs to increase demand side energy investments and help customers manage and reduce energy use, strengthen the clean energy economy, and help CA reach carbon neutrality by 2045.
Proposed Annual Budgets for 2024-2027: 2024: \$5,242,767 2025: \$5,520,530 2026: \$4,696,593 2027: \$4,800,122	Anticipated directional and scale changes in budget for years 2028-2031: PG&E is proposing to add \$10M to the OBF loan pool annually to support the continuation of OBF broadly at its current level of loan issuance.
Implementation Plan: https://cedars.sound-data.com/documents/download/2040/main/	

PACIFIC GAS AND ELECTRIC COMPANY
CHAPTER 5
PORTFOLIO MANAGEMENT

PACIFIC GAS AND ELECTRIC COMPANY
CHAPTER 5
PORTFOLIO MANAGEMENT

TABLE OF CONTENTS

A. Introduction.....	5-1
B. Strategies to Optimize the Portfolio and Manage Risk	5-1
1. Using Goals and Metrics for Portfolio Optimization	5-1
2. Implementing Procedures to Stay “On-Target”	5-5
3. Managing Risk	5-6
C. PG&E’s Approach to Flexible Portfolio Management	5-7
D. Planned Procedures and Thresholds for Course Correction	5-7
E. Third-Party Programs	5-7
1. PG&E’s Responsibility as a PA in Relation to Third-Party Implementers	5-8
2. Solicitation Strategy	5-9
a. Strategies for Designing Scope and Schedule of Solicitations	5-10
1) Drive Improvements to the Procurement Process	5-11
2) Expand EE Coordination With DER Procurements	5-17
b. Third-Party Solicitations Schedule From 2024-2027	5-17
c. Risk Distribution.....	5-18
d. Incorporating Feedback Regarding PG&E’s Solicitation Practices	5-20
e. Supplier Diversity.....	5-21
1) Opportunities for Small and Diverse Suppliers.....	5-21
2) PG&E’s Third-Party Solicitation Approach Aligns With Its Overall DBE Target	5-22
f. Continued Stakeholder Engagement on Solicitation Process.....	5-23
3. Statewide Programs.....	5-24
a. PG&E-Led Statewide Programs	5-24

PACIFIC GAS AND ELECTRIC COMPANY
CHAPTER 5
PORTFOLIO MANAGEMENT

TABLE OF CONTENTS
(CONTINUED)

b. Statewide Programs Administered by Other Program Administrators.....	5-25
c. Proposed Changes to Designated Lead Program Administrators	5-26
4. Assessment and Mitigation of Risk Through Portfolio Diversity	5-26
5. Contract Management.....	5-27
F. Portfolio Coordination	5-30
1. Coordination With Other PAs	5-30
a. EE Portfolios With Overlapping Service Territory	5-31
b. Statewide and Regional Program Coordination With Other PAs	5-33
c. Coordination With Other Energy Programs	5-35
d. Coordination With Other Demand-Side Programs	5-36
e. Stakeholder Engagement in Development of Application	5-36

PACIFIC GAS AND ELECTRIC COMPANY

CHAPTER 5

PORTFOLIO MANAGEMENT

A. Introduction

This chapter provides a summary of Pacific Gas and Electric Company's (PG&E) approach to Energy Efficiency (EE) portfolio management. Decision (D.) 05-01-055 defines roles within the administrative structure for EE that are still used today. Portfolio administration functions, also described as program choice and portfolio management, consist of: (1) developing a portfolio of programs to meet the regulator's goals, and (2) administering and coordinating those programs to ensure they meet the California Public Utilities Commission's (CPUC or Commission) objectives.¹ The remainder of this chapter describes:

- Section B – Strategies to Optimize the Portfolio and Manage Risk;
- Section C – PG&E's Approach to Flexible Portfolio Management;
- Section D – Planned Procedures and Thresholds for Course Correction;
- Section E – Third-Party Programs; and
- Section F – Portfolio Coordination.

B. Strategies to Optimize the Portfolio and Manage Risk

PG&E's strategies for optimizing its EE portfolio and managing risk focus on: (1) using goals and metrics for portfolio optimization; (2) implementing procedures to stay "on-target"; and (3) managing risk.

1. Using Goals and Metrics for Portfolio Optimization

PG&E optimizes its portfolio based upon Total System Benefit (TSB), portfolio segmentation, cost-effectiveness requirements, and a revised

¹ D.05-01-055, Attachment 1, p. 1. Description of Portfolio Management of Energy Efficiency Programs: Responsible for general administration, and coordination of programs, including tracking program savings and expenditures against program savings goals and budgets; develops reports on individual and comparative program performance; reviews program performance and proposes funding or design changes based upon experience to date; oversees contracting and program implementation process; implements quality assurance tracking protocols; reviews and approves invoices; generates required reports and maintains centralized system for reports to regulators, legislators, advisory groups, and others.

portfolio process outlined in D.21-05-031,² while (1) continuing to meet the minimum outsourcing target requirement³ and (2) re-structuring third-party contracts to align with TSB. PG&E also takes additional factors into consideration when optimizing its portfolio outside of the CPUC-directed metrics, such as customer satisfaction.

Optimization Based on TSB

D.21-09-037 defines TSB as, “the sum of the benefit that a measure provides to the electric and natural gas systems.”⁴ TSB expresses, in net present value dollars, the lifecycle energy, ancillary services, generation capacity, transmission and distribution capacity, and greenhouse gas benefits of EE activities, on an annual basis.⁵ Avoided cost benefits for EE are determined based on approved Database for Energy Efficiency Resources (DEER) load shapes.⁶

PG&E relies on TSB calculation outputs from the Cost Effectiveness Tool (CET) as an input into its portfolio optimization decisions. As noted in D.21-05-031, the value of EE varies significantly based on when energy is saved, including the time of day and the time of year (i.e., season).⁷ To effectively capture the temporal value of EE activities, it is important to have

² D.21-05-031, p. 2.

³ D.18-05-041, pp. 182-183, Ordering Paragraph (OP) 4.

⁴ D.21-09-037, p. 22.

⁵ CPUC Total System Benefit Technical Guidance, Version 1.2, October 25, 2021, p. 1. See also p. 7:

“The ACC produces hourly avoided cost values, and the ACC output table for electric avoided costs instructs the CET whether to use input kW or kWh values, depending on when the energy is saved. The avoided cost rate is based on price forecasts, measure impact profiles, climate zones, program administrator, etc. Benefits associated with avoided kW are only accrued in peak hours, and these benefits flow into the measure benefits calculation outputted by the CET.”

⁶ DEER Load Resources: <http://www.deeresources.com/index.php/deer-load-shape>. (accessed Jan. 14, 2022).

⁷ D.21-05-031, p. 8.

accurate load shapes⁸ available for a wide variety of EE interventions. PG&E appreciates the CPUC's efforts to update these load shapes for Portfolio Administrator (PA) and stakeholder use to enable EE portfolios to capture TSB more accurately. Once load shapes are updated and available for use, EE PAs and their third-party implementers can leverage them to optimize EE interventions and programs for delivering cost-effective TSB.

PG&E will review the relative cost of TSB delivery (TSB divided by program cost)⁹ and total program TSB as metrics to consider in assessing program performance. PG&E will also restructure its third-party contracts such that performance payment terms are based on achieving TSB as opposed to payment terms based on first-year net energy and peak demand savings (kilowatt-hour (kWh), (kilowatt (kW), and/or therms). PG&E believes that tying implementer performance payments to TSB, similar to how they were tied to energy savings, can encourage implementers to pursue projects that optimize for TSB.

PG&E recognizes that TSB metrics are not the only metrics used to evaluate portfolio optimization and the sections below describe other Commission-directed metrics which PG&E uses to optimize its portfolio—portfolio segmentation, cost-effectiveness, and four-year cumulative program cycles.

Optimization Based on Portfolio Segmentation and Cost-Effectiveness

PG&E's goal is to provide a cost-effective resource acquisition portfolio.¹⁰ D.21-05-031 states that cost-effectiveness is much more difficult to achieve and that there is a need to "balance the competing demands for energy efficiency funds to achieve the multitude of goals"¹¹ for EE portfolios. D.21-05-031 directs the PAs to segment their portfolios into three separate

⁸ CPUC Memorandum with Subject: CPUC Measure Package Guidance for Load Shapes dated December 7, 2021, pp. 1-2.

"Load shapes describe the hourly distribution of equipment fuel usage so that peak demand reductions and hourly avoided costs can be determined for energy efficiency measures and their programs."

⁹ TSB/program cost will yield a ratio for each program indicating how much it costs the portfolio to deliver TSB benefits.

¹⁰ D.21-05-031, p. 81, OP 3.

¹¹ *Ibid.* p. 20.

categories—resource acquisition, equity, and market support.¹² As explained in Chapter 3, Segmentation Strategy, PG&E’s position is that a program is in the resource acquisition segment unless its primary purpose aligns with market support or equity objectives, rather than with resource acquisition objectives. Most of the programs that were part of the third-party solicitations from 2018-2021 are categorized in the resource acquisition segment. D.18-05-041 orders Investor-Owned Utility (IOU) EE portfolios outsource at least 60 percent of their budgets to qualified third-party implementers by the end of 2022, and on an ongoing basis thereafter.¹³ Given this, PG&E’s ability to deliver on a cost-effective resource acquisition portfolio relies largely on its third-party implementers. PG&E discusses this in more detail in Section B.2 below.

PG&E’s forecast for the portfolio plan reflects programs categorized as resource acquisition whose primary purpose is short-term acquisition of cost-effective benefits. A program-level cost-effectiveness forecast summary for resource-acquisition programs is included in Chapter 1, Section D.2.

In 2024-2027, PG&E’s forecast includes programs that may not currently be cost-effective but have the potential to be. This is because PG&E believes these are important programs for the EE portfolio to support critical policy objectives around areas such as decarbonization and reliability. For example, the proposed market support segment programs, such as Residential and Public resiliency programs¹⁴ (Chapter 4, Sections D.1 and D.3, respectively) may yield avoided cost benefits to the energy system but are currently not able to be attributed to EE portfolios.

Optimization Based on Revised Portfolio Process

PG&E will manage its portfolio during the four-year portfolio plan period pursuant to D.21-05-031. D.21-05-031 allows PAs to use the four-year

¹² D.21-05-031, p. 81, OP 2. The decision also confirmed (p. 16) that Codes and Standards (C&S) is separate: “C&S programs will remain separate as well, as previously defined in D.12-05-015.” Evaluation, Measurement and Verification (EM&V) funds are assigned to an EM&V segment for reporting purposes in California Energy Data and Reporting System (CEDARS).

¹³ D.18-05-041, pp. 182-183, OP 4.

¹⁴ Program IDs: PGE_Res_Resiliency and PGE_Pub_Resiliency.

cycle to achieve its TSB goals and cost-effectiveness requirements and allows for fungible budgets within the four-years.¹⁵

While PG&E's portfolio TSB goals will be cumulative across the four-year portfolio plan period, PG&E may consider annual TSB performance targets for its third-party implementer contracts to monitor vendor performance and track progress towards the four-year goals. See Section E.5 below for more information on PG&E's intended contract management process.

Additional Considerations for Portfolio Optimization

PG&E also plans to optimize its portfolio by leveraging EE programs to achieve high customer satisfaction. PG&E believes that high customer satisfaction can be an indicator for program success. For example, PG&E conducts customer satisfaction surveys and identifies a statistically-significant difference in customer ratings and satisfaction for those customers that receive a Home Energy Report (HER).¹⁶

Customer satisfaction is a key performance indicator (KPI) in PG&E's third-party implemented programs. This performance management practice will continue during the portfolio plan years across all customer sectors. PG&E plans to continue conducting surveys with participating customers and may explore expanding these surveys to include customers that engaged in the project-development process but ultimately did not complete the project through the EE program or at all. Results of the customer satisfaction surveys will be shared with third-party implementers during standard performance reviews.

2. Implementing Procedures to Stay “On-Target”

PG&E has multiple performance management processes to help programs remain on target. These processes provide PG&E with effective oversight of third-party implemented programs. PG&E plans to continue these processes during the portfolio plan period. PG&E discusses these multiple touchpoints below.

¹⁵ D.21-05-031, p. 77, Conclusion of Law (COL) 24.

¹⁶ See Chapter 4 Section D.1.

- 1 • Prior to launching each third-party program, PG&E establishes
- 2 performance metrics, performance targets, and a schedule for Quarterly
- 3 Business Reviews (QBR) with program implementers. At these QBRs,
- 4 PG&E discusses implementer progress toward targets, identifies those
- 5 areas that are falling short of expectations, and discusses implementer
- 6 remediation efforts to ensure programs can meet targets by the next
- 7 quarter or upon a mutually-agreed-upon timetable.
- 8 • PG&E and the program implementer also review program performance
- 9 metrics during these business reviews such as: progress toward TSB
- 10 targets;¹⁷ cost-effectiveness; customer satisfaction; and safety. PG&E
- 11 also reviews metrics related to the quality of the program implementers'
- 12 required documentation, regulatory compliance, and accuracy/timeliness
- 13 with reporting program activities and finances.
- 14 • With its third-party implementer program managers, PG&E also holds
- 15 (1) weekly program management meetings, (2) monthly portfolio reviews
- 16 to review the previous month's performance against monthly goals and
- 17 end of year forecast, (3) quarterly reviews of cost-effectiveness
- 18 performance,¹⁸ and (4) annual re-alignment discussions.

19 **3. Managing Risk**

20 PG&E's risk management efforts focus on areas where it can evaluate
 21 current conditions and develop risk mitigation activities when necessary.
 22 PG&E recognizes that changes in market conditions, the regulatory
 23 environment, or other unforeseen circumstances may arise in 2024-2027.
 24 PG&E will continue practices that allow for adjustments due to changing
 25 conditions, such as: (1) annual program review and realignment, and
 26 (2) adjusting budgets among programs to meet shifting portfolio or customer
 27 needs.

28 One example of PG&E's risk management strategy was modifying
 29 certain measurement and verification methods during the COVID-19
 30 pandemic. State and local shelter in place regulations in 2020 created
 31 atypical energy usage patterns in 2020 that made comparing energy use

¹⁷ PG&E is in the process of transitioning from energy savings targets to TSB targets.

¹⁸ Based on the previous quarter's filing in the CPUC's CEDARS.

from 2020 and 2021 challenging. PG&E leveraged its meter-based platform to control for the influence of external factors and verify the energy savings that occurred from specific program interventions.¹⁹ PG&E can leverage this methodology in the future as an approach to risk management.

C. PG&E's Approach to Flexible Portfolio Management

PG&E's forecast reflects the requirement that 60 percent of the EE programs be managed by third-party implementers.²⁰ PG&E plans to implement some programs to support site-specific projects that may not qualify for current third-party implemented programs. Examples of this include the PG&E-implemented Commercial, Agricultural, and Industrial calculated incentives programs.

D. Planned Procedures and Thresholds for Course Correction

As discussed in Section B.2 above, PG&E will continue to set and monitor quarterly and annual performance targets with program implementers related to TSB targets, and cost-effectiveness.

Program implementers will be required to create a remediation plan if their program does not meet quarterly and/or annual targets (depending on the terms in their contracts). PG&E expects remediation plans will include deliverables, targets, and a timeline for completion of the deliverables.

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. In certain cases, where a program implementer is unable to achieve established goals and targets, PG&E may take corrective actions as needed. See Section E.5 for further discussion.

E. Third-Party Programs

This section provides a summary of PG&E's approach to management of its third-party programs. This includes five subsections: (1) PG&E's responsibility as a PA in relation to its third-party implementers; (2) PG&E's solicitation

¹⁹ Interventions are actions taken by the PA to influence a customer's EE. This can be in the form of activities including, but not limited to: financial incentives, technical assistance, efficiency C&S, and informational products.

²⁰ D.18-05-041, pp. 182-183, OP 4.

strategy; (3) statewide programs; (4) an assessment and mitigation of risk through portfolio diversity; and (5) contract management.

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

PG&E's responsibility as a PA is ultimately to design and manage a portfolio that meets the needs of its customers and delivers on the CPUC's goals for IOU PAs. This includes delivering on TSB, cost-effectiveness requirements, appropriately segmenting its portfolio to achieve EE and other policy objectives and outsourcing its portfolio budget to third-party implementers—all within its approved portfolio budget.

As directed in D.16-08-019 and reaffirmed in D.18-01-004 and D.18-05-041,²¹ PG&E forecasts that at least 60 percent of its total portfolio budget will be allocated to programs that meet the updated third-party definition²² for 2024-2027. With this, PG&E has embraced four key components to its role 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. Third-party implementers are responsible for proposing and designing programs that can be successfully implemented and delivered to meet portfolio and market needs. Table 5-1 details how roles and responsibilities are divided between PG&E as a portfolio administrator and third-party implementers.

²¹ D.16-08-019, p. 111, OP 10; D.18-01-004, p. 61, OP 1; and D.18-05-041, pp. 182-183, OP 4.

²² D.16-08-019, p. 111, OP 10. 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."

TABLE 5-1
PORTFOLIO ADMINISTRATOR AND 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
9	Program Oversight	X	
10	Measurement & Reporting	X	

2. Solicitation Strategy

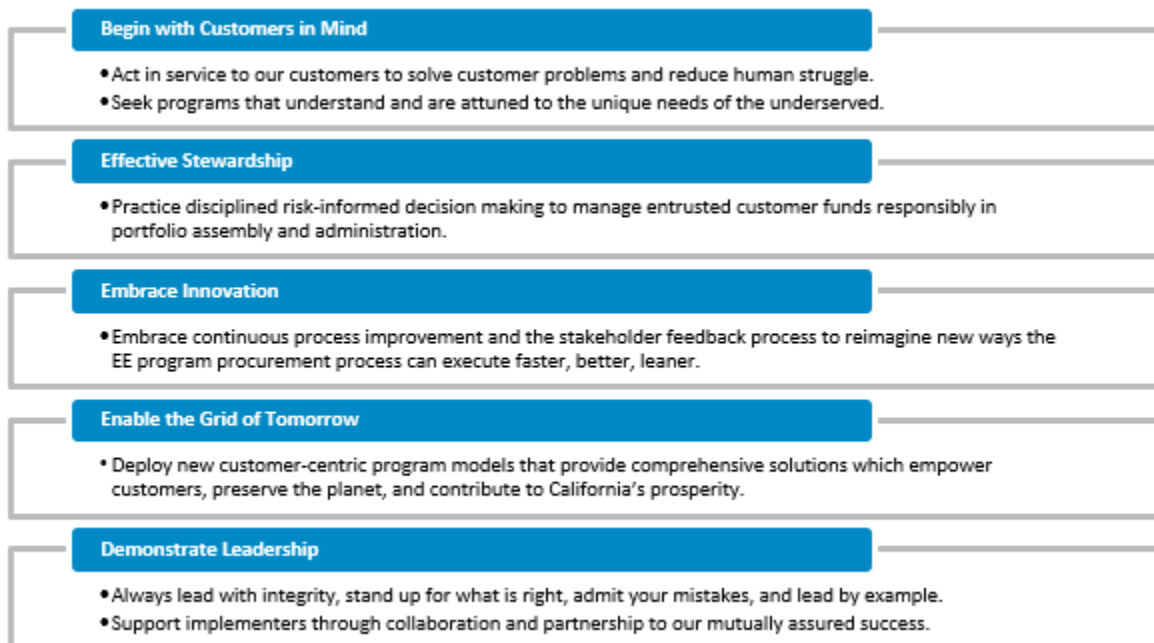
This subsection describes PG&E's solicitation strategy for the 2024-2027 portfolio plan period that builds upon the current EE portfolio. Pursuant to the CPUC requirement to outsource at least 60 percent of its portfolio budget,²³ PG&E conducted third-party solicitations for local programs and for statewide programs for which it was the assigned lead program administrator.²⁴ PG&E designed its primary solicitation as a single solicitation across five sectors—Residential, Commercial, Industrial, Agricultural, and Public. While significantly more complex to manage than a sector-specific solicitation, PG&E recognized that a multi-sector design would: (1) most efficiently and effectively consolidate and streamline PG&E's EE program portfolio, and (2) minimize the transition period for new programs. The multi-sector design provides design flexibility to implementers and enabled PG&E to be receptive to strong third-party

²³ D.18-05-041, pp. 182-183, OP 4.

²⁴ D.18-05-041, p. 188, OP 26, and pp. 91-92, Table 3.

proposals. It enables PG&E to build its future portfolio around the optimal new programs focused on performance and cost-effectiveness, rather than merely recreating the existing portfolio structure with third-party program delivery. As a result, PG&E has a refreshed portfolio of programs in which 27 programs have already closed or plan to close by the end of 2021²⁵ and 32 programs have been awarded since 2018. PG&E intends to continue to build and iterate upon this portfolio of programs throughout the portfolio plan years of 2024-2027 to deliver on its broader portfolio objectives. To accomplish this, PG&E will continue to follow its EE solicitation principles described in Figure 5-1 that have driven its solicitation strategy since 2018.

**FIGURE 5-1
PG&E EE SOLICITATION PRINCIPLES**



a. Strategies for Designing Scope and Schedule of Solicitations

PG&E plans to adapt its solicitation approach in two key areas:
(1) drive improvements to the procurement process, and (2) expand coordination of EE portfolio activities with Distributed Energy Resources (DER) procurements.

²⁵ See PG&E's 2019-2021 Annual Budget Advice Letters (4011-G-B/5375-E-B, 4136-G-A/5627-E-A, 4303-G-A/5936-E-A, respectively).

1) Drive Improvements to the Procurement Process

PG&E proposes expanding the set of solicitation structures available to PAs beyond two-stage solicitations to enable an agile procurement approach.

PG&E's local multi-sector solicitation, which ran from 2018-2020, was designed to provide flexibility for bidders to propose innovative program designs targeting any customer sector or combination of sectors, and spanned the entire customer portfolio in a single, coordinated solicitation effort. PG&E articulated the needs of its portfolio in the Request for Abstract (RFA) stage and third-party bidders were provided the opportunity to propose any type of program design to meet those needs. PG&E collected 170 program abstracts during the RFA stage which allowed PG&E to begin building a comprehensive portfolio of new customer programs. PG&E achieved the 25 percent and 40 percent outsourcing compliance targets²⁶ almost entirely through the multi-sector solicitation alone.

PG&E recognizes the future procurement landscape will be different and focused on incremental adjustments to the portfolio rather than wholesale changes, building upon the foundation of new programs recently awarded. EE procurement will focus on maintaining outsourcing levels above the minimum 60 percent budget requirement, while actively managing the performance of the EE programs to determine when it may be appropriate to replace or amend existing programs.

PG&E has already shifted its solicitation approach to smaller-scale solicitations that are more targeted in scope and have shorter durations. PG&E plans to continue this practice in future solicitations and primarily focus on new emerging portfolio needs. PG&E can also periodically re-contract portions of the portfolio when existing programs are failing to meet program obligations. More targeted solicitations can occur more quickly, reduce the

²⁶ D.18-01-004, p. 61, OP 1.

cost/burden on solicitation participants, and provide more potential program contracting opportunities at a scale where small and diverse firms may be more competitive.

PG&E also requests regulatory changes to allow IOUs more options when proposing a solicitation structure for a given procurement situation. Specifically, PG&E requests the Commission permit PAs to have the ability to choose among three additional solicitation structures: (1) a standard single-stage Request for Proposal (RFP); (2) an all-source single-stage RFP; or (3) a market access procurement model. These are described in more detail below. The regulatory changes requested to enable this expanded set of solicitation structures are described in Exhibit 1, Chapter 3, Section B.5.

- Single-Stage RFP (Standard) – Single-stage solicitation consisting solely of a RFP stage to evaluate EE programs. This solicitation structure is common across many different industries and is the default competitive solicitation format used by PG&E for most non-EE and non-wholesale power procurements.
- Single-Stage RFP (All-Source) – An all-source solicitation allows combinations of EE, demand response, energy storage, distributed generation, and electric vehicles programs to be evaluated. This solicitation structure could target next-generation customer-centric comprehensive Demand-Side Management (DSM) programs with the potential to address emerging initiatives that span separate DSM proceedings.
- Market Access Procurement Model – A market access procurement model competitively solicits energy savings directly from a pool of pre-qualified energy project implementers in a scalable pay-for-performance structure while incurring minimal transaction costs for bidders.²⁷ A version of such a market is currently deployed in Marin Clean Energy's (MCE) territory and is expected to be deployed among the three electric IOUs

²⁷ D.21-12-011, p. 24.

1 beginning in 2022 incrementally external to the portfolio to
2 address summer reliability capacity issues. This procurement
3 approach has potential to make significant contributions to the
4 EE portfolio and should be considered for broader deployment
5 within the EE portfolio beyond 2024.

6 To date, all PAs have been directed to follow the same
7 solicitation structure:²⁸ a two-stage solicitation comprising a RFA
8 stage followed by a RFP stage. As noted above, the single-stage
9 RFP is the default competitive solicitation format used by PG&E for
10 most non-EE and wholesale power procurements.

11 While there is still merit to the two-stage RFA/RFP process, a
12 one-size-fits-all approach to solicitations is too restrictive given the
13 variety of program types and budgets that comprise the portfolio.
14 PG&E has made improvements to the original two-stage process by
15 restructuring the RFA and RFP criteria, and incorporating bidder
16 interviews prior to contract negotiations. PG&E will continue efforts
17 to streamline the two-stage solicitation process but requests the
18 Commission permit use of the three additional solicitation structures
19 discussed above: single stage RFP, single stage RFP (all-source),
20 and market access procurement model. See Exhibit 1, Chapter 3.

21 Table 5-2 summarizes the key benefits and tradeoffs of each
22 solicitation type, a description of PG&E's perceived ideal application
23 of each solicitation type, and an example of a past PG&E solicitation
24 that could have presumably benefited from the alternative
25 procurement approach.

²⁸ D.18-01-004, p. 57, COL 5.

**TABLE 5-2
COMPARISON OF SOLICITATION APPROACHES**

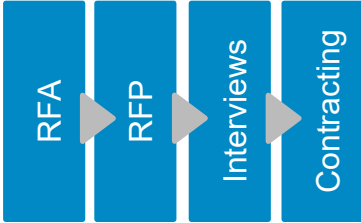
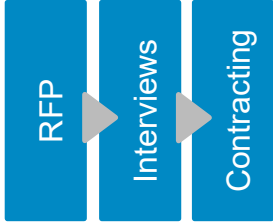


Line No.	Process	Two-Stage RFA/RFP	Single-Stage RFP (Standard)	Single-Stage RFP (All-Source)	Market Access
1	Description	<p>Consists of RFA and RFP stages.</p> <p>Limited to a single category (e.g., EE).</p> <p>Includes bidder interviews.</p> <p>Final selection where prime candidate advances to contracting and program alternates held in reserve.</p>	<p>Limited to a single category (e.g., EE).</p> <p>Includes bidder interviews.</p> <p>Final selection where prime candidate advances to contracting and program alternates held in reserve.</p>	<p>A variation of a single-stage solicitation process.</p> <p>Consists of RFP stage.</p> <p>Open to multiple categories.</p> <p>Technology neutral.</p> <p>Screens proposals for feasibility.</p> <p>Multiple counterparties advance to negotiation.</p> <p>Final selection after competitive negotiations.</p>	<p>Open market of prequalified aggregators delivering EE savings through pay-for-performance agreements leveraging meter-based platform.^(a)</p> <p>Request for Qualification (RFQ) process used to vet entrants to the implementer pool.</p>
2	Process Steps	 <pre> graph LR RFA[RFA] --> RFP[RFP] RFP --> Interviews[Interviews] Interviews --> Contracting[Contracting] </pre>	 <pre> graph LR RFP[RFP] --> Interviews[Interviews] Interviews --> Contracting[Contracting] </pre>	 <pre> graph LR RFP[RFP] --> CN[Competitive Negotiations] </pre>	 <pre> graph LR RFQ[RFQ] --> Market[Market] </pre>

TABLE 5-2
COMPARISON OF SOLICITATION APPROACHES
(CONTINUED)

Line No.	Process	Two-Stage RFA/RFP	Single-Stage RFP (Standard)	Single-Stage RFP (All-Source)	Market Access
3	Benefits	<p>RFA can be effective for managing high volumes of submittals.</p> <p>Enables control over quantity of bids advancing to RFP.</p>	<p>Default procurement process used for many industries.</p> <p>Lack of redundancy leads to expedient process.</p> <p>Versatility through a single set of scoring criteria scalable based upon complexity of need.</p>	<p>Relies on competitive negotiation discussions to evaluate and compare complex and dissimilar program proposals.</p> <p>Enables rapid feasibility screening to advance limited viable proposals to negotiations.</p> <p>Less time required for scoring relative to standard single-stage RFP.</p> <p>Expanded negotiations may create opportunities for Small Business Enterprise (SBE) and Disadvantaged Business Enterprise (DBE) firms.</p>	<p>RFQ enables rapid solicitation process with low transaction costs for bidders.</p> <p>Greater customer choice via pool of program implementers.</p> <p>May create opportunities for SBE or DBE firms to benefit due to opportunities for multiple providers.</p> <p>Increased process transparency.</p> <p>Shorter-term contracts between PA and implementer may yield less delivery risk for implementers.</p>
4	Tradeoffs	<p>Complexity and duration can incur additional bidder costs.</p> <p>Additional costs and lack of SBE/DBE evaluation criteria in some solicitations may limit SBE/DBE participation or impact ability to advance to RFP.</p>	<p>Without RFA screening stage, evaluation may be prolonged due to high volume of proposals.</p> <p>Leverage active monitoring tools such as Intent-To-Bid forms to track solicitation participation.</p>	<p>Independent oversight is required to ensure fairness and transparency due to additional flexibility afforded to PA by competitive negotiation structure.</p> <p>Parallel negotiations for a limited set of contracts may incur higher transaction costs for non-winning bidders.</p>	<p>New platform with limited deployment to single PA.</p> <p>Once deployed to other PA territories, may warrant EM&V studies to assess interactions with established portfolio operations.</p>

TABLE 5-2
COMPARISON OF SOLICITATION APPROACHES
(CONTINUED)

Line No.	Process	Two-Stage RFA/RFP	Single-Stage RFP (Standard)	Single-Stage RFP (All-Source)	Market Access
5	Ideal Application	Large to very large solicitations that cross multiple sectors. Example: PG&E Local Multi-Sector Solicitation that simultaneously procured programs from all customer sectors—Residential, Commercial, Public, Agricultural, and Industrial.	Wide range of suitable applications: small, targeted solicitations, to less technical solicitations (non-savings programs), to large broad/complex solicitations. Example: C&S programs (defined scope), Workforce Education and Training (WE&T) (non-technical), New Construction programs (high complexity).	Medium to large sized solicitations seeking comprehensive, innovative programs. Example: Local or statewide solicitations targeting next-generation integrated DSM programs (resiliency, capital deferral, electrification).	Residential and non-residential customer segments appropriate for population Normalized Metered Energy Consumption (NMEC) measurement methods. Example: Commercial or Residential market access program.
<p>(a) The Meter-Based Platform governs how PG&E uses metered data as the basis of a savings claim. The population NMEC measurement method is one of three primary meter-based platform approaches that is used by the Market Access procurement approach.</p>					

2) Expand EE Coordination With DER Procurements

PG&E expects to increase EE coordination with ongoing PG&E Energy Supply DER procurements associated with the Distribution Deferral Investment Framework (DIDF) within the Integrated Distributed Energy Resources proceeding.

The objective of DIDF is to identify cost-effective non-wire solutions that can avoid or defer future utility distribution investments. The PG&E DIDF process undergoes an annual review of grid needs and identifies specific points of the system that forecast future required investment. This set of grid needs is then screened for locations with characteristics suitable for non-wire solutions that could be successfully sourced through competitive solicitation.

PG&E plans to use the information from the DIDF process to coordinate EE program activity and inform EE solicitations as part of its portfolio strategy. The effort would focus EE programs on areas of the grid that: (1) are not yet addressed by Energy Supply solicitations; (2) are several years away from needing a solution implemented; or (3) exhibit market uncertainties or other characteristics that do not lend to themselves to a successful Request for Offer (RFO) solicitation. The benefit of this coordination is greater alignment among the activities of the EE portfolio with the needs of the PG&E grid and could help defer the need for Energy Supply to conduct an RFO solicitation, reduce the scale and cost of a solution sought in an RFO and solve small grid needs without need to pursue other PG&E interventions.

b. Third-Party Solicitations Schedule From 2024-2027

PG&E includes a schedule of placeholder programs in Exhibit 3, Chapter 2, of this testimony, titled, "PG&E's Energy Efficiency 2024-2031 Supplemental Budget Narrative Information, Pursuant to Energy Division Template." PG&E will continue to monitor the performance of its portfolio and issue solicitations that align with PG&E's portfolio structure of five customer sectors (Residential, Commercial,

Public, Agricultural, and Industrial) and six cross-cutting sectors (C&S, Emerging Technologies, New Construction, Local Government Partnerships, WE&T, and Finance). PG&E will monitor fluctuations in annual budget and program activity and employ the controls necessary to maintain compliance with the minimum 60 percent outsourcing requirement.

c. Risk Distribution

Risk areas related to third-party programs include market risk, program implementation risk, and portfolio administration risk. PG&E monitors risks within these categories and has developed corresponding mitigations for each.

- Market Risk – Both PG&E and the implementer share risks from changes in market conditions, such as supply chain issues or global challenges from the COVID-19 pandemic. Market risks can also include changes in EE policy, such as ex-ante rule or baseline changes. While market risks are typically outside the control of PG&E and implementers, PG&E's EE program contracts include an opportunity for annual realignment or reevaluation of program goals as market conditions change. PG&E will continue this practice in future contracts to determine mutually agreeable parameters for how and when program realignments will occur.
- Program Implementation Risk – Program implementation risk encompasses both the safe execution of program activities as well as the risk of under-performance of programs during implementation. Public and contractor safety is PG&E's highest priority. Program implementers are required to execute programs in compliance with all applicable safety rules, laws, standards, and procedures. This is a contractual obligation that is included in all PG&E third-party contracts. Some examples of program implementation risk related to program performance include lower than anticipated customer participation in a program, projects delivering savings below what was forecasted, and inefficient program management practices that affect cost-effectiveness. Program implementers are in a better position to address these

issues with their respective programs, and management of program implementation risk is the primary responsibility of the program implementer. PG&E's standard contract structure for programs that deliver resource savings include performance payment terms encompassing energy savings delivery, program cost-effectiveness, and KPIs. The performance terms withhold some compensation when energy savings, cost-effectiveness, or KPI performance fall below what was agreed to in the contract. During contracting, PG&E and the implementer determine mutually agreeable program budget amounts to assign to each performance term. Prior to the start of the 2024-2027 portfolio plan period, PG&E will update performance payment terms to reflect pursuit of TSB, rather than first-year net energy savings.

- Portfolio Administration Risk – PG&E has risk associated with administering a portfolio of programs that can achieve the multiple objectives such as delivery of TSB, cost-effectiveness requirements, and portfolio segmentation. PG&E monitors performance at the program-level as well as in aggregate at the portfolio level. PG&E's contracts provide the flexibility to adjust programs such as increasing or decreasing a program's goals, targets, and budget based on observed performance or portfolio need.

PG&E incorporated contract terms that distribute the risk between PG&E and its third-party implementers. The California Legislature through Senate Bill (SB) 350 authorized "pay for performance programs that link incentives directly to measures energy savings"²⁹ and D.18-01-004 ordered the IOU PAs to incorporate payment provisions for pay-for-performance arrangements.³⁰ PG&E introduced updated pay-for-performance contract terms through its 2018 Local Multi-sector Solicitation which addressed market and program implementation risk and provided PG&E with the flexibility to manage portfolio administration risk. PG&E plans to continue to refine and update these

²⁹ SB 350 (2015-2016 Reg. Sess.) § 16, Public Utilities Code (Pub. Util. Code) § 399.4(d)(2).

³⁰ D.18-01-004, pp. 63-64, OP 6.

pay-for-performance terms as needed to confirm risk is distributed between PG&E and implementers as intended. More information about the PG&E contract components is provided in Section E.5, Contract Management

d. Incorporating Feedback Regarding PG&E's Solicitation Practices

PG&E appreciates feedback from stakeholders about its solicitation process. Since 2018, feedback on PG&E's third-party solicitation process has come from the Procurement Review Group (PRG) process, through public workshops,³¹ and in semi-annual Independent Evaluator (IE) reports assessing third-party solicitation processes and progress.³² In an effort to continuously improve the solicitation process, PG&E will strive to incorporate feedback it received into its 2024-2027 solicitation strategy. Some examples are outlined below.

- Collaboration with PRG and IEs – PG&E proposes to continue the practice of collaborative engagement with the PRG and its pool of IEs. PG&E plans to refresh both PRG membership and the IE pool periodically going forward to ensure opportunities for new participation, fresh perspectives, and a current technical knowledge base.
- Reduction in Solicitation Timelines – PG&E anticipates its solicitations to be more targeted in scope and smaller in scale to help expedite the process. PG&E intends to periodically review its solicitation processes and implement ways to simplify them such as redrafting its RFA and RFP documents to reduce the amount of information requested at each step of the process.
- Enhanced Feedback Process – PG&E redesigned its bidder feedback process providing participating bidders more timely, detailed, and actionable feedback. PG&E expects to continue this enhanced feedback process as part of future solicitations. Key process enhancements include: (1) offering RFA feedback to both

³¹ 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.

³² D.18-01-004, pp. 62-63, OP 5.c.

advancing and dismissed RFA participants, (2) offering RFA feedback immediately following announcement of the RFA shortlist, (3) offering RFP feedback to all RFP participants following the conclusion of contract negotiations, (4) providing more granular feedback associated with each scoring sub-criteria, and (5) including an absolute and relative indicator of performance relative to the rest of the bidding field.

e. Supplier Diversity

PG&E is committed to an inclusive supply chain. Diverse suppliers include: SBEs; Minority, Women, and Service-Disabled Veteran-Owned Business Enterprises; and lesbian, gay, bisexual, and transgender individuals.

1) Opportunities for Small and Diverse Suppliers

PG&E's 2024-2027 solicitation strategy to improve opportunities for small and diverse suppliers includes continuing established practices³³ and building new future opportunities for small and diverse suppliers with the following strategies:

- Continue targeted outreach to the small and diverse business communities by communicating upcoming contracting opportunities through PG&E's Supply Chain Responsibility's vendor list.
- Continue promoting new partnership opportunities for small and diverse suppliers by hosting vendor matchmaker events in advance of solicitations.
- Continue encouraging existing suppliers to engage with small and diverse suppliers and develop their own supplier diversity plans.
- Implement process improvements:

³³ PG&E 2020 Supplier Diversity Annual Report (March 1, 2021): https://www.pge.com/pge_global/common/pdfs/for-our-business-partners/purchasing-program/suppliers/supply-chain-responsibility/2020-Annual-Report.pdf (accessed Jan. 26, 2022).

- Design future solicitations with smaller more targeted program scopes that better align with the scale and competitive capabilities of small and diverse firms.
- Reduce the time, effort and cost incurred by bidders allowing them to participate in the process more easily.
- Build additional solicitation process functions to promote new partnership opportunities for small and diverse suppliers within each new solicitation as they are launched.
- Use bidder interviews more broadly in the RFP stage to allow for more opportunities for small and diverse suppliers to directly engage with PG&E about their program.
- Consider the deployment of alternative procurement approaches described earlier in this section above, such as market access, which have the potential to offer small and diverse suppliers opportunities to work with PG&E while:
 - (1) bypassing the costs of a typical competitive solicitation, and
 - (2) benefiting from a reduced level of program delivery risk that accompanies a program implementation contract with firm program obligations.

2) PG&E's Third-Party Solicitation Approach Aligns With Its Overall DBE Target

From the onset of PG&E's recent EE program third-party outsourcing efforts in 2018 through the time of this filing, EE contributed to PG&E enterprise DBE goals through the execution of multiple agreements with DBE and SBE firms, as summarized below. PG&E plans to continue to provide for opportunities for DBE and SBE firm participation through its third-party EE solicitations.

- Two prime program implementers meet the definition for a DBE.
- 14 programs are implemented with a DBE as part of the implementation team.
- DBE spend commitments (including both prime and subcontractor spend) total approximately \$33 million, which is about 9 percent of PG&E's overall EE contracted budget to date.

- In 2020, PG&E reported its highest spending ever with DBEs—\$3.88 billion or 38.9 percent of net procurement.³⁴
- For 15 consecutive years, PG&E has exceeded the 21.5 percent CPUC goal with DBEs established in General Order 156.³⁵

f. Continued Stakeholder Engagement on Solicitation Process

PG&E will continue to foster stakeholder engagement on the solicitation process by continuing to improve the forums and communication channels internal and external to the solicitations process for stakeholders to discuss issues and stay informed.

Engagement with the solicitation process begins well before a solicitation starts. The primary established engagement venue is the Semi-Annual Stakeholder Engagement Forum. PG&E will continue to support these forums to listen, inform, and dialog on issues stakeholders find important. Other important communications external to the solicitations process includes updating and expanding various training materials to help third parties improve their program proposals. Historically, these trainings have focused on educating third parties on the technical aspects of program implementation, such as use of the CET and the NMEC platform. Adapting/creating future training materials can help third-parties transition program designs from energy savings to TSB.

Effective and timely communications within a solicitation are also vital to maintain engagement with stakeholders and ensure third parties have a clear picture of how to provide impactful program proposals. By listening to stakeholders in the aforementioned forums, PG&E has implemented and will continue to refine several process improvements to drive deeper engagement. PG&E has developed a CET review process within the RFP stage to provide feedback on CET assumptions

³⁴ PG&E 2020 Supplier Diversity Annual Report (March 1, 2021), pp. 25-26: https://www.pge.com/pge_global/common/pdfs/for-our-business-partners/purchasing-program/suppliers/supply-chain-responsibility/2020-Annual-Report.pdf (accessed Jan. 26, 2022).

³⁵ PG&E 2020 Supplier Diversity Annual Report (March 1, 2021), *Id.* p. 3.

1 and inputs to third parties prior to proposal scoring. As previously
2 mentioned, PG&E has also incorporated interviews into its RFP process
3 to allow two-way dialog over program designs within the solicitation
4 process. In response to stakeholder requests, PG&E has also
5 implemented a robust solicitation feedback process, previously
6 described earlier in this section above. In addition to providing
7 feedback, this debrief meeting includes a two-way dialog with
8 third parties to propose potential process improvements they have
9 identified.

10 **3. Statewide Programs**

11 This section provides information on statewide programs administered
12 by PG&E and other IOU PAs. PG&E does not propose any changes in
13 designated lead program administrators.

14 **a. PG&E-Led Statewide Programs**

15 PG&E is the Lead Program Administrator³⁶ for 10 statewide
16 programs as shown in Table 5-3.

³⁶ D.18-05-041, pp. 91-92, Tables 3 and 4; and p. 188, OP 26.

**TABLE 5-3
PG&E-LED STATEWIDE PROGRAMS**

Line No.	Statewide Program ID	Statewide Program Name
1	SW_IP_Gov	Institutional Partnerships – Government
2	SW_CSA_Natl	Codes and Standards National Codes Advocacy
3	SW_CSA_Appl	Codes and Standards Appliance Advocacy
4	SW_CSA_Bldg	Codes and Standards Building Codes Advocacy
5	SW_WET_CC	Workforce Education and Training – Career Connections
6	SW_WET_Work	Workforce Education and Training Career & Workforce Readiness
7	SW_NC_NonRes_Ag_electric SW_NC_NonRes_Com_electric SW_NC_NonRes_Ind_electric SW_NC_NonRes_Pub_electric SW_NC_NonRes_Res_electric	New Construction – Non-Residential – All Electric ^(b)
8	SW_NC_NonRes_Ag_mixed SW_NC_NonRes_Com_mixed SW_NC_NonRes_Ind_mixed SW_NC_NonRes_Pub_mixed SW_NC_NonRes_Res_electric	New Construction – Non-Residential - Mixed Fuel ^(b)
9	SW_NC_Res_electric	New Construction – Residential – All Electric
10	SW_NC_Res_mixed	New Construction – Residential – Mixed Fuel
<p>(a) Statewide Program IDs in this table represent the portion of the statewide program that is implemented by a third-party implementer. Each of these statewide programs also has an accompanying Program ID for the PA costs, represented by the same Program ID for the statewide program and appended by the characters “_PA.” These PA Cost Program IDs are included in CEDARS. The PA Cost Program IDs were created to separately track PG&E’s PA costs to support the associated statewide program.</p> <p>(b) Non-Residential New Construction Programs, Mixed Fuel and All-Electric, are two programs; however, each has five program IDs that were created to accurately track the costs and benefits attributable to each sector due to limitations of CEDARS.</p>		

b. Statewide Programs Administered by Other Program Administrators

Table 5-4 below lists statewide programs administered by other IOU program administrators. Per D.18-05-041, IOU program administrators are required to fund statewide programs.³⁷ This application includes PG&E’s proportional share funding contribution for each of the statewide programs. This is further explained in Chapter 2, Forecast Methodology.

³⁷ D.18-05-041, pp. 186-187, OP 22.

**TABLE 5-4
OTHER IOU-LED STATEWIDE PROGRAMS**

Line No.	Statewide Program ID	Statewide Program Name	Lead Program Administrator
1	SW_ETP_Elec	Emerging Technologies Program – Electric	Southern California Edison Company (SCE)
2	SW_IP_Colleges	Institutional Partnerships – Colleges	SCE
3	SW_WP	Water and Wastewater Pumping	SCE
4	SW_UL	Upstream Lighting	SCE
5	SW_HVAC_QIQM	SW HVAC QI/QM Program	San Diego Gas & Electric Company (SDG&E)
6	SW_PLA	SW Plug Load and Appliances	SDG&E
7	SW_Up_Res SW_Up_Com	SW HVAC Upstream Residential SW HVAC Upstream Commercial	SDG&E
8	SW_FS	Food Service	Southern California Gas Company (SoCalGas)
9	SW_MCWH	Midstream Commercial Water Heating	SoCalGas
10	SW_ETP_Gas	Emerging Technologies Program – Gas	SoCalGas
(a) Statewide Program IDs in this table represent the portion of the statewide program that is implemented by a third-party implementer. Each of these statewide programs also has an accompanying Program ID for the PA costs, represented by the same Program ID for the statewide program and appended by the characters “_PA.” These PA Cost Program IDs are included in CEDARS. The PA Cost Program IDs were created to separately track PG&E’s PA costs to support the associated statewide program.			

c. Proposed Changes to Designated Lead Program Administrators

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

4. Assessment and Mitigation of Risk Through Portfolio Diversity

PG&E has built a diversified EE portfolio implemented by companies that range in their size, implementation experience, and implementation approach. Through this distribution, PG&E mitigates against the implementation and portfolio administration risk associated with overreliance on any individual implementer.

PG&E considered the concentration of budget across existing vendors who implement programs across the five customer sectors and

six cross-cutting sectors; however, this was not the sole determinant of budget distribution.³⁸ PG&E's portfolio currently has more than 20 individual third-party program implementers responsible for implementation of local and statewide PG&E EE programs. Of those, no single implementer has more than 25 percent of the portfolio budget.

5. Contract Management

PG&E's contract management strategy preserves and rewards those third-party implementation engagements that are working successfully, provide corrective direction in the form of remediation plans to program implementers that are falling short on program obligations, and focus future re-solicitation efforts to the areas of the portfolio where program performance is most underdelivered.

PG&E's primary methods of aligning EE program resources to portfolio needs include: (1) procuring new program resources through a competitive solicitation, (2) extending the contract term of an existing program, (3) expanding the scope of an existing program (i.e., to cover new territory or added customer base), (4) decreasing the scope of an existing program (i.e., to align with underdelivered goals), or (5) terminating a severely under-performing program early to allocate the remaining resources to more effective programs.

Effective contract management covers all stages of a contract lifecycle. The typical contract management lifecycle consists of the following 10 steps: (1) Request, (2) Drafting, (3) Negotiation, (4) Approval, (5) Execution, (6) Capture, (7) Management of Obligations, (8) Auditing and Reporting, (9) Extension/Re-Contracting, and (10) Review and Amend. See Figure 5-2.

³⁸ See Exhibit 1, Chapter 1 and Exhibit 2, Chapter 4 for more detail on PG&E's budget distribution strategy.

**FIGURE 5-2
CONTRACT MANAGEMENT LIFECYCLE DIAGRAM**



Given that PG&E's 2024-2027 portfolio consists of mostly programs solicited since 2018 and only launched in 2021, PG&E's focus for contract management during the portfolio plan period will be on Steps 7-10. Below are brief descriptions for how PG&E plans to manage its implementer contracts in these steps.

- Step 7: Management of Obligations – PG&E oversees implementers' program activities and deliverables, checking that proper processes are followed, deadlines are met, and that the program delivers on its contract obligations and performance targets. This includes confirmation of the delivery of benefits associated with performance payments to authorize implementer payments.
- Step 8: Auditing and Reporting – PG&E performs periodic reviews of tracked terms and conditions and documents the implementers' adherence to them, including program deliverables and performance indicators. PG&E also conducts periodic discussions as a feedback mechanism with program implementers.
- Step 9: Review and Amend – As mentioned in Section E.2 above, PG&E reviews program goals, KPIs, and payment terms with each program implementer during an annual program realignment. The

established annual cadence for this review process ensures that contract terms are revisited regularly and amended when needed. Significant changes in market conditions that impact program performance can trigger an immediate review.

- Step 10: Extension/Re-Solicit – Prior to the end of the contract term, PG&E will determine whether a contract should be extended (with or without amendments) or terminated. In the event of termination, PG&E would determine whether the program area should be re-solicited to another vendor via another competitive solicitation. A contract extension restarts the cycle at Step 2 with drafting the extension language and incorporating any additional amendments to keep the contract terms current. A re-contracting decision would start the cycle back to Step 1 with a new request associated with a new competitive solicitation.

The decision in Step 10 represents one of PG&E's primary contract management decisions for the 2024-2027 period. Most of the contracts awarded via the third-party solicitations from 2018-2021 have termination dates that fall within the first 4-year portfolio cycle. As noted in Chapter 2, the forecasts in the 2024-2027 portfolio plan include existing program IDs that may extend beyond the current contract termination date for the vendors associated with those program IDs. This does not mean that the forecasted budget will be for the program's current vendor as PG&E does not guarantee that the current vendor's contract will be extended.

PG&E intends to take multiple factors into consideration in the decision to extend, re-solicit, or terminate contracts. This includes, but is not limited to: program performance, portfolio needs in pursuit of portfolio goals and metrics, and impacts to the customers served by the program. PG&E views contract extensions as a valuable tool to support the continued success of its EE portfolio. PG&E does not expect to extend all contracts as that may limit future opportunities for new and innovative market entrants. However, shorter contract terms and re-soliciting programs may drive inefficiencies and disruption when switching between programs or program vendors. This can result in additional solicitation costs, interrupt the customer experience, and may make the opportunity less attractive to potential bidders.

PG&E intends to review its contract extension/re-solicitation/termination decisions at the program-level, rather than simultaneously, across the entire portfolio. This aligns with the approach mentioned in Section E.2 for a more targeted solicitation approach to replace programs due to underperformance or other reasons and takes into consideration the varying nature of its portfolio of programs.

F. Portfolio Coordination

1. Coordination With Other PAs

This section describes PG&E's approach for coordinating with non-IOU PAs. The non-IOU PAs include: (1) Regional Energy Networks (REN) and (2) Community Choice Aggregators (CCA). There are two pathways for CCAs to become PAs, an apply-to-administer pathway or elect-to-administer pathway.³⁹ The type of non-IOU PAs is important because it governs the level of overlap that is allowable as described below.

PG&E includes all approved non-IOU PAs as of January 14, 2022 for program years 2024-2027 in its portfolio plan. The approved non-IOU PAs in PG&E's service territory are: the Bay Area Regional Energy Network (BayREN), the Tri-County Regional Energy Network, MCE, CleanPowerSF, and San Jose Clean Energy (SJCE). MCE was approved through the apply-to-administer pathway, while SJCE and CleanPowerSF were approved through the elect-to-administer pathway. Other parties have submitted proposals to administer EE portfolios, but have not yet been approved.

PG&E anticipates continuing the practices in place for coordinating with the existing non-IOU PAs and to apply those practices with new entrants. These practices include holding meetings on a regular cadence (bi-weekly, monthly, or quarterly) with standing agenda items such as: program updates by sector, uptake/challenge discussions, contractor issues, data sharing, double dip mitigation, and marketing campaign plans (for cross-promotional or informational needs). PG&E will continue to

³⁹ Pub. Util. Code § 381.1.

comply with D.21-05-031 in preparing Joint Cooperation Memoranda (JCM) with CCAs and RENS in its service territory.⁴⁰

Coordination with CCAs and RENS Pending Approval by the CPUC

PG&E does not include forecasts for entities that recently submitted proposals⁴¹ requesting approval to become PAs. Therefore, funding for these potential PA portfolios is not included within PG&E's eight-year authorized budget cap request or the four-year revenue requirement request. PG&E requests that funding for PA portfolios not approved by January 14, 2022 be considered incremental to PG&E's eight-year authorized budget cap request. This requested policy modification is discussed further in Exhibit 1, Chapter 3.

a. EE Portfolios With Overlapping Service Territory

PG&E will continue to coordinate with the CCAs and RENS in its service territory in an effort for the programs offered by each PA to be complementary to each other's' programs. As directed by the CPUC, CCAs are permitted to administer programs that overlap with an IOU's service territory,⁴² while RENS are not permitted to have overlap with IOU PA programs except for Hard-to-Reach Customers.⁴³ The Opinion Dynamics' 2020 Evaluation of RENS study states:

...as more organizations seek CPUC approval to administer EE programs, the likelihood of overlapping service territories increases. This will further add to the complexity of California's EE portfolio and will require existing and new PAs to increase their coordination efforts and remain vigilant in customer screening and validation

⁴⁰ D.21-05-031, p. 82, OP 7.

⁴¹ Sonoma Clean Power Energy, Advice Letter (AL) SCP 016-E "Sonoma Clean Power Authority Advice Letter 016-E Election to Administer Energy Efficiency Program" (Dec. 1, 2021); East Bay Community Energy, AL 28-E "East Bay Community Energy Election to Administer Energy Efficiency Program" (Oct. 22, 2021); Peninsula Clean Energy Authority AL PCE 20-E "Peninsula Clean Energy Authority Advice Letter 20-E Election to Administer Energy Efficiency Program" (Nov. 19, 2021).

⁴² Pub. Util. Code § 381.1(c). See also D.12-11-015, p. 117, COL 4.

⁴³ D.12-11-015 indicates that RENS should offer activities that utilities cannot or do not intend to undertake, activities where there is no current utility program offering, or activities in hard-to-reach markets, whether there is a current utility program that may overlap, p. 17.

1 protocols to mitigate customer confusion and avoid double counting
2 of incentives.⁴⁴

3 It is challenging to coordinate programs across PAs with overlapping
4 service territories and ensure that they are explicitly complementary.
5 PG&E conducted strategy and planning meetings with the respective
6 RENs and CCAs in its service territory regarding portfolios for 2024 and
7 beyond to identify potential areas of overlap among the programs each
8 intend to offer to strive for complementary activities. Through these
9 discussions, each PA identified two areas of potential overlap of
10 activities that may warrant strategies to ensure complementary
11 approaches—residential equity programs and WE&T programs.

12 Each PA signaled an intent to offer programs within its respective
13 equity segment portfolios for residential sector customers. The plans for
14 each respective PA's residential equity programs are relatively nascent,
15 however the PAs identified potential approaches that can be pursued
16 such as providing different EE measures or “stacking” incentives from
17 each PA for customers who live in the shared territory, while staying
18 within the required guidelines from the EE Policy Manual or other
19 decisions governing incentive layering.⁴⁵ PG&E along with the RENs
20 and CCAs in its service territory may also be able to develop tools such
21 as a decision tree to help customers and program advisors navigate
22 which programs meet their needs. PG&E can discuss these
23 approaches and others through its regular monthly coordination calls
24 with the non-IOU PAs.

25 PG&E, along with BayREN and MCE, identified WE&T programs as
26 another area of opportunity for complementary program activities.
27 Through a collaborative call with all three PAs and implementers, the
28 group identified that there is opportunity for strengthened collaboration
29 and partnership. The PAs committed to developing shared tools to
30 ensure that each PA understands the others' services, measures, and

⁴⁴ *Assessment of Regional Energy Networks CPUC Contract Group B: Deliverable 22B Year 2 Study*, (September 20, 2021). Emergence of new joint PAs, p. 2.

⁴⁵ *Decision on Incentive Layering, The Wildfire And Natural Disaster Resiliency Rebuild Program, Data Sharing, Rate Adjustments For Electric Heat Pump Water Heaters, And Propane Usage*, D.21-11-002.

customer demographics targeted for each program and avoids duplication. The PAs also identified opportunities in referring customers to others' training programs where it was geographically and contextually appropriate.

b. Statewide and Regional Program Coordination With Other PAs

Statewide program administration has been a topic of past Commission decisions and rulings dating as far back as 2001, when the Commission re-affirmed its commitment to statewide programs.⁴⁶ The IOUs have been administering statewide programs for more than 20 years, though the landscape and scope of statewide program administration began to shift after 2016. D.16-08-019 directed California IOUs to transition towards greater statewide administration and third-party involvement in the proposal, design, implementation, and delivery of EE programs.⁴⁷ D.16-08-019 adopted a new definition for a "statewide" program that included a requirement that the program/subprogram be consistent across territories and overseen by a single lead program administrator.⁴⁸ Previously, while the general design of a statewide program was agreed to among the IOUs, each IOU administered its own instance of statewide programs and they did not extend beyond a respective IOU's territory. Given this structure, each IOU managed the "statewide" program within its own portfolio. With D.18-05-041's approval of the IOUs' business plans, the Commission established statewide programs and the associated lead program administrator,⁴⁹ and the next phase of statewide administration started to take shape into the model that is in place today.

While D.18-05-041 declined to require a formal IOU "Program Council" and other governance structures as jointly proposed by the IOUs in their respective business plans, and designated sole

⁴⁶ D.01-11-066, pp. 8-9.

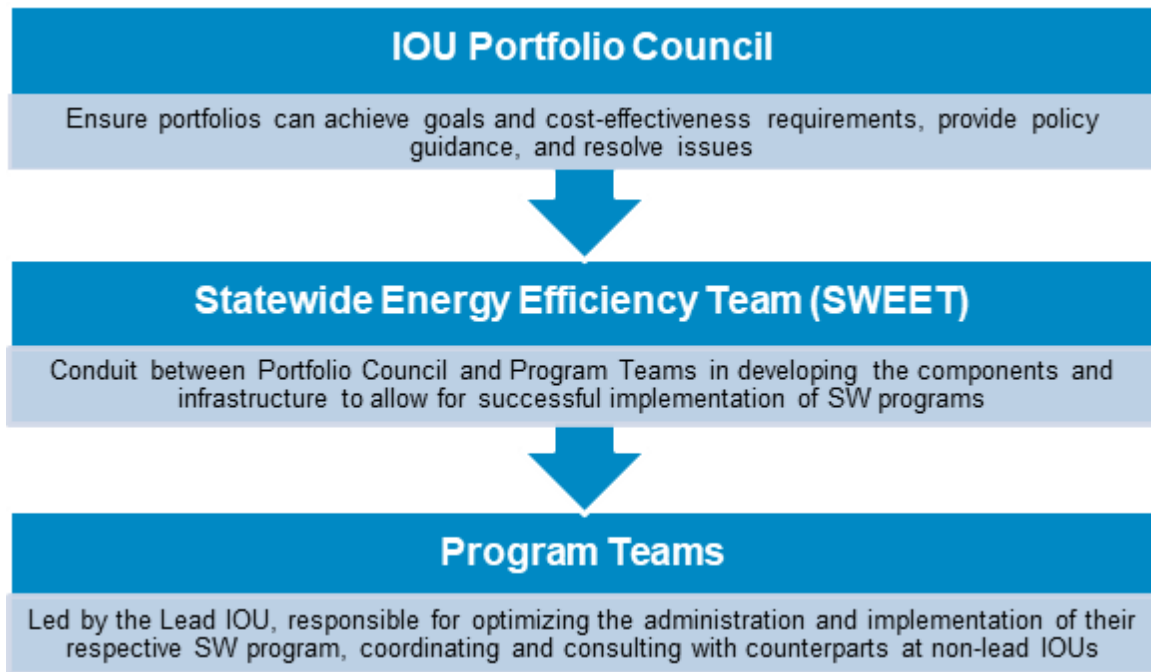
⁴⁷ D.16-08-019, p. 105, COL 58.

⁴⁸ D.16-08-019, pp. 61-62.

⁴⁹ D.18-05-041, pp. 91-92, Tables 3 and 4; includes lead program administrator designations for statewide downstream pilot programs.

responsibilities for the programs to the lead program administrators, the IOUs did establish an informal governance and coordination structure for the statewide programs. Activities are conducted in accordance with the antitrust rules and regulations and D.18-05-041, specifically governing statewide programs.⁵⁰ PG&E intends to continue with this governance structure for statewide program coordination into the portfolio plan years. Figure 5-3 below provides an overview of this structure.

**FIGURE 5-3
STATEWIDE PROGRAMS GOVERNANCE STRUCTURE**



The Statewide Energy Efficiency Team (SWEET) was established to enable program administrators to coordinate on the administration of statewide programs. SWEET is comprised of at least two representatives from each program administrator and 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.

⁵⁰ D.18-05-041, p. 186, OP 20.

Decision-making is driven by a consensus-based approach, and that the lead program administrator acts to the benefit of all IOUs.

The IOU Portfolio Council's charter is to ensure that the PA portfolios achieve their respective goals, cost-effectiveness requirements, and provide policy and portfolio guidance to the SWEET and the statewide program-level teams. The IOU Portfolio Council includes at least one representative from each IOU, and typically includes representatives from the respective EE Portfolio Management and Policy teams. The IOU Portfolio Council serves to resolve escalated issues that were either not able to be resolved through SWEET or at the program-level.

Operationally, significant statewide coordination at both the SWEET level and program level is also required to facilitate the co-funding of statewide programs.

c. Coordination With Other Energy Programs

Diverse EE and energy savings programs are available to PG&E's customers through PG&E's EE and income-qualified portfolios, as well as those offered by other PAs with overlapping service territory.

Within PG&E, the EE portfolio coordinates with programs offered through its income qualified portfolio, such as the Energy Savings Assistance (ESA) Program. This coordination entails EE programs referring eligible customers to the ESA Program when appropriate as well as EE programs ensuring complementary, rather than overlapping, customer eligibility criteria and measure offerings.

In coordinating with programs offered by other PAs, PG&E leverages three primary approaches:

1) Program Staff Meetings:

These recurring meetings discussed above in Section F.1 are held to share information regarding new and upcoming programs and enable PG&E to ensure we can proactively address areas of potential duplication or customer confusion.

2) Customer Updates:

PG&E updates its website, customer call center database, and information shared with third-party program implementers.

1 3) Joint Cooperation Memos:

2 PG&E files annual JCMs with apply-to-administer PAs with
3 overlapping service territory to provide stakeholders information
4 about how PG&E and other PA portfolios are coordinating their
5 portfolios to ensure complementary customer service.

6 **d. Coordination With Other Demand-Side Programs**

7 PG&E embraces strong coordination with other DSM programs and
8 portfolios and understands that comprehensive DSM approaches are
9 key to meeting its portfolio goals. PG&E intends to coordinate through
10 both program implementation and the new programs solicitation
11 process.

12 For program implementation, PG&E will coordinate with other DSM
13 programs and portfolios to meet its portfolio goal of shaping energy
14 demand to match supply. PG&E believes that an Integrated Demand
15 Side Management (IDSM) approach to customer energy management
16 can deliver comprehensive solutions for reducing energy use, as well as
17 shifting energy use away from grid-constrained times and toward times
18 of higher renewable generation. Additional details regarding specific
19 customer sector and program coordination are available in Chapter 4.

20 For new program solicitations, PG&E intends to procure new IDSM
21 programs that can both offer innovative customer solutions, as well as
22 coordinate with PG&E energy supply procurement needs (discussed in
23 detail in Section E.2 above) to provide cost-effective non-wire solutions
24 that can avoid or defer future utility distribution system investments.

25 **e. Stakeholder Engagement in Development of Application**

26 PG&E reached out to multiple organizations as part of its
27 stakeholder engagement process in the development of this EE
28 application. This included outreach to the Natural Resources Defense
29 Council, Sierra Club/Earthjustice, the Public Advocates Office at the
30 California Public Utilities Commission, and California Energy + Demand
31 Management Council. PG&E discussed its high-level strategies with
32 these stakeholders and sought their feedback in summer and fall 2021
33 during the earlier stages of development of its application. Their input

1 fed into the further development of PG&E's approach. PG&E is also an
2 active participant in the California Energy Efficiency Coordinating
3 Committee, an EE stakeholder forum, which discusses topics such as
4 portfolio segmentation throughout the course of the year. PG&E
5 continued regular coordination with other PAs as well, including
6 coordination with other IOUs over development of plans for statewide
7 programs, and general program planning coordination with non-IOU PAs
8 working in overlapping territory. Finally, PG&E provided regular updates
9 and received feedback from Energy Division staff on application-related
10 topics. PG&E looks forward to engaging with a diverse range of
11 stakeholders on issues and serving all of our customers as we
12 implement and refine our portfolio.

PACIFIC GAS AND ELECTRIC COMPANY
CHAPTER 6
EVALUATION, MEASUREMENT AND VERIFICATION

PACIFIC GAS AND ELECTRIC COMPANY
CHAPTER 6
EVALUATION, MEASUREMENT AND VERIFICATION

TABLE OF CONTENTS

A. Introduction.....	6-1
B. Summary of PG&E's Planned EM&V Studies and Activities	6-2
1. Goal 1. Support the Accuracy of Ex Ante Claims	6-3
a. Ex Ante Methods Research	6-4
b. Ex Ante Parameter Updates	6-4
c. Program-Level Ex Ante Meter-Based TSB Calculation	6-5
d. Funding for Tools that Enable Ex Ante Reporting: the California Energy Data and Reporting System (CEDARS) and Cost Effectiveness Tool (CET).....	6-6
2. Goal 2. Inform Portfolio Design and Management	6-6
a. Market Assessment	6-6
1) Potential Market Assessment Topics of Interest: Electrification and Fuel Substitution	6-8
2) Potential Market Assessment Topic of Interest: Bill Impacts	6-8
3) Potential Market Assessment Topic of Interest: Integrated Demand Side Management (IDSM)	6-9
b. Process Evaluation and Formative Research.....	6-9
3. Goal 3. Collaborate with the Commission for Accurate and Actionable Ex Post Impact Evaluations.....	6-11
C. Proposed Forecast Budget Including PA/Energy Division Allocation and Justification.....	6-11

PACIFIC GAS AND ELECTRIC COMPANY

CHAPTER 6

EVALUATION, MEASUREMENT AND VERIFICATION

A. Introduction

This chapter provides a summary of Pacific Gas and Electric Company's (PG&E or the Company) planned Energy Efficiency (EE) Evaluation, Measurement & Verification (EM&V) activities for 2024 through 2027.

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 adopt and detail the following priorities for EE EM&V: savings measurement and verification (M&V); program evaluation; market assessment; policy and planning support; financial management auditing.¹ D.16-08-019, Conclusion of Law (COL) 65 adds a sixth EM&V priority: portfolio and sector optimization.² These priorities apply to EM&V activities led by both the Commission and PAs.

D.10-04-029 clarifies EM&V activities that are within the scope of PAs, versus solely within the scope of the Commission.³ This builds on prior discussion in D.05-01-055. Certain EM&V priorities—for example, financial management auditing—are served only through activities that fall within the scope of the Commission, therefore, some EM&V priorities are not directly relevant to activities that PAs undertake. D.10-04-029 clarifies that it is within the scope of PAs to: (1) manage projects to develop ex ante estimates of program impact;⁴ (2) conduct process and formative research to inform program design and implementation;⁵ (3) conduct market assessment studies.⁶

¹ Decision (D.) 10-10-033, p. 44, OP 2 and Appendix A. See also D.09-09-047, pp. 299-300. These priorities are described in detail in Appendix A to D.10-10-033.

² D.16-08-019, pp. 79-80, and p. 106, COL 65.

³ D.10-04-029, pp. 14-29, Sections 5.-5.8.

⁴ D.10-04-029, pp. 15-17.

⁵ D.10-04-029, p. 19 and D.05-01-055. pp. 118-119.

⁶ D.05-01-055, pp. 118-119.

Based on Commission guidance for EM&V, PG&E's primary goals for its EM&V activities in 2024-2027 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; and
- Section C: Proposed Forecast Budget Including PA/Energy Division Budget Allocation and Justification.

B. Summary of PG&E's Planned EM&V Studies and Activities

PG&E will pursue its EM&V goals through a combination of primary research, secondary research, and other activities. During the 2024-2027 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 will 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 2024-2027 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, in the second half of 2021, a new area of EE policy and program activity arose in response to the Governor's July 30, 2021 proclamation⁷ on summer electric reliability issues for 2022-2023. PAs had to shift priorities quickly to respond to this emergent need. While PG&E is not proposing specific studies in this document, PG&E will keep stakeholders and regulators informed of its research plans. Throughout the portfolio period, when scoping or conducting an EM&V study, PG&E will follow required procedures for EM&V

⁷ Governor's Proclamation of a State of Emergency, July 30, 2021. <https://www.gov.ca.gov/wp-content/uploads/2021/07/Energy-Emergency-Proc-7-30-21.pdf> (accessed Jan. 19, 2022).

studies including proper noticing, CPUC collaboration, and stakeholder engagement.

Other activities through which PG&E will pursue its EM&V goals include:

- ***Collaborating with the Commission and other PAs on studies they are leading.*** This includes reviewing 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 ex post evaluation, have clear logic models, and have plans to collect appropriate data.

1. Goal 1. Support the Accuracy of Ex Ante Claims

PG&E may undertake research to support the accuracy of ex ante claims by: (1) conducting research to inform *methods* for estimating Total System Benefit (TSB); (2) conducting research to inform updates to specific ex ante TSB and cost-effectiveness *parameters*; (3) developing program-level ex ante TSB estimates for meter-based programs; and (4) funding the development and maintenance of tools that enable ex ante reporting.

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 segment 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 to be necessary for the development of methodology to track the non-energy 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 energy efficiency measures, projects, or programs. An example of this type of research is the *Commercial Whole Building Demonstration Early M&V Report*,⁸ 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 Study to investigate the accuracy of several population-level, meter-based estimation methods with and without comparison groups.⁹ If PG&E undertakes research on ex ante methods during the 2024-2027 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 energy efficiency program participation. As a result, energy efficiency 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 inform updates to specific ex ante parameters used to estimate TSB or calculate cost-effectiveness. Past examples of this type of research include measure package update

⁸ SBW Consulting, Inc., *Commercial Whole Building Demonstration Early M&V Report*, May 10, 2019, California Measurement Advisory Council (CALMAC) ID PGE0434.01: <http://www.calmac.org/publications/CommWholeBldgDemoEarlyMVRprt.05-10-2019.CalMAC.ID.PGE.0434.01.pdf> (accessed Jan. 19, 2022).

⁹ Demand Side Analytics, *Pacific Gas and Electric Company Population NMEC Control Group Accuracy Assessment*, Draft Final Report. As of December 19, 2021, the draft final report for this study had been posted to the CPUC's Public Documents area at: [https://pda.energydataweb.com/#/documents/2566/view.\(accessed](https://pda.energydataweb.com/#/documents/2566/view.(accessed) Feb. 4, 2022).

studies, such as the *California LED Workpaper Update Study*.¹⁰ PG&E anticipates that future areas of research on ex ante parameter updates could include:

- **Development of new load shapes**, per guidance in Resolution (Res.) E-5152 Approval of the Database for Energy-Efficiency Resources updates for Program Year 2023 and revised version for Program Years 2022 and 2021.¹¹ Because load shapes are an input into the TSB calculation, they will need to be accurate and up-to-date for ex ante TSB calculations to truly reflect the grid and system impacts of EE measures and to ensure the accuracy of what load shapes will become.
- **Development of values for new avoided cost benefits** used to calculate TSB of EE measures;¹² 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 may involve conducting early M&V¹³ studies to estimate the TSB of programs that use randomized controlled trials or quasi-experimental designs,¹⁴ such as Home Energy Reports (HER) and Home Energy Checkup. *PG&E HER 2019 Energy and Demand*

¹⁰ Navigant Consulting, Inc., *California LED Workpaper Update Study*, August 28, 2015, CALMAC ID SCE0381.01 at: http://www.calmac.org/publications/LED_Study_Report_FINAL_201510029.pdf. (accessed Jan. 26, 2022). See also Resolution (Res.) E-5152 (Aug. 5, 2021), on p. 7, states that the term “workpaper” is replaced with “measure package.”

¹¹ Res.E-5152 (Aug. 5, 2021), p. 16.

¹² This research could serve as a precursor to or follow the approval of new avoided cost benefits in the Integrated Distributed Energy Resources proceeding (Rulemaking (R.) 14-10-003). See Exhibit 1, Chapter 3, B.1 for more detail on PG&E’s policy proposal related to updating benefits included the TSB calculation.

¹³ See D.10-04-029, Attachment 1, pp. 21-22 for early M&V.

¹⁴ See definitions on pp. 97-98 of the *PG&E Resource Savings Rulebook*, version 2.0 at: https://pge.wiki/w/images/5/51/PGE_Resource_Savings_Rulebook_2nd_edition.pdf. (accessed Jan. 26, 2022).

1 *Savings for Early M&V*¹⁵ is a recent example of an “early M&V” study.
 2 Work in this area could also involve calculating ex ante TSB estimates
 3 for population NMEC programs.

4 **d. Funding for Tools that Enable Ex Ante Reporting: the California**
 5 **Energy Data and Reporting System (CEDARS) and Cost**
 6 **Effectiveness Tool (CET)**

7 PA EM&V funds also support ex ante claim accuracy by funding the
 8 electronic tools that support accurate reporting. In Exhibit 1, Chapter 3,
 9 B.4, PG&E proposes a model of IOU-funded development of
 10 improvements to and a governance system for the CEDARS and the
 11 CET it contains. PG&E proposes using IOU EM&V funds to support
 12 CEDARS and CET development and governance. To do so would
 13 follow a model similar to the support PG&E and the other IOUs have
 14 provided in recent years by funding development of the Electronic
 15 Technical Resource Manual (eTRM).¹⁶

16 **2. Goal 2. Inform Portfolio Design and Management**

17 EM&V work performed in this area could include market assessment or
 18 process evaluation/formative research. These types of studies can inform
 19 portfolio design and management by offering insight into the potential for
 20 programs or measures, as well as how they are operating. PG&E
 21 anticipates that work in this area could inform the design and management
 22 of resource acquisition, equity, and/or market support programs.

23 **a. Market Assessment**

24 In D.10-10-033, the Commission noted that market assessment
 25 research is particularly important in a constantly evolving environment,
 26 and that salient topics in this area may include assessment of remaining
 27 program potential, saturation studies, and research on emerging

15 Nexant, *PG&E HER 2019 Energy and Demand Savings Early M&V*, March 11, 2021, CALMAC ID PGE0460.01at: http://www.calmac.org/publications/PG&E_HER_2019_Energy_and_Demand_Savings_Early_M&V_Final_Report_3-11-2021_CALMAC_ID_PGE0460.01.pdf. (accessed Jan. 26, 2022).

16 See Res.E-5152 (Aug. 5, 2021), p. 3.

technologies.¹⁷ 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 energy efficiency markets. Potential market assessment work that PG&E will undertake in 2024-2027 may include:

- **Analyzing the results of, or collaborating with the CPUC to provide input into, Energy Efficiency Potential and Goals (P&G) Studies.** P&G studies provide detailed information on the market potential of a range of energy efficiency measures.
- **Analyzing or commissioning analyses of results and data from the CEC’s Residential Appliance Saturation Study (RASS)¹⁸ and California Commercial End Use Survey (CEUS)** 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.

¹⁷ D.10-10-033, Appendix A.

¹⁸ Information on the 2019 RASS is available at: <https://www.energy.ca.gov/data-reports/surveys/2019-residential-appliance-saturation-study#:~:text=The%20California%20Residential%20Appliance%20Saturation%20Study%20%28RASS%29%20is,heating%20and%20cooling%20equipment%2C%20electric%20vehicles%2C%20and%20energy>. (accessed Jan. 26, 2022). Information on the 2018-2022 CEUS is available at: <https://www.energy.ca.gov/data-reports/surveys/california-commercial-end-use-survey>. (accessed Jan. 19, 2022).

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 2024-2027, 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 portfolio goals¹⁹ and the importance of fuel substitution in the eye of the Commission.²⁰ In order to succeed in promoting these measures, energy efficiency programs must overcome barriers to adoption, including concerns over customer awareness of equipment and programs, cost, panel upgrade requirements, customer preferences for gas.²¹ 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 across proceedings,²² and also noted the potential for rising disparities in electricity affordability by socioeconomic status.²³ By definition, resource acquisition EE programs aim to produce TSB,²⁴ rather than optimizing for bill savings for individual participating

¹⁹ As discussed in Exhibit 1, Chapter 1 and Exhibit 2, Chapters 1 and 4.

²⁰ As articulated in D.21-09-037 p. 16.

²¹ See, for example: DNV GL Energy Insights USA, Inc., *Impact Evaluation of Water Heating Measures – Residential Sector – Program Year 2019 EM&V Group A*, June 16, 2021, CALMAC ID: CPU0233.01 at: http://www.calmac.org/publications/CPUC_Group_A_Report_Water_Heating_PY_2019_Final_CALMAC.pdf. (accessed Jan. 26, 2022).

²² R.18-07-006, *Order Instituting Rulemaking to Develop Methods to Assess the Affordability Impacts of Utility Rate Requests and Commission Proceedings*.

²³ CPUC, *Utility Costs and Affordability of the Grid of the Future: An Evaluation of Electric Costs, Rates, and Equity Issues Pursuant to P.U. Code Section 913.1*, February 2021 at: <https://www.cpuc.ca.gov/-/media/cpuc-website/divisions/energy-division/documents/en-banc/feb-2021-utility-costs-and-affordability-of-the-grid-of-the-future.pdf>. (accessed Jan. 26, 2022).

²⁴ D.21-05-031, p. 14.

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 electric or gas 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 (IDSM)

In its comments on the CPUC's draft Distributed Energy Resources (DER) Action Plan 2.0, PG&E supported exploring the consolidation of all DER customer programs into a single proceeding and noted a need for stakeholder discussion on this topic.²⁵ As of February 1, 2022, the DER Action Plan 2.0 is pending. Data and information on the potential for program consolidation and possible barriers could help inform stakeholder discussions on the topic of proceeding consolidation, and support EE goals by identifying areas where EE programs could benefit from or might struggle with consolidation. Therefore, PG&E may request to undertake research in this area. IDSM market assessment research could be paired with process research, as discussed in the next section.

b. Process Evaluation and Formative 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

²⁵ R.19-01-011, Opening Comments of PG&E on Phase II Proposed Decision (Oct. 20, 2021) Appendix B, PG&E's Comments on Draft DER Action Plan 2.0, Submitted to Energy Division on 10/8/2021, p. 12.

can inform the design or management of other programs.²⁶ 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.²⁷

During the portfolio plan 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 or segment-level equity or market support goals. Alternatively, it might yield lessons from which numerous programs can learn.

Process evaluation work undertaken by PG&E during the portfolio plan 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 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 which different DERs are either integrated into a single program or used concurrently by customers, and explore areas of remaining potential.

²⁶ TecMarket Works, *The California Evaluation Framework*, June 2004, Last Revision Jan. 24, 2006, (California Evaluation Framework) p. 4 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 (accessed Jan. 26, 2022).

²⁷ California Evaluation Framework, p. 27.

3. Goal 3. 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 interim deliverables and draft reports. PG&E anticipates remaining involved in these ways during the portfolio plan period. However, during the 2024-2027 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,²⁸ offering opportunities to reconsider the impact evaluation timeline. As a result of these changes, PG&E requests the Commission involve PAs in scoping impact evaluations, 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.

C. Proposed Forecast Budget Including PA/Energy Division Allocation and Justification

PG&E proposes a total PG&E EM&V budget of about \$43.8 million over four years. This forecast comprises 4 percent of PG&E's total portfolio budget of about \$1.1 billion over four years, consistent with Commission direction to allot 4 percent of each PA's portfolio forecast for EM&V.²⁹

PG&E proposes to allocate 27.5 percent of its forecasted EM&V budget, or about \$12.0 million over four years, for the PA-led EM&V efforts described in Section B.³⁰ This budget allocation assumes PG&E will fund CEDARS and CET development and governance work as noted in section B.1.d of this chapter

²⁸ D.21-05-031, pp. 81-82, OP 5.

²⁹ D.16-08-019, p. 80 and p. 106, COL 67.

³⁰ D.16-08-019 affirms that 27.5 to 40 percent of a PA's total EM&V budget should be allocated to PA-led EM&V activities (D.16-08-019, pp. 80-81). The remaining 60 to 72.5 percent is reserved for Commission-led EM&V activities (*ibid*). D.16-08-019, p. 112, OP 16 sets 60 percent of the EM&V budget as the floor below which funding for Commission-led EM&V activities should not fall.

1 and detailed in Exhibit 1, Chapter 3, B.4, and that PG&E will not continue to fund
 2 eTRM development. The remaining 72.5 percent (approximately \$31.8 million
 3 over four years) will be reserved for CPUC-led EM&V activities. Table 6-1
 4 shows a year-by-year breakout of total EM&V funds, and the funds allocated to
 5 PG&E and CPUC-led activities, respectively.

TABLE 6-1
PG&E EM&V BUDGET AND PA/CPUC ALLOCATION BY YEAR

Line No.	Year	Total PA Budget including EM&V	EM&V Total	PA EM&V Portion (27.5%)	CPUC EM&V Portion (72.5%)
1	2024	\$272,067,674	\$10,882,707	\$2,992,744	\$7,889,963
2	2025	274,280,720	10,971,229	3,017,088	7,954,141
3	2026	273,707,915	10,948,317	3,010,787	7,937,530
4	2027	275,099,169	11,003,967	3,026,091	7,977,876
5	Total	\$1,095,155,478	\$43,806,219	\$12,046,710	\$31,759,509

6 PG&E's PA EM&V budget for 2024-2027 assumes that labor and contract
 7 costs remain generally consistent with observed spending against 2021 EM&V
 8 funds, for a total of approximately \$3.0 million per year. PG&E anticipates
 9 allocating approximately \$350,000 per year to CEDARS and CET development
 10 and governance. The remainder of PG&E PA EM&V funds for each year would
 11 support research activities—including formal PA-led primary research studies,
 12 other research projects and activities such as secondary literature reviews, and
 13 technical assistance support—and labor costs. As stated above, PG&E's PA
 14 EM&V portion request also assumes that PG&E does not provide funding for
 15 eTRM development and enhancement during the portfolio plan period. If
 16 funding requirements for CEDARS and the CET are greater or less than
 17 \$350,000 per year,³¹ or if PG&E is required to fund eTRM, PG&E would
 18 accommodate these changes if possible by adjusting the rest of its PA EM&V
 19 portion budget, or if not, request a larger PA EM&V budget portion in its 2023
 20 True-up Advice Letter.

31 Funding requirements for CEDARS and the CET could differ from PG&E's estimate if: (1) the CPUC does not approve PG&E's proposal for increased funding for CEDARS and the CET as detailed in Exhibit 1, Chapter 3, B.4; (2) Commission staff determine that they will fund CEDARS and CET development out of the CPUC portion of EM&V funds; or (3) budget requirements for CEDARS and CET development are higher or lower than PG&E estimates.

PG&E's PA EM&V portion request for 2024-2027 aligns with its PA EM&V portion requests for 2022 and 2023, as shown in Table 6-2. In 2022 and 2023, PG&E requested approximately \$3.0 million per year for its PA EM&V portion, or 30.3 and 27.5 percent of its overall EM&V budget, respectively.³² PG&E provided \$275,000 of PA EM&V funds per year to support eTRM development and enhancement in 2022 and 2023. In 2024-2027, PG&E does not anticipate providing support for eTRM development and enhancement, but does anticipate supporting CEDARS and CET development and governance at an estimated amount of \$350,000 per year, as discussed above. PG&E anticipates that it would offset funding for CEDARS and CET development and governance with a slight reduction in research spending for 2024-2027 relative to 2022 and 2023, allowing it to maintain the default allocation of 27.5 percent of the EM&V budget toward PA-led activities.

Table 6-2 shows this EM&V budget and PA allocation for 2022-2023 and the period for 2024-2027.

TABLE 6-2
PG&E EM&V BUDGET AND PA ALLOCATION: HISTORICAL COMPARISON

Line No.	Year	PA Portion of PG&E EM&V Budget	Percent of EM&V Budget Allotted to PA EM&V Activities
1	2022	\$2,999,183	30.3%
2	2023	\$3,021,081	27.5%
3	2024-2027	Approx. \$3.0 million per year	27.5%

PG&E will collect EM&V funds on behalf of Regional Energy Networks (REN) and Community Choice Aggregators (CCA), in addition to its own EM&V funds. Tables 6-3 through 6-7 provide the total amount of EM&V funds PG&E will collect for its own portfolio and on behalf of and RENs and CCAs in its territory. PG&E provides total EM&V funds for 2024-2027 in Table 6-3, as well as illustrative year-by-year breakouts in tables 6-4 through 6-7. REN and CCA EM&V budgets shown were provided by the RENs and CCAs as of January 14, 2022.

³² PG&E's AL 4521-G-A/6385-E-A, *Supplemental: PG&E's 2022-2023 Energy Efficiency Biennial Budget Advice Letter in Compliance with D.15-10-028, D.18-05-041, and D.21-05-031*, p. 35.

**TABLE 6-3
2024-2027 PG&E AND REN/CCA EM&V BUDGETS**

Line No.	PA	Total PA Budget without EM&V	EM&V Total ^(a)	EM&V CPUC Portion ^(b)	EM&V PA Portion	Total PA Budget with EM&V
1	PG&E	\$1,051,349,259	\$43,806,219	\$31,759,509	\$12,046,710	\$1,095,155,478
2	BayREN	155,305,571	6,471,066	4,691,523	1,779,543	161,776,637
3	MCE	75,088,624	3,128,693	1,877,216	1,251,477	78,217,316
4	3C-REN ^(c)	29,923,797	1,246,825	903,948	342,877	31,170,621
5	San Jose Clean Energy (SJCE) ^(d)	—	—	—	—	—
6	CleanPowerSF	1,508,863	62,869	45,380	17,489	1,571,732
7	Total	\$1,313,176,113	\$54,715,672	\$39,277,576	\$15,438,096	\$1,367,891,785

- (a) The EM&V total amount (including CPUC and PA portions) is assumed to be 4 percent of the PA's total budget with EM&V.
- (b) For RENs and CCAs, the EM&V CPUC portion was calculated by subtracting the PA's portion from the EM&V total.
- (c) PG&E's portion of 3C-REN's budget is 45.6 percent.
- (d) PG&E transferred SJCE's 3-year 2022-2024 authorized budget to SJCE in one lump sum in October 2021, using PG&E's 2021 funds.

**TABLE 6-4
2024 PG&E AND REN/CCA EM&V BUDGETS**

Line No.	PA	Total PA Budget without EM&V	EM&V Total ^(a)	EM&V CPUC Portion ^(b)	EM&V PA Portion	Total PA Budget with EM&V
1	PG&E	\$261,184,967	\$10,882,707	\$7,889,963	\$2,992,744	\$272,067,674
2	BayREN	36,577,572	1,524,065	1,104,947	419,118	38,101,638
3	MCE	18,502,694	770,946	462,567	308,378	19,273,639
4	3C-REN ^(c)	6,954,562	289,773	210,086	79,688	7,244,336
5	San Jose Clean Energy ^(d)	—	—	—	—	—
6	CleanPowerSF	1,508,863	62,869	45,380	17,489	1,571,732
7	Total	\$324,728,659	\$13,530,360	\$9,712,943	\$3,817,417	\$338,259,019

- (a) The EM&V total amount (including CPUC and PA portions) is assumed to be 4 percent of the PA's total budget with EM&V.
- (b) For RENs and CCAs, the EM&V CPUC portion was calculated by subtracting the PA's portion from the EM&V total.
- (c) PG&E's portion of 3C-REN's budget is 45.6 percent.
- (d) PG&E transferred SJCE's 3-year 2022-2024 authorized budget to SJCE in one lump sum in October 2021, using PG&E's 2021 funds.

**TABLE 6-5
2025 PG&E AND REN/CCA EM&V BUDGETS**

Line No.	PA	Total PA Budget without EM&V	EM&V Total ^(a)	EM&V CPUC Portion ^(b)	EM&V PA Portion	Total PA Budget with EM&V
1	PG&E	\$263,309,491	\$10,971,229	\$7,954,141	\$3,017,088	\$274,280,720
2	BayREN	38,723,506	1,613,480	1,169,773	443,707	40,336,985
3	MCE	18,741,359	780,890	468,534	312,356	19,522,249
4	3C-REN ^(c)	7,322,122	305,088	221,189	83,899	7,627,211
5	San Jose Clean Energy ^(d)	—	—	—	—	—
6	CleanPowerSF ^(d)	—	—	—	—	—
7	Total	\$328,096,478	\$13,670,687	\$9,813,637	\$3,857,050	\$341,767,165

- (a) The EM&V total amount (including CPUC and PA portions) is assumed to be 4 percent of the PA's total budget with EM&V.
- (b) For RENs and CCAs, the EM&V CPUC portion was calculated by subtracting the PA's portion from the EM&V total.
- (c) PG&E's portion of 3C-REN's budget is 45.6 percent.
- (d) Funding for SJCE and CleanPowerSF is included for the authorized years only. Therefore, budget beyond 2024 is not reflected in this table.

**TABLE 6-6
2026 PG&E AND REN/CCA EM&V BUDGETS**

Line No.	PA	Total PA Budget without EM&V	EM&V Total ^(a)	EM&V CPUC Portion ^(b)	EM&V PA Portion	Total PA Budget with EM&V
1	PG&E	\$262,759,598	\$10,948,317	\$7,937,530	\$3,010,787	\$273,707,915
2	BayREN	39,627,430	1,651,143	1,197,079	454,064	41,278,573
3	MCE	18,800,660	783,361	470,017	313,344	19,584,021
4	3C-REN ^(c)	7,682,383	320,099	232,072	88,027	8,002,482
5	San Jose Clean Energy ^(d)	—	—	—	—	—
6	CleanPowerSF ^(d)	—	—	—	—	—
7	Total	\$328,870,072	\$13,702,920	\$9,836,697	\$3,866,223	\$342,572,991

- (a) The EM&V total amount (including CPUC and PA portions) is assumed to be 4 percent of the PA's total budget with EM&V.
- (b) For RENs and CCAs, the EM&V CPUC portion was calculated by subtracting the PA's portion from the EM&V total.
- (c) PG&E's portion of 3C-REN's budget is 45.6 percent.
- (d) Funding for SJCE and CleanPowerSF is included for the authorized years only. Therefore, budget beyond 2024 is not reflected in this table.

**TABLE 6-7
2027 PG&E AND REN/CCA EM&V BUDGETS**

Line No.	PA	Total PA Budget without EM&V	EM&V Total ^(a)	EM&V CPUC Portion ^(b)	EM&V PA Portion	Total PA Budget with EM&V
1	PG&E	\$264,095,202	\$11,003,967	\$7,977,876	\$3,026,091	\$275,099,169
2	BayREN	40,377,063	1,682,378	1,219,724	462,654	42,059,441
3	MCE	19,043,911	793,496	476,098	317,399	19,837,407
4	3C-REN ^(c)	7,964,729	331,864	240,601	91,263	8,296,593
5	San Jose Clean Energy ^(d)	—	—	—	—	—
6	CleanPowerSF ^(d)	—	—	—	—	—
7	Total	\$331,480,905	\$13,811,705	\$9,914,299	\$3,897,406	\$345,292,609

- (a) The EM&V total amount (including CPUC and PA portions) is assumed to be 4 percent of the PA's total budget with EM&V.
- (b) For RENs and CCAs, the EM&V CPUC portion was calculated by subtracting the PA's portion from the EM&V total.
- (c) PG&E's portion of 3C-REN's budget is 45.6 percent.
- (d) Funding for SJCE and CleanPowerSF is included for the authorized years only. Therefore, budget beyond 2024 is not reflected in this table.

PACIFIC GAS AND ELECTRIC COMPANY
CHAPTER 7
COST AND COST RECOVERY

PACIFIC GAS AND ELECTRIC COMPANY
CHAPTER 7
COST AND COST RECOVERY

TABLE OF CONTENTS

A. Summary of Costs at Portfolio-Level	7-1
1. Benefit Burdens	7-3
2. Revenue Fees and Uncollectibles Factor.....	7-4
3. Electric and Gas Split.....	7-4
4. Integrated Demand Side Management Budget	7-5
5. Rate Impacts.....	7-6
B. (IOU PAs Only) Cost Recovery Through Continued Use of Balancing Accounts.....	7-9
C. PA’s Approach to Classification of Which Unspent Funds are Designated “Committed” and Thus Not Applied to Reduce Recovery in Future Years.....	7-10

PACIFIC GAS AND ELECTRIC COMPANY
CHAPTER 7
COST AND COST RECOVERY

A. Summary of Costs at Portfolio-Level

The combined total proposed Energy Efficiency (EE) revenue requirement for Program Years (PY) 2024-2027 that supports Pacific Gas and Electric Company's (PG&E) EE Program Goals and Budgets described in this application is presented in Table 7-1 and Table 7-2 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 Portfolio Administrator (PA) status as of January 14, 2022 for PYs 2024-2031. PG&E proposes to recover in rates a total of \$919.4 million in the electric Procurement Energy Efficiency Revenue Adjustment Mechanism (PEERAM) and Public Purpose Program Revenue Adjustment Mechanism (PPPRAM) and \$458.3 million in the gas Public Purpose Program (PPP) Surcharge – EE in 2024-2027 (see Table 7-1) subject to change due to the benefit burdens and Revenue Fees and Uncollectibles (RF&U) approved in future General Rate Cases (GRC) as further discussed below.

TABLE 7-1
2024-2027 EE PORTFOLIO ELECTRIC AND GAS REVENUE REQUIREMENTS, INCLUDING
BENEFIT BURDENS

Line No.		2024	2025	2026	2027	Total
1	<u>Electric:</u>					
2	Portfolio Budget excluding Benefit Burdens	\$226,182,853	\$218,400,764	\$222,190,979	\$227,303,889	\$894,078,485
3	<i>Plus: Benefit Burdens</i>	<u>3,833,280</u>	<u>3,747,894</u>	<u>3,907,195</u>	<u>4,042,160</u>	<u>15,530,529</u>
4	Portfolio Budget ^(a) including Benefit Burdens	\$230,016,133	\$222,148,658	\$226,098,174	\$231,346,049	\$909,609,014
5	<i>Plus: RF&U^(c)</i>	<u>2,486,704</u>	<u>2,401,649</u>	<u>2,444,347</u>	<u>2,501,082</u>	<u>9,833,782</u>
6	<i>Total Electric Revenue Requirement:</i>	<u>\$232,502,837</u>	<u>\$224,550,307</u>	<u>\$228,542,521</u>	<u>\$233,847,131</u>	<u>\$919,442,796</u>
7	<u>Gas:</u>					
8	Portfolio Budget excluding Benefit Burdens	\$106,438,990	\$117,600,411	\$114,462,020	\$111,955,647	\$450,457,068
9	<i>Plus: Benefit Burdens</i>	<u>1,803,896</u>	<u>2,018,097</u>	<u>2,012,797</u>	<u>1,990,914</u>	<u>7,825,704</u>
10	Portfolio Budget ^(a) including Benefit Burdens	<u>\$108,242,886</u>	<u>\$119,618,508</u>	<u>\$116,474,817</u>	<u>\$113,946,561</u>	<u>\$458,282,772</u>
11	<i>Total Gas Revenue Requirement:</i>	<u>\$108,242,886</u>	<u>\$119,618,508</u>	<u>\$116,474,817</u>	<u>\$113,946,561</u>	<u>\$458,282,772</u>
12	Total EE Revenue Requirement (Electric and Gas):	\$340,745,723	\$344,168,815	\$345,017,338	\$347,793,692	\$1,377,725,568

- (a) The portfolio budget is the combined total of budget forecasts for PG&E and CCA and RENs that have been approved for PA status as of January 14, 2022. Refer to Exhibit 1, Chapter 2, Table 2-1 for individual PA budget amounts.
- (b) The benefit burdens amount represents estimated benefit burdens expenditures. This estimate is calculated based on 2020 benefit burdens expenditures, reduction in 2024-2027 Full-time Employees (FTE) forecast from 2020 FTEs, and 3.52 percent forecast annual inflation. The revenue requirement shall be adjusted accordingly when the benefit burdens amount and/or methodology are approved in future GRCs applicable to the PY.
- (c) The RF&U is based on PG&E's 2020 GRC Decision (D.)20-12-005, section 9.6.2 and is shown for illustration purposes. The revenue requirement shall be adjusted accordingly when the RF&U is approved in future GRCs applicable to the PY.

TABLE 7-2
2024-2027 EE PORTFOLIO ELECTRIC AND GAS REVENUE REQUIREMENTS, EXCLUDING
BENEFIT BURDENS

Line No.	Category	2024	2025	2026	2027	Total
1	<u>Electric:</u>					
2	Portfolio Budget excluding Benefit Burdens ^(a)	\$226,182,853	\$218,400,764	\$222,190,979	\$227,303,889	\$894,078,485
3	Plus: RF&U ^(b)	<u>2,445,263</u>	<u>2,361,131</u>	<u>2,402,107</u>	<u>2,457,382</u>	<u>9,665,882</u>
4	Total Electric Revenue Requirement:	\$228,628,116	\$220,761,895	\$224,593,086	\$229,761,271	\$903,744,367
5	<u>Gas:</u>					
6	Portfolio Budget excluding Benefit Burdens(c)	<u>\$106,438,990</u>	<u>\$117,600,441</u>	<u>\$114,462,020</u>	<u>\$111,955,647</u>	<u>\$450,457,068</u>
7	Total Gas Revenue Requirement:	<u>\$106,438,990</u>	<u>\$117,600,441</u>	<u>\$114,462,020</u>	<u>\$111,955,647</u>	<u>\$450,457,068</u>
8	Total EE Revenue Requirement (Electric plus Gas):	\$335,067,106	\$338,362,306	\$339,055,106	\$341,716,918	\$1,354,201,435

(a) This line agrees to Line 2 in Table 7-1.

(b) The RF&U is based on PG&E's 2020 GRC D.20-12-005, section 9.6.2 and is shown for illustration purposes. The revenue requirement shall be adjusted accordingly when the RF&U is approved in future GRCs applicable to the PY.

(c) This line agrees to Line 8 in Table 7-1.

1. Benefit Burdens

The benefit burdens cost includes medical, vision, dental, employee healthcare contributions, group life insurance, short-term incentive payments, 401k expenses, relocation expenses, short-term disability costs, and tuition reimbursements.¹ D.14-08-032, approving PG&E's Test Year 2014 GRC I Application, directed PG&E to track and recover benefit burdens through the Customer Programs, including the electric Procurement Energy Efficiency Balancing Account (PEEBA), Gas Public Purpose Program Energy Efficiency Balancing Account (PPPEEBA), PEERAM, and PPP-EE.² The Operations and Maintenance (O&M) labor factors utilized to

¹ Overhead costs, which consist of Paid Time Off, Indirect Labor, Material Burden, and Minor Materials, are not included in the Benefit Burdens definition. These costs are included in the Program Budgets shown on Lines 2 and 8 of Table 7-1 and Lines 2 and 6 of Table 7-2.

² D.14-08-032, p. 740, Ordering Paragraph (OP) 39.

determine PG&E's benefit burdens for 2017-2019 and 2020-2022 were adopted in PG&E's 2017 GRC³ and 2020 GRC⁴ Settlement Agreements, respectively. PG&E proposed to change this methodology in its 2023 GRC Phase I application (Application (A.) 21-06-021), which is pending California Public Utilities Commission (CPUC or Commission) approval. Specifically, PG&E proposes to discontinue allocating benefit burdens to Customer Program balancing accounts.⁵ As such, for illustration purposes the benefit burdens have been included in the amounts presented in Table 7-1 in accordance with the currently adopted methodology but have not been included in Table 7-2 in accordance with PG&E's 2023 GRC Phase I application. The revenue requirements shall be recovered from customers based on the outcomes of PG&E's 2023 GRC phase I application for 2023-2026 and PG&E's 2027 GRC Phase I application for 2027.

2. Revenue Fees and Uncollectibles Factor

The RF&U is determined through the GRC and updated on an annual basis. The RF&U shown in Table 7-1 and Table 7-2 for 2024-2027 EE Program Electric Revenue Requirements⁶ represents the RF&U using the 2022 factor, 0.010811, determined in D.20-12-005 and Advice 4512-G/6373-E for illustration purposes.⁷ The revenue requirement shall be adjusted accordingly with the RF&U approved in future GRCs applicable to the respective year.

3. Electric and Gas Split

The electric and gas split is based on the avoided cost benefits ratio.

The annual electric and gas split for PY 2024-2027 is shown in Table 7-3. If

³ PG&E's proposal presented in the 2017 GRC A.15-09-001, Exhibit (PG&E-10), p. 7-11 was agreed to in the Settlement Agreement, D.17-05-013.

⁴ PG&E's proposed O&M Labor Allocation Factors presented in the 2020 GRC A.18-12-009, Hearing Exhibit-83: Exhibit (PG&E-10), p. WP 7-11 were agreed to in the Settlement Agreement, D.20-12-005, with no changes.

⁵ A.21-06-021, Exhibit (PG&E-10), p. 8-18.

⁶ Per D.04-08-010 PPP surcharge rates (which EE is a component of) do not include a factor for revenue fees and uncollectible expense.

⁷ D.20-12-005, section 9.6.2 and Advice Letter (AL) 4512-G/6373-E *PG&E's Uncollectible Factor Effective January 1, 2022 in Compliance with the 2020 General Rate Case Decision 20-12-005*, p. 1, approved November 18, 2021.

the Commission does not approve the electric/gas split associated with this 2024-2027 forecast budget application, then PG&E will default to the average of the 2022 and 2023 approved electric/gas split.^{8,9}

**TABLE 7-3
PG&E ELECTRIC AND GAS SPLIT FOR 2024-2027**

Line No.		2024	2025	2026	2027
1	Electric	68%	65%	66%	67%
2	Gas	32%	35%	34%	33%

4. Integrated Demand Side Management Budget

D.18-05-041 directs each Investor-Owned Utility (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. Of PG&E's \$9 million annual IDSM budget \$1 million will be allocated to the EE portion of the IDSM budget, and \$8 million will be allocated to the Demand Response portion of the IDSM budget as shown in

⁸ The electric/gas split for 2021 is 83 percent electric and 17 percent gas as approved by Non-standard disposition to AL 4303-G-A/5936-E-A, issued on December 21, 2020. On November 8, 2021 PG&E filed AL 4521-G/6385-E, in which PG&E proposed an electric/gas split of 82 percent electric and 18 percent gas for 2022 and 80 percent electric and 20 percent gas for 2023. See also PG&E's Supplemental AL 4521-G-A/6385-E-A, date January 7, 2022 which replaced PG&E's November 8, 2021 AL in its entirety but did not affect the split as originally reported. This AL is pending approval with the Commission.

⁹ The change in the electric-gas split between 2023 and 2024 is driven primarily by differences in avoided costs. PG&E estimates the electric-gas split based on the ratio between electric and gas avoided cost benefits. Per D.21-09-037, Section 4, pp. 21-22, the 2020 ACC was applied to PG&E's EE portfolio forecast for 2022 and 2023 while the 2021 ACC was applied to PG&E EE's portfolio for 2024 and beyond. In the 2021 ACC, electric avoided cost benefits decrease and gas avoided cost benefits increase relative to each other, compared to the 2020 ACC. Therefore, in PG&E's EE portfolio, this translates to a change in the ratio of electric and gas benefits from 2023 to 2024.

Table 7-4. The \$1 million EE portion of the annual budget is embedded within the residential sector budget shown in Table 4-1 and included in the Revenue Requirements shown in Tables 7-1 and 7-2. The annual IDSM budget related to Demand Response is funded separately from the EE budget portion and will be included in future Demand Response applications that will be subject to CPUC approval. PG&E plans to continue the existing practice of tracking and recording the Demand Response portion of IDSM costs up to the annual cap in the Demand Response Expenditures Balancing Account and recovering via the Distribution Revenue Adjustment Mechanism.

**TABLE 7-4
DEMAND RESPONSE IDSM FUNDING REQUEST FOR 2024 TO 2027**

Line No.	Category	2024	2025	2026	2027
1	EE ^(a)	\$8,000,000	\$8,000,000	\$8,000,000	\$8,000,000
2	Demand Response ^(a)	<u>1,000,000</u>	<u>1,000,000</u>	<u>1,000,000</u>	<u>1,000,000</u>
3	Total PG&E IDSM ^(a)	\$9,000,000	\$9,000,000	\$9,000,000	\$9,000,000

(a) RF&U is not included in the amounts shown here but will be added to electric funding to determine the revenue requirement when recovered in rates through the Annual Electric True-Up (AET).

5. Rate Impacts

PG&E's illustrative EE Program rate impacts among PG&E's electric and gas customer classes are shown in Tables 7-5 and 7-6, respectively.¹⁰ The rate impacts shown in Tables 7-5 and 7-6 reflect the impact of the incremental revenue requirements requested in this proceeding in 2027 relative to the amounts authorized and effective in rates as of January 1, 2022. The incremental revenue requirements are presented in Exhibit 3, Chapter 1, Tables 2a and 2b. 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 (FERA) customer using 500 kilowatt-hour (kWh) per month in

¹⁰ Rate impacts shown in Tables 7-5 and 7-6 include benefit burdens.

2027¹¹ will decrease \$0.36 from \$151.53 to \$151.17. The bill for a typical bundled residential non-CARE/non-FERA customer using approximately twice the average baseline allowance in 2027, or 700 kWh per month, will decrease \$0.52 from \$222.49 to \$221.96.

**TABLE 7-5
ELECTRIC RATE TABLE**

Illustrative Electric Class Average Rates (\$/kWh)				
Line No.	Customer Class	Present Rates January 1, 2022	Proposed Rates 2027 EE	Percentage Change
1	<u>Bundled Service*</u>			
2	Residential	\$0.26814	\$0.26769	-0.2%
3	Small			
4	Commercial	\$0.29597	\$0.29500	-0.3%
5	Medium			
6	Commercial	\$0.26097	\$0.25986	-0.4%
7	Large			
8	Commercial	\$0.22356	\$0.22248	-0.5%
9	Streetlights	\$0.31664	\$0.31526	-0.4%
10	Standby	\$0.17149	\$0.17061	-0.5%
11	Agricultural	\$0.26995	\$0.26924	-0.3%
12	Industrial	\$0.17263	\$0.17149	-0.7%
13	Average	\$0.25136	\$0.25060	-0.3%
14	<u>Direct Access and Community Choice Aggregation Service**</u>			
15	Residential	\$0.22269	\$0.22217	-0.2%
16	Small			
17	Commercial	\$0.22480	\$0.22381	-0.4%
18	Medium			
19	Commercial	\$0.18602	\$0.18489	-0.6%
20	Large			
21	Commercial	\$0.14438	\$0.14331	-0.7%
22	Streetlights	\$0.21772	\$0.21635	-0.6%
23	Standby	\$0.18560	\$0.18322	-1.3%
24	Agricultural	\$0.18745	\$0.18671	-0.4%
25	Industrial	\$0.09543	\$0.09438	-1.1%
26	Average	\$0.17344	\$0.17256	-0.5%

* Customers who receive electric generation as well as transmission and distribution service from PG&E.

** Customers who purchase energy from non PG&E suppliers.

¹¹ 2027 is the year with the highest EE budget request.

Under PG&E's EE Program expense forecast proposal, the bill for a typical bundled residential non-CARE customer using 32 therms per month in 2027 will increase \$0.32 from \$63.06 to \$63.38.

**TABLE 7-6
GAS RATE TABLE**

Gas Class Average Bundled and Transportation/PPPS Rates (\$/th)				
Line No.	Customer Class	Present	Proposed	
		January 1, 2022	2027 EE	
				\$ Change
				% Change
1	BUNDLED—RETAIL CORE*			
2	Residential Non-CARE**	\$2.104	\$2.114	\$0.010
3	Small Commercial Non-CARE**	\$1.537	\$1.560	\$0.022
4	Large Commercial**	\$1.136	\$1.151	\$0.015
5	Uncompressed Core NGV	\$1.117	\$1.117	\$0.000
6	Compressed Core NGV	\$2.686	\$2.686	\$0.000
7	TRANSPORT ONLY—RETAIL CORE			
8	Residential Non-CARE**	\$1.602	\$1.612	\$0.010
9	Small Commercial Non-CARE**	\$1.058	\$1.081	\$0.022
10	Large Commercial**	\$0.701	\$0.715	\$0.015
11	Uncompressed Core NGV	\$0.686	\$0.686	\$0.000
12	Compressed Core NGV	\$2.256	\$2.256	\$0.000
13	TRANSPORT ONLY—RETAIL NONCORE			
14	Industrial – Distribution	\$0.590	\$0.613	\$0.023
15	Industrial – Transmission	\$0.320	\$0.327	\$0.007
16	Industrial – Backbone	\$0.192	\$0.198	\$0.006
17	Uncompressed Noncore NGV – Distribution	\$0.571	\$0.571	\$0.000
18	Uncompressed Noncore NGV – Transmission	\$0.304	\$0.304	\$0.000
19	Electric Generation – Distribution/Transmission	\$0.255	\$0.255	\$0.000
20	Electric Generation – Backbone	\$0.136	\$0.136	\$0.000
21	TRANSPORT ONLY—WHOLESALE			
22	Alpine Natural Gas (T)	\$0.152	\$0.152	\$0.000
23	Coalinga (T)	\$0.152	\$0.152	\$0.000
24	Island Energy (T)	\$0.160	\$0.160	\$0.000
25	Palo Alto (T)	\$0.149	\$0.149	\$0.000
26	West Coast Gas – Castle (D)	\$0.467	\$0.467	\$0.000
27	West Coast Gas – Mather (D)	\$0.688	\$0.688	\$0.000
28	West Coast Gas – Mather (T)	\$0.153	\$0.153	\$0.000

* Illustrative Bundled Rates incorporate an illustrative procurement revenue requirement as filed in PG&E's 2022 AGT.

** CARE Customers receive a 20% discount off of PG&E's total bundled rate and are exempt from the CARE portion of PG&E's Public Purpose Program Surcharge (G-PPPS) rates and cost recovery of the California Solar Initiative Thermal Program.

PG&E will incorporate the annual electric EE Program revenue requirement authorized in this proceeding into electric rates in the 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

1 allocation and rate design methods adopted for the EE program revenue
2 component of electric PPP rates.¹²

3 PG&E will incorporate the annual gas EE Program revenue requirement
4 authorized in this proceeding into gas rates in its annual gas PPP surcharge
5 AL and the Annual Gas True-Up filings with other rate changes effective
6 January 1 of each year in the program forecast period. Similarly, any gas
7 EE program revenue change will be allocated among customer classes
8 consistent with the then current adopted practices.¹³ If a decision is not
9 issued in time to incorporate the proposed revenue requirement in PPP
10 surcharge rates by January 1, 2024, then PG&E will incorporate changes
11 adopted in this proceeding in the following year's PPP surcharge AL.¹⁴

12 As stated above, in the event a final decision is not issued in time to
13 include in the 2024 revenue requirements in the annual electric true-up
14 advice letter or gas PPP surcharge filings, PG&E will average its 2022 and
15 2023 approved budgets for 2024 until such a time as the Commission
16 approves a new budget. Similarly, PG&E will continue to recover costs, and
17 to make transfers to CCA and RENs, based on the average 2022 and 2023
18 approved budgets. Upon issuance of the final decision, PG&E will true-up
19 the difference between the amounts approved in the final decision and the
20 EE amounts in rates at that time through its next electric rate change advice
21 letter and annual gas PPP surcharge AL.¹⁵

22 **B. (IOU PAs Only) Cost Recovery Through Continued Use of Balancing** 23 **Accounts**

24 There are no proposed changes to the balancing accounts that PG&E uses
25 to track the program cost and revenue requirement for the 2024-2027 EE

12 Electric EE Programs are allocated to customers in PPP rates based on the revenue allocation authorized in GRC Phase II proceedings.

13 Gas EE Programs are allocated based on the direct allocation method as authorized in D.19-10-036, pp. 83-84, OP 9.

14 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.

15 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.

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 EE 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 (ESA) Program and the EE portion of the former Public Goods Charge (PGC) 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 portion of PG&E's EE program expenditures against the gas PPP surcharge portion of authorized EE program funding.

C. 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. Per D.21-01-004, any PG&E 2020, 2021, and 2022 unspent and uncommitted funds are to be transferred to the California Energy Commission to fund the Schools Stimulus Program created in California

1 Assembly Bill 841.¹⁶ On November 8, 2021 PG&E filed Advice 4521-G/6385-E,
 2 *PG&E's 2022-2023 Energy Efficiency Biennial Budget Advice Letter in*
 3 *Compliance with Decisions 15-10-028, 18-05-041, and 21-05-031*, in which
 4 PG&E proposed offsetting the cost recovery for 2022 by unspent, uncommitted
 5 funds for prior PYs, 2016-2019.¹⁷ PG&E did not anticipate any uncommitted,
 6 unspent funds for 2022 to be used to offset the cost recovery for 2023.¹⁸ As
 7 such, at the time of filing this application there are no unspent, uncommitted
 8 funds from prior PYs available to offset the cost recovery for 2024-2031. Any
 9 unspent, uncommitted funds that do result will be addressed in a future
 10 application or AL filing, as appropriate.

¹⁶ D.21-01-004, p. 3.

¹⁷ Refer to AL 4521-G/6385-E, Table 19a. See also PG&E's Supplemental AL 4521-G-A/6385-E-A, date January 7, 2022 which replaced PG&E's November 8, 2021 AL in its entirety but did not affect the table as originally reported. This AL is pending approval with the Commission.

¹⁸ Refer to AL 4521-G/6385-E, Table 19c. See also PG&E's Supplemental AL 4521-G-A/6385-E-A, date January 7, 2022 which replaced PG&E's November 8, 2021 AL in its entirety but did not affect the table as originally reported. This AL is pending approval with the Commission.

PACIFIC GAS AND ELECTRIC COMPANY
APPENDIX A
PG&E ENERGY EFFICIENCY 2024-2027 CEDARS FILING
SUBMISSION LINKS AND RECEIPTS

PACIFIC GAS AND ELECTRIC COMPANY
APPENDIX A
PG&E ENERGY EFFICIENCY 2024-2027 CEDARS FILING
SUBMISSION LINKS AND RECEIPTS

A. Working links to CEDARS:¹

1. 2024: <https://cedars.sound-data.com/filings/dashboard/PGE/2024/>
2. 2025: <https://cedars.sound-data.com/filings/dashboard/PGE/2025/>
3. 2026: <https://cedars.sound-data.com/filings/dashboard/PGE/2026/>
4. 2027: <https://cedars.sound-data.com/filings/dashboard/PGE/2027/>

¹ PG&E's CET inputs submitted to CEDARS comply with D.21-05-031, OP5, item (c) in that they incorporate currently-approved Database for Energy Efficient Resources (DEER) values and approved measure packages (formerly known as ex ante workpapers) as available in the California Electronic Technical Reference Manual (eTRM).

Bohn, Rob

From: cedars@sound-data.com
Sent: Thursday, February 10, 2022 9:40 AM
To: Reddy, Roopa
Subject: CEDARS 2024 budget filing submitted for PGE

*****CAUTION: This email was sent from an EXTERNAL source. Think before clicking links or opening attachments.*****

CEDARS FILING SUBMISSION RECEIPT

The PGE portfolio budget filing has been submitted and is now under review. A summary of the budget filing is provided below.

PA: Pacific Gas & Electric (PGE)

Budget Filing Year: 2024

Submitted: 17:39:50 on 10 Feb 2022

By: Roopa Reddy

Advice Letter Number: A.22-02-XXX

* Portfolio Budget Filing Summary *

- TRC: 1.29
- PAC: 4.32
- TRC (no admin): 1.67
- PAC (no admin): 18.29
- RIM: 2.21
- Budget: \$262,067,674.11
- TotalSystemBenefit: \$1,089,143,232.02
- ElecBen: \$723,520,533.41
- GasBen: \$357,340,264.24
- OtherBen: \$8,808,330.83
- TRCCost: \$844,147,805.11
- PACCost: \$252,313,414.87

* Programs Included in the Budget Filing *

- PGE21011: Commercial Calculated Incentives
- PGE21012: Commercial Deemed Incentives
- PGE21014: Commercial Energy Advisor
- PGE21021: Industrial Calculated Incentives
- PGE210212: Compressed Air and Vacuum Optimization Program
- PGE21022: Industrial Deemed Incentives
- PGE21024: Industrial Energy Advisor
- PGE21031: Agricultural Calculated Incentives
- PGE21032: Agricultural Deemed Incentives

- PGE21034: Agricultural Energy Advisor
- PGE21053: Compliance Improvement
- PGE21054: Reach Codes
- PGE21055: Planning and Coordination
- PGE21056: Code Readiness
- PGE21071: WE&T Integrated Energy Education and Training
- PGE_Ag_001: Agricultural Efficiency Program
- PGE_Com_001: Grocery Efficiency Program
- PGE_Com_002: Laboratory Performance Efficiency Program
- PGE_Com_003: Commercial Efficiency Program
- PGE_Com_004: High Tech and Bio Tech Efficiency Program
- PGE_Com_005: Healthcare Efficiency Program
- PGE_Com_EM: Commercial Energy Management Placeholder
- PGE_Com_SmallBiz: New Small/Micro Business Placeholder
- PGE_Com_ZE: Zonal Electrification Placeholder (Commercial)
- PGE_CS_Decarb: C&S Decarbonization Support Placeholder
- PGE_EMV_001: PGE EM&V
- PGE_EMV_002: CPUC EM&V
- PGE_ESA: Energy Savings Assistance
- PGE_Ind_001a: Industrial Strategic Energy Management - Food Processing
- PGE_Ind_001b: Industrial Strategic Energy Management - Manufacturing
- PGE_Ind_002: Petroleum and Chemical Efficiency Program
- PGE_Ind_003: Manufacturing and Food Processing Efficiency Program
- PGE_LoanPool: Financing Loan Pool Addition
- PGE_OBFAP: On-Bill Financing Alternative Pathway
- PGE_OtherPA_Admin: IOU REN/CCA Admin Costs
- PGE_Pub_001: Central Coast Local Government Partnership
- PGE_Pub_002: Marin Local Government Partnership
- PGE_Pub_003: Redwood Local Government Partnership
- PGE_Pub_004: Central California Local Government Partnership
- PGE_Pub_005: San Mateo Local Government Partnership
- PGE_Pub_006: San Francisco Local Government Partnership
- PGE_Pub_007: Sierra Local Government Partnership
- PGE_Pub_008: Sonoma Local Government Partnership
- PGE_Pub_009: Government and K-12 Comprehensive Program
- PGE_Pub_010: Wastewater Process Efficiency Program
- PGE_Pub_011: California Analysis Tool for Locational Energy Assessment (CATALENA)
- PGE_Pub_Resiliency: Resiliency Support Placeholder (Public)
- PGE_Res_001b: Virtual Energy Audit Program
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- PGE_Res_002d: Residential Behavioral Program
- PGE_Res_002e: Online Marketplace Program
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- PGE_Res_Equity: Residential Equity Placeholder
- PGE_Res_LoadMgt: Residential Load Management Placeholder
- PGE_Res_Mkt_Spt: Residential Market Support Placeholder
- PGE_Res_Resiliency: Resiliency Support Placeholder (Residential)
- PGE_Res_ZE: Zonal Electrification Placeholder (Residential)
- PGE_SW_CSA_Appl: State Appliance Standards Advocacy
- PGE_SW_CSA_Appl_PA: State Appliance Standards Advocacy PA Costs
- PGE_SW_CSA_Bldg: State Building Codes Advocacy
- PGE_SW_CSA_Bldg_PA: State Building Codes Advocacy PA Costs

- PGE_SW_CSA_Natl: National Codes & Standards Advocacy
- PGE_SW_CSA_Natl_PA: National Codes & Standards Advocacy PA Costs
- PGE_SW_ETP_Elec: Emerging Technologies Program, Electric
- PGE_SW_ETP_Elec_PA: Emerging Technologies Program, Electric - PGE Costs
- PGE_SW_ETP_Gas: Emerging Technologies Program, Gas
- PGE_SW_ETP_Gas_PA: Emerging Technologies Program, Gas - PGE Costs
- PGE_SW_FS: Food Service POS
- PGE_SW_FS_PA: Food Service POS - PGE Costs
- PGE_SW_HVAC_QIQM: Statewide Residential QI/QM
- PGE_SW_HVAC_QIQM_PA: Statewide Residential QI/QM - PGE Costs
- PGE_SW_HVAC_Up_Com: SW HVAC Upstream Commercial
- PGE_SW_HVAC_Up_Com_PA: SW HVAC Upstream Commercial - PGE Costs
- PGE_SW_HVAC_Up_Res: SW HVAC Upstream Residential
- PGE_SW_HVAC_Up_Res_PA: SW HVAC Upstream Residential - PGE Costs
- PGE_SW_IP_Colleges: Institutional Partnerships, UC/CSU/CCC
- PGE_SW_IP_Colleges_PA: Institutional Partnerships, UC/CSU/CCC - PGE Costs
- PGE_SW_IP_Gov: Institutional Partnerships: DGS and DoC
- PGE_SW_IP_Gov_PA: Institutional Partnerships: DGS and DoC - PGE Costs
- PGE_SW_MCWH: Midstream Comm Water Heating
- PGE_SW_MCWH_PA: Midstream Comm Water Heating - PGE Costs
- PGE_SWMEO: Statewide Marketing Education and Outreach
- PGE_SW_NC_NonRes_Ag_electric: SW New Construction NonRes Ag - All Electric
- PGE_SW_NC_NonRes_Ag_electric_PA: SW New Construction NonRes Ag - All Electric - PGE Costs
- PGE_SW_NC_NonRes_Ag_mixed: SW New Construction NonRes Ag - Mixed Fuel
- PGE_SW_NC_NonRes_Ag_mixed_PA: SW New Construction NonRes Ag - Mixed Fuel - PGE Costs
- PGE_SW_NC_NonRes_Com_electric: SW New Construction NonRes Com - All Electric
- PGE_SW_NC_NonRes_Com_electric_PA: SW New Construction NonRes Com - All Electric - PGE Costs
- PGE_SW_NC_NonRes_Com_mixed: SW New Construction NonRes Com - Mixed Fuel
- PGE_SW_NC_NonRes_Com_mixed_PA: SW New Construction NonRes Com - Mixed Fuel - PGE Costs
- PGE_SW_NC_NonRes_Ind_electric: SW New Construction NonRes Ind - All Electric
- PGE_SW_NC_NonRes_Ind_electric_PA: SW New Construction NonRes Ind - All Electric - PGE Costs
- PGE_SW_NC_NonRes_Ind_mixed: SW New Construction NonRes Ind - Mixed Fuel
- PGE_SW_NC_NonRes_Ind_mixed_PA: SW New Construction NonRes Ind - Mixed Fuel - PGE Costs
- PGE_SW_NC_NonRes_Pub_electric: SW New Construction NonRes Public - All Electric
- PGE_SW_NC_NonRes_Pub_electric_PA: SW New Construction NonRes Public - All Electric - PGE Costs
- PGE_SW_NC_NonRes_Pub_mixed: SW New Construction NonRes Public - Mixed Fuel
- PGE_SW_NC_NonRes_Pub_mixed_PA: SW New Construction NonRes Public - Mixed Fuel - PGE Costs
- PGE_SW_NC_NonRes_Res_electric: SW New Construction NonRes Res - All Electric
- PGE_SW_NC_NonRes_Res_electric_PA: SW New Construction NonRes Res - All Electric - PGE Costs
- PGE_SW_NC_NonRes_Res_mixed: SW New Construction NonRes Res - Mixed Fuel
- PGE_SW_NC_NonRes_Res_mixed_PA: SW New Construction NonRes Res - Mixed Fuel - PGE Costs
- PGE_SW_NC_Res_electric: SW New Construction Res - All Electric
- PGE_SW_NC_Res_electric_PA: SW New Construction Res - All Electric - PGE Costs
- PGE_SW_NC_Res_mixed: SW New Construction Res - Mixed Fuel
- PGE_SW_NC_Res_mixed_PA: SW New Construction Res - Mixed Fuel - PGE Costs
- PGE_SW_PLA: Plug Load and Appliance
- PGE_SW_PLA_PA: Plug Load and Appliance - PGE Costs
- PGE_SW_UL: Lighting (Upstream)
- PGE_SW_UL_PA: Lighting (Upstream) - PGE Costs
- PGE_SW_WET_CC: WET Career Connections
- PGE_SW_WET_CC_PA: WET Career Connections - PGE Costs
- PGE_SW_WET_Work: WET Career and Workforce Readiness

- PGE_SW_WET_Work_PA: WET Career and Workforce Readiness - PGE Costs
- PGE_SW_WP: Water/wastewater Pumping
- PGE_SW_WP_PA: Water/wastewater Pumping - PGE Costs

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Bohn, Rob

From: cedars@sound-data.com
Sent: Thursday, February 10, 2022 9:42 AM
To: Reddy, Roopa
Subject: CEDARS 2025 budget filing submitted for PGE

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CEDARS FILING SUBMISSION RECEIPT

The PGE portfolio budget filing has been submitted and is now under review. A summary of the budget filing is provided below.

PA: Pacific Gas & Electric (PGE)

Budget Filing Year: 2025

Submitted: 17:42:04 on 10 Feb 2022

By: Roopa Reddy

Advice Letter Number: A.22-02-XXX

* Portfolio Budget Filing Summary *

- TRC: 1.26
- PAC: 4.12
- TRC (no admin): 1.65
- PAC (no admin): 17.7
- RIM: 2.08
- Budget: \$264,280,720.29
- TotalSystemBenefit: \$1,048,971,434.40
- ElecBen: \$667,517,455.88
- GasBen: \$372,611,857.80
- OtherBen: \$9,578,441.96
- TRCCost: \$832,630,476.57
- PACCost: \$254,689,446.86

* Programs Included in the Budget Filing *

- PGE21011: Commercial Calculated Incentives
- PGE21012: Commercial Deemed Incentives
- PGE21014: Commercial Energy Advisor
- PGE21021: Industrial Calculated Incentives
- PGE210212: Compressed Air and Vacuum Optimization Program
- PGE21022: Industrial Deemed Incentives
- PGE21024: Industrial Energy Advisor
- PGE21031: Agricultural Calculated Incentives
- PGE21032: Agricultural Deemed Incentives

- PGE21034: Agricultural Energy Advisor
- PGE21053: Compliance Improvement
- PGE21054: Reach Codes
- PGE21055: Planning and Coordination
- PGE21056: Code Readiness
- PGE21071: WE&T Integrated Energy Education and Training
- PGE_Ag_001: Agricultural Efficiency Program
- PGE_Com_001: Grocery Efficiency Program
- PGE_Com_002: Laboratory Performance Efficiency Program
- PGE_Com_003: Commercial Efficiency Program
- PGE_Com_004: High Tech and Bio Tech Efficiency Program
- PGE_Com_005: Healthcare Efficiency Program
- PGE_Com_EM: Commercial Energy Management Placeholder
- PGE_Com_SmallBiz: New Small/Micro Business Placeholder
- PGE_Com_ZE: Zonal Electrification Placeholder (Commercial)
- PGE_CS_Decarb: C&S Decarbonization Support Placeholder
- PGE_EMV_001: PGE EM&V
- PGE_EMV_002: CPUC EM&V
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- PGE_Ind_001a: Industrial Strategic Energy Management - Food Processing
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- PGE_Ind_002: Petroleum and Chemical Efficiency Program
- PGE_Ind_003: Manufacturing and Food Processing Efficiency Program
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- PGE_OBFAP: On-Bill Financing Alternative Pathway
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- PGE_Pub_006: San Francisco Local Government Partnership
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- PGE_Pub_008: Sonoma Local Government Partnership
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- PGE_Pub_011: California Analysis Tool for Locational Energy Assessment (CATALENA)
- PGE_Pub_Resiliency: Resiliency Support Placeholder (Public)
- PGE_Res_001b: Virtual Energy Audit Program
- PGE_Res_002a: Universal Audit Tool Program
- PGE_Res_002d: Residential Behavioral Program
- PGE_Res_002e: Online Marketplace Program
- PGE_Res_003: Multifamily Program
- PGE_Res_Equity: Residential Equity Placeholder
- PGE_Res_LoadMgt: Residential Load Management Placeholder
- PGE_Res_Mkt_Spt: Residential Market Support Placeholder
- PGE_Res_Resiliency: Resiliency Support Placeholder (Residential)
- PGE_Res_ZE: Zonal Electrification Placeholder (Residential)
- PGE_SW_CSA_Appl: State Appliance Standards Advocacy
- PGE_SW_CSA_Appl_PA: State Appliance Standards Advocacy PA Costs
- PGE_SW_CSA_Bldg: State Building Codes Advocacy
- PGE_SW_CSA_Bldg_PA: State Building Codes Advocacy PA Costs

- PGE_SW_CSA_Natl: National Codes & Standards Advocacy
- PGE_SW_CSA_Natl_PA: National Codes & Standards Advocacy PA Costs
- PGE_SW_ETP_Elec: Emerging Technologies Program, Electric
- PGE_SW_ETP_Elec_PA: Emerging Technologies Program, Electric - PGE Costs
- PGE_SW_ETP_Gas: Emerging Technologies Program, Gas
- PGE_SW_ETP_Gas_PA: Emerging Technologies Program, Gas - PGE Costs
- PGE_SW_FS: Food Service POS
- PGE_SW_FS_PA: Food Service POS - PGE Costs
- PGE_SW_HVAC_QIQM: Statewide Residential QI/QM
- PGE_SW_HVAC_QIQM_PA: Statewide Residential QI/QM - PGE Costs
- PGE_SW_HVAC_Up_Com: SW HVAC Upstream Commercial
- PGE_SW_HVAC_Up_Com_PA: SW HVAC Upstream Commercial - PGE Costs
- PGE_SW_HVAC_Up_Res: SW HVAC Upstream Residential
- PGE_SW_HVAC_Up_Res_PA: SW HVAC Upstream Residential - PGE Costs
- PGE_SW_IP_Colleges: Institutional Partnerships, UC/CSU/CCC
- PGE_SW_IP_Colleges_PA: Institutional Partnerships, UC/CSU/CCC - PGE Costs
- PGE_SW_IP_Gov: Institutional Partnerships: DGS and DoC
- PGE_SW_IP_Gov_PA: Institutional Partnerships: DGS and DoC - PGE Costs
- PGE_SW_MCWH: Midstream Comm Water Heating
- PGE_SW_MCWH_PA: Midstream Comm Water Heating - PGE Costs
- PGE_SWMEO: Statewide Marketing Education and Outreach
- PGE_SW_NC_NonRes_Ag_electric: SW New Construction NonRes Ag - All Electric
- PGE_SW_NC_NonRes_Ag_electric_PA: SW New Construction NonRes Ag - All Electric - PGE Costs
- PGE_SW_NC_NonRes_Ag_mixed: SW New Construction NonRes Ag - Mixed Fuel
- PGE_SW_NC_NonRes_Ag_mixed_PA: SW New Construction NonRes Ag - Mixed Fuel - PGE Costs
- PGE_SW_NC_NonRes_Com_electric: SW New Construction NonRes Com - All Electric
- PGE_SW_NC_NonRes_Com_electric_PA: SW New Construction NonRes Com - All Electric - PGE Costs
- PGE_SW_NC_NonRes_Com_mixed: SW New Construction NonRes Com - Mixed Fuel
- PGE_SW_NC_NonRes_Com_mixed_PA: SW New Construction NonRes Com - Mixed Fuel - PGE Costs
- PGE_SW_NC_NonRes_Ind_electric: SW New Construction NonRes Ind - All Electric
- PGE_SW_NC_NonRes_Ind_electric_PA: SW New Construction NonRes Ind - All Electric - PGE Costs
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- PGE_SW_NC_NonRes_Pub_mixed_PA: SW New Construction NonRes Public - Mixed Fuel - PGE Costs
- PGE_SW_NC_NonRes_Res_electric: SW New Construction NonRes Res - All Electric
- PGE_SW_NC_NonRes_Res_electric_PA: SW New Construction NonRes Res - All Electric - PGE Costs
- PGE_SW_NC_NonRes_Res_mixed: SW New Construction NonRes Res - Mixed Fuel
- PGE_SW_NC_NonRes_Res_mixed_PA: SW New Construction NonRes Res - Mixed Fuel - PGE Costs
- PGE_SW_NC_Res_electric: SW New Construction Res - All Electric
- PGE_SW_NC_Res_electric_PA: SW New Construction Res - All Electric - PGE Costs
- PGE_SW_NC_Res_mixed: SW New Construction Res - Mixed Fuel
- PGE_SW_NC_Res_mixed_PA: SW New Construction Res - Mixed Fuel - PGE Costs
- PGE_SW_PLA: Plug Load and Appliance
- PGE_SW_PLA_PA: Plug Load and Appliance - PGE Costs
- PGE_SW_WET_CC: WET Career Connections
- PGE_SW_WET_CC_PA: WET Career Connections - PGE Costs
- PGE_SW_WET_Work: WET Career and Workforce Readiness
- PGE_SW_WET_Work_PA: WET Career and Workforce Readiness - PGE Costs
- PGE_SW_WP: Water/wastewater Pumping

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CEDARS Administrator

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Bohn, Rob

From: cedars@sound-data.com
Sent: Thursday, February 10, 2022 9:43 AM
To: Reddy, Roopa
Subject: CEDARS 2026 budget filing submitted for PGE

*****CAUTION: This email was sent from an EXTERNAL source. Think before clicking links or opening attachments.*****

CEDARS FILING SUBMISSION RECEIPT

The PGE portfolio budget filing has been submitted and is now under review. A summary of the budget filing is provided below.

PA: Pacific Gas & Electric (PGE)

Budget Filing Year: 2026

Submitted: 17:43:16 on 10 Feb 2022

By: Roopa Reddy

Advice Letter Number: A.22-02-XXX

* Portfolio Budget Filing Summary *

- TRC: 1.25
- PAC: 3.99
- TRC (no admin): 1.65
- PAC (no admin): 17.28
- RIM: 2.01
- Budget: \$263,707,914.77
- TotalSystemBenefit: \$1,014,589,249.41
- ElecBen: \$652,662,096.52
- GasBen: \$352,588,301.02
- OtherBen: \$10,087,994.31
- TRCCost: \$809,068,210.67
- PACCost: \$254,311,936.66

* Programs Included in the Budget Filing *

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- PGE_Com_002: Laboratory Performance Efficiency Program
- PGE_Com_003: Commercial Efficiency Program
- PGE_Com_004: High Tech and Bio Tech Efficiency Program
- PGE_Com_005: Healthcare Efficiency Program
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- PGE_EMV_002: CPUC EM&V
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- PGE_Ind_001a: Industrial Strategic Energy Management - Food Processing
- PGE_Ind_001b: Industrial Strategic Energy Management - Manufacturing
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- PGE_Ind_003: Manufacturing and Food Processing Efficiency Program
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- PGE_OBFAP: On-Bill Financing Alternative Pathway
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- PGE_Pub_011: California Analysis Tool for Locational Energy Assessment (CATALENA)
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- PGE_Res_002a: Universal Audit Tool Program
- PGE_Res_002d: Residential Behavioral Program
- PGE_Res_002e: Online Marketplace Program
- PGE_Res_003: Multifamily Program
- PGE_Res_Equity: Residential Equity Placeholder
- PGE_Res_LoadMgt: Residential Load Management Placeholder
- PGE_Res_Mkt_Spt: Residential Market Support Placeholder
- PGE_Res_Resiliency: Resiliency Support Placeholder (Residential)
- PGE_Res_ZE: Zonal Electrification Placeholder (Residential)
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- PGE_SW_CSA_Appl_PA: State Appliance Standards Advocacy PA Costs
- PGE_SW_CSA_Bldg: State Building Codes Advocacy
- PGE_SW_CSA_Bldg_PA: State Building Codes Advocacy PA Costs
- PGE_SW_CSA_Natl: National Codes & Standards Advocacy

- PGE_SW_CSA_Natl_PA: National Codes & Standards Advocacy PA Costs
- PGE_SW_ETP_Elec: Emerging Technologies Program, Electric
- PGE_SW_ETP_Elec_PA: Emerging Technologies Program, Electric - PGE Costs
- PGE_SW_ETP_Gas: Emerging Technologies Program, Gas
- PGE_SW_ETP_Gas_PA: Emerging Technologies Program, Gas - PGE Costs
- PGE_SW_FS: Food Service POS
- PGE_SW_FS_PA: Food Service POS - PGE Costs
- PGE_SW_HVAC_QIQM: Statewide Residential QI/QM
- PGE_SW_HVAC_QIQM_PA: Statewide Residential QI/QM - PGE Costs
- PGE_SW_HVAC_Up_Com: SW HVAC Upstream Commercial
- PGE_SW_HVAC_Up_Com_PA: SW HVAC Upstream Commercial - PGE Costs
- PGE_SW_HVAC_Up_Res: SW HVAC Upstream Residential
- PGE_SW_HVAC_Up_Res_PA: SW HVAC Upstream Residential - PGE Costs
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- PGE_SW_IP_Colleges_PA: Institutional Partnerships, UC/CSU/CCC - PGE Costs
- PGE_SW_IP_Gov: Institutional Partnerships: DGS and DoC
- PGE_SW_IP_Gov_PA: Institutional Partnerships: DGS and DoC - PGE Costs
- PGE_SW_MCWH: Midstream Comm Water Heating
- PGE_SW_MCWH_PA: Midstream Comm Water Heating - PGE Costs
- PGE_SWMEO: Statewide Marketing Education and Outreach
- PGE_SW_NC_NonRes_Ag_electric: SW New Construction NonRes Ag - All Electric
- PGE_SW_NC_NonRes_Ag_electric_PA: SW New Construction NonRes Ag - All Electric - PGE Costs
- PGE_SW_NC_NonRes_Ag_mixed: SW New Construction NonRes Ag - Mixed Fuel
- PGE_SW_NC_NonRes_Ag_mixed_PA: SW New Construction NonRes Ag - Mixed Fuel - PGE Costs
- PGE_SW_NC_NonRes_Com_electric: SW New Construction NonRes Com - All Electric
- PGE_SW_NC_NonRes_Com_electric_PA: SW New Construction NonRes Com - All Electric - PGE Costs
- PGE_SW_NC_NonRes_Com_mixed: SW New Construction NonRes Com - Mixed Fuel
- PGE_SW_NC_NonRes_Com_mixed_PA: SW New Construction NonRes Com - Mixed Fuel - PGE Costs
- PGE_SW_NC_NonRes_Ind_electric: SW New Construction NonRes Ind - All Electric
- PGE_SW_NC_NonRes_Ind_electric_PA: SW New Construction NonRes Ind - All Electric - PGE Costs
- PGE_SW_NC_NonRes_Ind_mixed: SW New Construction NonRes Ind - Mixed Fuel
- PGE_SW_NC_NonRes_Ind_mixed_PA: SW New Construction NonRes Ind - Mixed Fuel - PGE Costs
- PGE_SW_NC_NonRes_Pub_electric: SW New Construction NonRes Public - All Electric
- PGE_SW_NC_NonRes_Pub_electric_PA: SW New Construction NonRes Public - All Electric - PGE Costs
- PGE_SW_NC_NonRes_Pub_mixed: SW New Construction NonRes Public - Mixed Fuel
- PGE_SW_NC_NonRes_Pub_mixed_PA: SW New Construction NonRes Public - Mixed Fuel - PGE Costs
- PGE_SW_NC_NonRes_Res_electric: SW New Construction NonRes Res - All Electric
- PGE_SW_NC_NonRes_Res_electric_PA: SW New Construction NonRes Res - All Electric - PGE Costs
- PGE_SW_NC_NonRes_Res_mixed: SW New Construction NonRes Res - Mixed Fuel
- PGE_SW_NC_NonRes_Res_mixed_PA: SW New Construction NonRes Res - Mixed Fuel - PGE Costs
- PGE_SW_NC_Res_electric: SW New Construction Res - All Electric
- PGE_SW_NC_Res_electric_PA: SW New Construction Res - All Electric - PGE Costs
- PGE_SW_NC_Res_mixed: SW New Construction Res - Mixed Fuel
- PGE_SW_NC_Res_mixed_PA: SW New Construction Res - Mixed Fuel - PGE Costs
- PGE_SW_PLA: Plug Load and Appliance
- PGE_SW_PLA_PA: Plug Load and Appliance - PGE Costs
- PGE_SW_WET_CC: WET Career Connections
- PGE_SW_WET_CC_PA: WET Career Connections - PGE Costs
- PGE_SW_WET_Work: WET Career and Workforce Readiness
- PGE_SW_WET_Work_PA: WET Career and Workforce Readiness - PGE Costs
- PGE_SW_WP: Water/wastewater Pumping
- PGE_SW_WP_PA: Water/wastewater Pumping - PGE Costs

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Bohn, Rob

From: cedars@sound-data.com
Sent: Thursday, February 10, 2022 9:48 AM
To: Reddy, Roopa
Subject: CEDARS 2027 budget filing submitted for PGE

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CEDARS FILING SUBMISSION RECEIPT

The PGE portfolio budget filing has been submitted and is now under review. A summary of the budget filing is provided below.

PA: Pacific Gas & Electric (PGE)

Budget Filing Year: 2027

Submitted: 17:48:06 on 10 Feb 2022

By: Roopa Reddy

Advice Letter Number: A.22-02-XXX

* Portfolio Budget Filing Summary *

- TRC: 1.25
- PAC: 3.87
- TRC (no admin): 1.66
- PAC (no admin): 16.41
- RIM: 1.93
- Budget: \$265,099,168.63
- TotalSystemBenefit: \$989,381,974.38
- ElecBen: \$642,767,718.13
- GasBen: \$336,842,485.19
- OtherBen: \$10,556,804.17
- TRCCost: \$790,224,801.33
- PACCost: \$255,870,684.78

* Programs Included in the Budget Filing *

- PGE21011: Commercial Calculated Incentives
- PGE21012: Commercial Deemed Incentives
- PGE21014: Commercial Energy Advisor
- PGE21021: Industrial Calculated Incentives
- PGE210212: Compressed Air and Vacuum Optimization Program
- PGE21022: Industrial Deemed Incentives
- PGE21024: Industrial Energy Advisor
- PGE21031: Agricultural Calculated Incentives
- PGE21032: Agricultural Deemed Incentives

- PGE21034: Agricultural Energy Advisor
- PGE21053: Compliance Improvement
- PGE21054: Reach Codes
- PGE21055: Planning and Coordination
- PGE21056: Code Readiness
- PGE21071: WE&T Integrated Energy Education and Training
- PGE_Ag_001: Agricultural Efficiency Program
- PGE_Com_001: Grocery Efficiency Program
- PGE_Com_002: Laboratory Performance Efficiency Program
- PGE_Com_003: Commercial Efficiency Program
- PGE_Com_004: High Tech and Bio Tech Efficiency Program
- PGE_Com_005: Healthcare Efficiency Program
- PGE_Com_EM: Commercial Energy Management Placeholder
- PGE_Com_SmallBiz: New Small/Micro Business Placeholder
- PGE_Com_ZE: Zonal Electrification Placeholder (Commercial)
- PGE_CS_Decarb: C&S Decarbonization Support Placeholder
- PGE_EMV_001: PGE EM&V
- PGE_EMV_002: CPUC EM&V
- PGE_ESA: Energy Savings Assistance
- PGE_Ind_001a: Industrial Strategic Energy Management - Food Processing
- PGE_Ind_001b: Industrial Strategic Energy Management - Manufacturing
- PGE_Ind_002: Petroleum and Chemical Efficiency Program
- PGE_Ind_003: Manufacturing and Food Processing Efficiency Program
- PGE_LoanPool: Financing Loan Pool Addition
- PGE_OBFAP: On-Bill Financing Alternative Pathway
- PGE_OtherPA_Admin: IOU REN/CCA Admin Costs
- PGE_Pub_001: Central Coast Local Government Partnership
- PGE_Pub_002: Marin Local Government Partnership
- PGE_Pub_003: Redwood Local Government Partnership
- PGE_Pub_004: Central California Local Government Partnership
- PGE_Pub_005: San Mateo Local Government Partnership
- PGE_Pub_006: San Francisco Local Government Partnership
- PGE_Pub_007: Sierra Local Government Partnership
- PGE_Pub_008: Sonoma Local Government Partnership
- PGE_Pub_009: Government and K-12 Comprehensive Program
- PGE_Pub_011: California Analysis Tool for Locational Energy Assessment (CATALENA)
- PGE_Pub_Resiliency: Resiliency Support Placeholder (Public)
- PGE_Res_001b: Virtual Energy Audit Program
- PGE_Res_002a: Universal Audit Tool Program
- PGE_Res_002d: Residential Behavioral Program
- PGE_Res_002e: Online Marketplace Program
- PGE_Res_003: Multifamily Program
- PGE_Res_Equity: Residential Equity Placeholder
- PGE_Res_LoadMgt: Residential Load Management Placeholder
- PGE_Res_Mkt_Spt: Residential Market Support Placeholder
- PGE_Res_Resiliency: Resiliency Support Placeholder (Residential)
- PGE_Res_ZE: Zonal Electrification Placeholder (Residential)
- PGE_SW_CSA_Appl: State Appliance Standards Advocacy
- PGE_SW_CSA_Appl_PA: State Appliance Standards Advocacy PA Costs
- PGE_SW_CSA_Bldg: State Building Codes Advocacy
- PGE_SW_CSA_Bldg_PA: State Building Codes Advocacy PA Costs
- PGE_SW_CSA_Natl: National Codes & Standards Advocacy

- PGE_SW_CSA_Natl_PA: National Codes & Standards Advocacy PA Costs
- PGE_SW_ETP_Elec: Emerging Technologies Program, Electric
- PGE_SW_ETP_Elec_PA: Emerging Technologies Program, Electric - PGE Costs
- PGE_SW_ETP_Gas: Emerging Technologies Program, Gas
- PGE_SW_ETP_Gas_PA: Emerging Technologies Program, Gas - PGE Costs
- PGE_SW_FS: Food Service POS
- PGE_SW_FS_PA: Food Service POS - PGE Costs
- PGE_SW_HVAC_QIQM: Statewide Residential QI/QM
- PGE_SW_HVAC_QIQM_PA: Statewide Residential QI/QM - PGE Costs
- PGE_SW_HVAC_Up_Com: SW HVAC Upstream Commercial
- PGE_SW_HVAC_Up_Com_PA: SW HVAC Upstream Commercial - PGE Costs
- PGE_SW_HVAC_Up_Res: SW HVAC Upstream Residential
- PGE_SW_HVAC_Up_Res_PA: SW HVAC Upstream Residential - PGE Costs
- PGE_SW_IP_Colleges: Institutional Partnerships, UC/CSU/CCC
- PGE_SW_IP_Colleges_PA: Institutional Partnerships, UC/CSU/CCC - PGE Costs
- PGE_SW_IP_Gov: Institutional Partnerships: DGS and DoC
- PGE_SW_IP_Gov_PA: Institutional Partnerships: DGS and DoC - PGE Costs
- PGE_SW_MCWH: Midstream Comm Water Heating
- PGE_SW_MCWH_PA: Midstream Comm Water Heating - PGE Costs
- PGE_SWMEO: Statewide Marketing Education and Outreach
- PGE_SW_NC_NonRes_Ag_electric: SW New Construction NonRes Ag - All Electric
- PGE_SW_NC_NonRes_Ag_electric_PA: SW New Construction NonRes Ag - All Electric - PGE Costs
- PGE_SW_NC_NonRes_Ag_mixed: SW New Construction NonRes Ag - Mixed Fuel
- PGE_SW_NC_NonRes_Ag_mixed_PA: SW New Construction NonRes Ag - Mixed Fuel - PGE Costs
- PGE_SW_NC_NonRes_Com_electric: SW New Construction NonRes Com - All Electric
- PGE_SW_NC_NonRes_Com_electric_PA: SW New Construction NonRes Com - All Electric - PGE Costs
- PGE_SW_NC_NonRes_Com_mixed: SW New Construction NonRes Com - Mixed Fuel
- PGE_SW_NC_NonRes_Com_mixed_PA: SW New Construction NonRes Com - Mixed Fuel - PGE Costs
- PGE_SW_NC_NonRes_Ind_electric: SW New Construction NonRes Ind - All Electric
- PGE_SW_NC_NonRes_Ind_electric_PA: SW New Construction NonRes Ind - All Electric - PGE Costs
- PGE_SW_NC_NonRes_Ind_mixed: SW New Construction NonRes Ind - Mixed Fuel
- PGE_SW_NC_NonRes_Ind_mixed_PA: SW New Construction NonRes Ind - Mixed Fuel - PGE Costs
- PGE_SW_NC_NonRes_Pub_electric: SW New Construction NonRes Public - All Electric
- PGE_SW_NC_NonRes_Pub_electric_PA: SW New Construction NonRes Public - All Electric - PGE Costs
- PGE_SW_NC_NonRes_Pub_mixed: SW New Construction NonRes Public - Mixed Fuel
- PGE_SW_NC_NonRes_Pub_mixed_PA: SW New Construction NonRes Public - Mixed Fuel - PGE Costs
- PGE_SW_NC_NonRes_Res_electric: SW New Construction NonRes Res - All Electric
- PGE_SW_NC_NonRes_Res_electric_PA: SW New Construction NonRes Res - All Electric - PGE Costs
- PGE_SW_NC_NonRes_Res_mixed: SW New Construction NonRes Res - Mixed Fuel
- PGE_SW_NC_NonRes_Res_mixed_PA: SW New Construction NonRes Res - Mixed Fuel - PGE Costs
- PGE_SW_NC_Res_electric: SW New Construction Res - All Electric
- PGE_SW_NC_Res_electric_PA: SW New Construction Res - All Electric - PGE Costs
- PGE_SW_NC_Res_mixed: SW New Construction Res - Mixed Fuel
- PGE_SW_NC_Res_mixed_PA: SW New Construction Res - Mixed Fuel - PGE Costs
- PGE_SW_PLA: Plug Load and Appliance
- PGE_SW_PLA_PA: Plug Load and Appliance - PGE Costs
- PGE_SW_WET_CC: WET Career Connections
- PGE_SW_WET_CC_PA: WET Career Connections - PGE Costs
- PGE_SW_WET_Work: WET Career and Workforce Readiness
- PGE_SW_WET_Work_PA: WET Career and Workforce Readiness - PGE Costs
- PGE_SW_WP: Water/wastewater Pumping
- PGE_SW_WP_PA: Water/wastewater Pumping - PGE Costs

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