

Application of San Diego Gas & Electric Company
(U-902-M) to Adopt 2024-2031 Energy Efficiency
Rolling Portfolio Business Plan Pursuant to
Decision 21-05-031.

Application 22-03-____

Exhibit No: _____
Date: March 4, 2022
Witness(es): Various

SAN DIEGO GAS & ELECTRIC COMPANY (U 902-M)
2024-2027 ENERGY EFFICIENCY ROLLING PORTFOLIO BUSINESS PLAN
PREPARED TESTIMONY
EXHIBIT 2



SAN DIEGO GAS & Electric Company
Exhibit 2: 2024-2027 Portfolio Plan

Table of Contents

- I. Portfolio Summary 10
 - A. Key metrics and outcomes 10
 - 1. Discussion Of Business Plan Proposed Outcomes as They Tie to Portfolio-, Sector-, and Segment-Level Metrics in 4-Year Portfolio Application Critical for Tracking and Quantifying Progress of 4-Year Portfolio and Budget that Will Lead to Achieving 8-Year Business Plan Strategic Plan Outcomes. 10
 - 2. Narrative on Portfolio Goals and Portfolio Performance Metrics to Be Achieved in 4 Years 11
 - B. Portfolio Strategies 12
 - 1. Strategy for Application/Use of Various and New Methods for Savings Forecasting and Quantification Methods (e.g., Normalized Metered Energy Consumption Including Requirements in Public Utilities Code Section 25310(c)(5))
12
 - 2. Strategy for Incorporating Low Global Warming Potential (low-GWP) Refrigerants in the Portfolio 13
 - 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 15
 - 4. Strategies For Market Intervention and Energy Efficiency Adoption: e.g., Targeted Points of Intervention; Delivery Channels/Platforms/Methods 16
 - C. Application summary tables (4-year budget request) 16
 - 1. Annual Budget Request for 2024-2027 16
 - 2. Distribution of Effort (Budget) Across Segments and Sectors 17
 - 3. For All Segments: Projected Sector-Level and Portfolio-Level Cost Effectiveness (Total Resource Cost (TRC) and Program Administrator Cost (PAC) to Show the TRC and PAC Ratios for All Segments of the Portfolio, Separately and Combined, Including Separately Showing the Portfolio Cost-Effectiveness with and without the C&S Segment of the Portfolio..... 17
 - 4. For Resource Acquisition Segment: Forecasted Program-, Sector-, and Portfolio-Level Cost- Effectiveness Over 4-Year Period 17
 - 5. For All Segments: Forecasted Annual Program-, Sector-, and Portfolio-Level Total System Benefit (TSB), Kilowatt-Hours, Kilowatts, and Therms..... 18
 - 6. Projected Percentage Portfolio that is Third-Party Solicited (for IOUs) 18
- II. Forecast Methodology 19

Overview	19
A. Program Modifications from 2023 Portfolio	21
1. Program Closures or Discontinuation:.....	21
2. Solicitations for New Programs	22
B. Portfolio Administration vs Program Implementation Costs	23
III. Segmentation Strategy	25
A. Strategies driving distribution of budget among segments and alignment with broader portfolio objectives	25
B. Resource Acquisition	27
1. Preliminary Distribution of Budget Among Segments for 2024-2027, and Rationale for the Distribution.....	27
2. Segment-Specific Strategies, Goals and Outcomes	28
3. For All Segments: Projected Annual Portfolio- And Sector-Level Metrics	30
4. Segment-Specific Coordination.....	32
C. Codes & Standards	33
1. Preliminary Distribution of Budget Among Segments for 2024-2027, and Rationale for the Distribution.....	33
2. Segment-Specific Strategies, Goals, And Outcomes	34
3. For All Segments: Projected Annual Portfolio- and Sector-Level Metrics.....	34
4. Segment-Specific Coordination.....	34
D. Market Support Segment	35
1. Preliminary Distribution of Budget Among Segments for 2024-2027, and Rationale for the Distribution.....	35
2. Segment-Specific Strategies, Goals, And Outcomes	36
3. Market Support Strategies.....	37
E. Equity Segment.....	49
1. Preliminary Distribution of Budget Among Segments for 2024-2027, and Rationale for the Distribution.....	51
2. Segment-Specific Strategies, Goals, And Outcomes	52
3. Segment-Specific Coordination.....	56
IV. Sector Strategy	57
Overview and market Characterization Of SDG&E's Service Territory	57
1. Electric Customer Consumption.....	57
2. Natural Gas Customer Consumption	58

A.	Strategies driving distribution of budget among sectors, and alignment with broader portfolio objectives	59
B.	Description of sectors program administrator proposes to serve (noting expansion into new sectors or withdrawal from sector).....	59
C.	Preliminary distribution of budget among sectors for 2024-2027, and rationale for the distribution.....	59
D.	AGRICULTURAL SECTOR.....	60
	Overview of the Agricultural Sector	60
	1. Sector-Specific Goals, Objectives and Strategies	66
	2. Sector-Specific Coordination.....	68
	3. Categorization by Segment.....	70
	4. Program Details	71
E.	COMMERCIAL SECTOR.....	71
	Overview of the Commercial Sector.....	71
	1. Sector-Specific Goals, Objectives and Strategies	77
	2. Sector-Specific Coordination.....	83
	3. Categorization by Segment.....	84
	4. Program Details	87
F.	Workforce Education & Training.....	93
	1. Sector Goals, Objectives & Outcomes	100
	2. Program and Sector Coordination.....	114
	3. Categorization by Segment.....	117
	4. Program Details	119
G.	Emerging Technologies	119
	1. Sector-Specific Goals, Objectives and Strategies	119
	2. Sector-Specific Coordination.....	119
	3. Categorization by Segment.....	119
	4. Program Details	119
H.	Codes and Standards	121
	1. Sector-Specific Goals, Objectives and Strategies	121
	2. Sector-Specific Coordination.....	128
	3. Categorization by Segment.....	128
	4. Program Details	128

I.	On Bill Financing and Statewide Financing Pilots	143
1.	Sector-Specific Goals, Objectives and Strategies	143
2.	Sector-Specific Coordination.....	149
3.	Categorization by Segment.....	149
4.	Program Details	149
J.	INDUSTRIAL SECTOR.....	153
	Overview of Industrial Sector	153
1.	Sector-Specific Goals, Objectives and Strategies	157
2.	Sector-Specific Coordination.....	160
3.	Categorization by Segment.....	162
4.	Program Details	163
K.	PUBLIC SECTOR	163
	Overview of the Public Sector	163
1.	Sector-Specific Goals, Objectives & Strategies.....	171
2.	Sector-Specific Coordination.....	179
3.	Categorization by Segment.....	181
4.	Program Details	182
L.	RESIDENTIAL SECTOR.....	189
	Overview of the Residential Sector	189
1.	Sector-Specific Goals, Objectives, and Strategies	193
2.	Sector-Specific Coordination.....	201
3.	Categorization by Segment.....	203
4.	Program Details	205
V.	Portfolio Management.....	211
	Overview	211
A.	Strategies to Optimize Portfolio and Manage Risk	211
1.	Approach to Use of Goals and Metrics for Portfolio Optimization.....	211
2.	Plans and Procedures SDG&E Will Follow to Stay “On-Target” to Meet Savings, Total System Benefits /TSB Goals and Cost-Effectiveness Targets.....	213
3.	Approach to Risk Management.....	215
B.	Approach to Flexible Portfolio Management	217
C.	Planned Procedures and Thresholds for Course Correction if Portfolio is Off- Track 219	

D.	Third-Party Programs.....	219
1.	Responsibility of SDG&E in Relation to Third-Party Designers/Implementers.....	219
2.	Solicitation Strategy	220
3.	Statewide Programs.....	233
4.	Assessment and Mitigation of Risk from Portfolio Diversity, in Different Companies Contracted, Size of Company, Type of Company (New, Existing; DBE), Contract Budget Amount	236
5.	Contract Management.....	236
E.	Portfolio Coordination.....	237
1.	Coordination with Other PAs	237
2.	Description of How the Program Administrator’s Portfolio is Complementary with the Portfolios of Other Program Administrators with Overlapping Service Territory	238
3.	(IOU PA Only) Description, for Both Statewide and Regional Programs, of how Strategies have been Coordinated with the Other Program Administrators, Including Designation of the Lead for Statewide Programs and Level of Coordination for Both Statewide and Regional Programs.	238
4.	Description of How the 4-Year Portfolio and Budget Considers and Coordinates with Other Energy Programs to Mitigate Duplication of Effort, Unnecessary Spending, and Customer Confusion or a Customer Participating in a Suboptimal Program for Their Needs	240
5.	Coordination with Other Programs -- Integrated Demand-Side Programs (IDSM)	240
6.	Stakeholder Engagement in the Development of this Application.....	243
VI.	Evaluation, Measurement & Verification	244
	Overview	244
A.	Summary of Planned EM&V Studies and Activities.....	244
1.	Portfolio Savings Verification from Beginning to End	244
2.	Portfolio Optimization and Evolution	245
3.	Portfolio Potential and Accuracy of Implementation	245
4.	Portfolio Compliance and Enhancements	246
B.	SDG&E/ED Budget Allocation and Justification	247
VII.	Cost & Cost Recovery	250
	Overview	250
A.	Summary of Costs at Portfolio-Level.....	250

B.	Cost Recovery Through Continued Use of Balancing Accounts	250
1.	Energy Efficiency Balancing Accounts	250
2.	IDSM-Demand Response Cost Recovery	251
3.	Request to Close SDG&E’s Electric Procurement Energy Efficiency Balancing Account (EPEEBA).....	252
4.	Request to Close SDG&E’s of PEEEBA and PGEEBA sub-accounts.	253
5.	Request to Modify Statewide Energy Efficiency Balancing Accounts.....	253
C.	SDG&E’s Approach to Classification of Which Unspent Funds are Designated “Committed” and thus Not Applied to Reduce Recovery in Future Year	254

Table 1: Portfolio Energy Savings Goals and Targets.....	12
Table 2: 2024-2027 Portfolio Budgets.....	16
Table 3: 2024-2027 Segment Budgets.....	17
Table 4: 2024-2027 Sector Budgets.....	17
Table 5: 2024-2027 Commission Adopted TSB and Forecasted TSB	18
Table 6: 2024-2027 Projected Third-Party Portfolio Budget Allocation	18
Table 7: 2024-2027 Portfolio Segment Budgets.....	26
Table 8: 2024 - 2027 Resource Acquisition Programs and Budgets	28
Table 9: Preliminary Distribution of Budget Among Segments For 2024-2027	34
Table 10: 2024 - 2027 Market Support Programs and Budgets	36
Table 11: SDG&E’s Proposed Equity Programs by Sector	50
Table 12: 2024 - 2027 Equity Programs and Budgets.....	51
Table 13: 2024-2027 Sector Budgets.....	59
Table 14: Key Policy Drivers for the Agricultural Sector	65
Table 15: Categorization by Segment for Agricultural Sector.....	70
Table 16: Commercial Legislative Drivers	75
Table 17: Commercial Programs and Solicitations by Segment.....	84
Table 18: Cross-Cutting Legislative Drivers	98
Table 19: Overview of Current and New Offerings.....	101
Table 20: WE&T Sector Metrics	111
Table 21: Sector Problem Statements and Intervention Strategies.....	113
Table 22: Areas of Focus for WE&T.....	114
Table 23: Policy Drivers for the Industrial Sector	156
Table 24: Characteristics of Public Sector.....	165
Table 25: Public Sector Legislative Drivers	168
Table 26: Public Programs and Solicitations by Segment.....	181
Table 27: Program Category	201
Table 28: Residential Programs and Solicitations by Segment.....	203
Table 29: Current Two-Stage EE Third-Party Solicitations.....	224
Table 30: Proposed One-Stage, Two-Step Solicitation	225
Table 31: Solicitation Improvements 2018-2021	229
Table 32: DBE EE Awarded as of Year End 2020	231
Table 33: SDG&E-led Statewide Programs.....	234
Table 34: Statewide Programs Managed by other PAs.....	234
Table 35: 2024-2027 IDSM EE+DR Budget.....	240
Table 36: Proposed CalTF Budgets PY2024-PY2027	248
Table 37: Breakdown of EM&V Allocated Costs and Justification to 30 Percent.....	248
Table 38: Examples of Other Studies and Categories	248

Figure 1 - SDG&E Service Territory	57
Figure 2 - 2018-2020 Average Percentage Electric Consumption by Sector	58
Figure 3: 2018-2020 Average Percentage Gas Consumption by Sector	58
Figure 4: Steps to Determine Status and Action for Underperforming Programs	215
Figure 5: Schedule A – One-Stage, Two-Step Solicitation Schedule	227
Figure 6: Schedule B – Two-Stage Solicitation Schedule	227

I. PORTFOLIO SUMMARY

A. KEY METRICS AND OUTCOMES

1. Discussion Of Business Plan Proposed Outcomes as They Tie to Portfolio-, Sector-, and Segment-Level Metrics in 4-Year Portfolio Application Critical for Tracking and Quantifying Progress of 4-Year Portfolio and Budget that Will Lead to Achieving 8-Year Business Plan Strategic Plan Outcomes.

San Diego Gas & Electric Company (SDG&E) continues to take a proactive, dynamic and comprehensive approach to portfolio planning to achieve its portfolio goals and strategic long-term outcomes as set by the State and the California Public Utilities Commission (Commission or CPUC). As the Program Administrator and/or Portfolio Administrator (PA) of Energy Efficiency (EE) programs in its service territory and statewide, SDG&E's bottom-up approach to portfolio planning and risk management begins with the assessment of SDG&E's unique and evolving customer characteristics, in conjunction with:

- Historical program and portfolio performance,
 - the Commission's most current Energy Efficiency potential and goals study,¹
 - Existing and new intervention strategies to serve customers, and
 - Management of risks to ensure CPUC policies, mandates and guidance are met, and ratepayer dollars are prudently managed.
- In addition to classifying programs by market sectors, the programs are also categorized into three portfolio segments: Resource Acquisition, Market Support and Equity.² SDG&E's proposed portfolio has a total of 85 programs (including existing and new) with detailed 4-year and high-level 8-year budget and strategies within this business plan application. SDG&E agrees that business plan proposed outcomes as they tie to portfolio, sector, and segment-level metrics in the 4-year portfolio application (discussed in detail in the next section) are critical for tracking and quantifying the progress of the 4-year portfolio and budget, which will lead to achieving 8-year business plan strategic outcomes.

SDG&E's primary goals are to serve its customers and make significant progress towards achieving the State's Greenhouse Gas (GHG) reduction and grid decarbonization goals. To support these outcomes, SDG&E's long-term portfolio planning is targeted to meet the savings and cost-effectiveness goals set forth by the Commission as well as mobilize customer adoption through development of effective market sectors and segmentation, Third-Party solicitations and contracting best-practices. Partnering with its contracted

¹ CPUC, *2021 Energy Efficiency Potential and Goals Study* (August 20, 2021) (2021 EE Potential & Goals Study), available at https://pda.energydataweb.com/api/view/2531/2021%20PG%20Study%20DRAFT%20Report%202021_Final.pdf.

² Decision (D.)21-05-031 at 14

Third-Party³ Implementers and working collaboratively with the CPUC, other California investor-owned utilities (IOUs), Non-IOU PAs and other entities (e.g., California Energy Commission (CEC), California Air Resources Board (CARB), Building Initiative for Low-Emissions Development (BUILD) and Technology and Equipment for Clean Heating (TECH) administrators,⁴ Market Transformation administrator) is central to SDG&E's program implementation and portfolio optimization efforts. SDG&E will monitor and manage the performance of its portfolio through a continuous review of individual local and statewide programs' performance through the tracking and oversight of its Third-Party Implementers. To manage program and portfolio risks, SDG&E will continue to use a combination of budget to actual variance analyses, key performance indicators (KPI), pay-for-performance compensation design and other contract provisions to gather insight into its Third-Party program performance during monthly, quarterly and annual reviews. The pay-for-performance structure and verification of performance will reward Third-Party Implementers for meeting and exceeding KPIs and metrics, and address performance issues, including underperformance or nonperformance, in a timely manner. SDG&E will continue to coordinate with the other PAs, both IOU and Non-IOU, in the development of programs and policies to provide consistent services to all California customers and to support the Lead Program Administrators in the administration of various statewide programs.

SDG&E expects that this 8-year business plan and 4-year program portfolio outlined in this application will evolve over time. The Commission provides SDG&E several opportunities to adjust its EE portfolio as needed in order to achieve stated goals.⁵ SDG&E will be filing a Tier 2 Advice Letter to review and potentially true-up the existing 4-year portfolio every 2 years upon the Commission's adoption of future potential and goals.⁶ Additionally, SDG&E will file its 2028-2031 4-year program portfolio application in 2026 with updated and specific portfolio details for program years 2028-2031, which will be informed by the actual performance of this first 4-year cycle and changes in market conditions.⁷

2. Narrative on Portfolio Goals and Portfolio Performance Metrics to Be Achieved in 4 Years

Below is a summary of SDG&E's portfolio energy savings goals and targets. Details are provided in Attachment A⁸ Tabs 7.1, 7.2 and 7.3.

³ D.16-08-019, Ordering Paragraph (OP) 10 at 111, (“[f]or energy efficiency program purposes, the definition of a third-party program shall be as follows: To be designated as ‘third party,’ the program must be proposed, designed, implementer, and delivered by non-utility personnel under contract to a utility program administrator.”).

⁴ See generally, D.20-03-027.

⁵ D.21-05-031, Table 4 at 61-63.

⁶ D.21-05-031 at 42, and Table 4 at 61-63.

⁷ D.21-05-031, OP 5 at 81-82.

⁸ Attachment A can be found on CEDARS. The *Cedars Filing Submission Receipt* can be found in Attachment B.

Table 1: Portfolio Energy Savings Goals and Targets

	2024	2025	2026	2027
Forecasted Portfolio TSB (w/out C&S)	\$ 66,866,561	\$ 76,501,655	\$ 77,996,216	\$ 86,093,559
TSB Goals	\$ 27,389,666	\$ 31,386,333	\$ 35,088,813	\$ 41,758,229
Percent of TSB Goal Forecasted	244%	244%	222%	206%
Codes & Standards TSB	\$ 265,698,988	\$ 250,313,220	\$ 237,139,641	\$ 225,575,627

Portfolio metrics are detailed in Attachment A Tab 17 for existing metrics. Attachment A Tabs 18.1 and 18.2 provide proposed metrics for the Equity and Market Support segments, respectively.

B. PORTFOLIO STRATEGIES

1. Strategy for Application/Use of Various and New Methods for Savings Forecasting and Quantification Methods (e.g., Normalized Metered Energy Consumption Including Requirements in Public Utilities Code Section 25310(c)(5))

SDG&E's forecast employs only approved savings assumptions and/or methodologies to develop its portfolio. Furthermore, SDG&E complies with the most current Database for Energy-Efficient Resources (DEER) resolution.⁹ The methods and sources of measure savings assumptions used in the portfolio are as follows:

- Deemed Measures – approved Electronic Technical Resource Manual (eTRM) database measures and Deemed Workpaper Rulebook Version 4.0
- Custom Calculated Measures – International Performance Measurement and Verification Protocol (IPMVP) published, CPUC Custom Project Review Team reviewed methodologies, and Statewide Custom Project Guidance Document, Version 1.4
- Site-Level Normalized Metered Energy Consumption (NMEC) – NMEC Rulebook¹⁰ methods reviewed by the Custom Project Review Team of the CPUC
- Population-level NMEC – NMEC Rulebook methods reviewed and validated by SDG&E's Measurement and Verification team

SDG&E encourages its Third-Party Implementers to propose new measures and calculation methodologies. SDG&E will review and validate all proposed methodologies and calculation methods. SDG&E will then work with the Commission's Custom Project Review Team and eTRM, to formally review and approve proposed measures and methodologies.

⁹ Resolution (Res) E-5152 (August 5, 2021), approves DEER 2023, and approved revisions to DEER 2021 and DEER 2022.

¹⁰ CPUC, Rulebook for Programs and Projects Based on Normalized Metered Energy Consumption, Version 2.0 (January 7, 2020), available at <https://www.cpuc.ca.gov/-/media/cpuc-website/files/legacyfiles/n/6442463694-nmec-rulebook2-0.pdf>.

2. Strategy for Incorporating Low Global Warming Potential (low-GWP) Refrigerants in the Portfolio

The Commission provided guidance for inclusion of measures with low-GWP refrigerants in the 2024-2031 business plan application. D.21-05-031 Conclusion of Law (COL) 41 states:

“Because [Senate Bill] SB 1013 directs the Commission to consider developing a strategy for including low-GWP refrigerants in the energy efficiency portfolios it oversees, it is reasonable to direct the program administrators to start accounting for low-GWP refrigerant measures in their portfolio forecasts, filings, and business plan strategies.”

Res E-5152 directed the PAs to update the measure assumptions in impacted measures by December 1, 2021.¹¹ Furthermore, Res E-5152 states, “The DEER2023 update expires all deemed refrigerant charge adjustment measures as of December 31, 2022.”¹² Due to the timing of this application and the approval of low-GWP measure assumptions, Energy Division (ED) has provided the following guidance for handling these measures in the application:

- For new measures not in the DEER2023 nor in the current approved list of deemed measure packages used in the November 2021 Portfolio Program Application, we allow the PAs to use estimated savings for these measures as a holding place.
- Any new deemed measure packages not receiving staff approval in time for preparing the application will be handled on a case-by-case basis.
- The PAs will update all of the forecasted values in the True-Up advice letter on September 1, 2023.

This notice grants temporary relief to PAs to not include low-GWP measures in the quantitative portfolio forecasts due to measures not yet being available. However, low-GWP measures **must** be included in the forecast by no later than the true up advice letter to be filed on September 1, 2023.¹³

In addition, ED directed the PAs to include a discussion of their efforts to develop and deploy low-GWP measures. The following section outlines SDG&E’s strategy for incorporating low-GWP refrigerants in the 2024-2027 business plan, including:

- Explanation of work completed to-date to prepare for inclusion of low-GWP measures in the portfolio.
- Explanation of future work necessary for inclusion of low-GWP measures in the portfolio, supported by specific milestones and timelines.

¹¹ Res E-5152 at 17.

¹² *Id.*

¹³ Memo from Energy Division Staff to Energy Efficiency Portfolio Administrators, Notice to EE Program Administrators Re: Low-GWP refrigerant measures in February 2022 Business Plan filings (December 10, 2021) at 1.

- A qualitative explanation of how the PA will manage low-GWP measures and projects, highlighting the provision of engineering support/review, Measurement & Verification (M&V) and documentation requirements.

a) Management of Low-GWP Measures and Projects

For both custom and deemed low-GWP measures, SDG&E will continue to evaluate and implement these measures using established statewide guidance. SDG&E will collaborate with Energy Division, other PAs, California Technical Forum (CaITF), Third-Party Implementers and other statewide stakeholders as needed. Engineering support and review, M&V, and documentation requirements will follow statewide guidelines and follow SDG&E's established project and program quality assurance protocols. As low-GWP measures become available to the market, SDG&E will work with its current and future Third-Party Implementers to ensure those measures are included in their program offerings as appropriate. SDG&E will consider establishment of program goals and compensation mechanisms to advance the adoption of low-GWP equipment.

b) Current Research Completed To-Date

SDG&E is the statewide lead for the HVAC, HVAC maintenance, and Plug Load & Appliance statewide programs. As such, SDG&E has been monitoring developments in low-GWP refrigerants, primarily focusing on the market potential and technical feasibility of developing and offering low-GWP EE program measures. In addition to its internal research in 2021, SDG&E contracted with an external engineering firm to complete an independent survey of the state of low-GWP technology in the marketplace. SDG&E and external party research concluded the following:

- Federal, state and local codes and relevant industry associations are driving the transition to low-GWP refrigerants with different effective dates as early as January 1, 2023, depending on the general end use. Due to increased flammability of some low-GWP refrigerants, however, local fire codes may need to be updated to allow for use of low-GWP equipment.
- Equipment manufacturers are preparing to offer equipment to meet the pending low-GWP requirements. Except for the unitary AC systems market, which is still developing low-GWP refrigerant products, all other residential, commercial, and industrial systems have had low-GWP refrigerant products available in the market for several years. However, it is unclear whether these alternative refrigerants will offer viable energy efficiency measures. The ability to retrofit existing systems to utilize a different refrigerant may also be impractical or cost prohibitive.

c) Future Low-GWP Refrigerant Activities

In the near term for program years 2022-2023 and in preparation for the 2024-2027 business plan cycle in this application, SDG&E will collaborate with its Third-Party Implementers, CaITF, and other statewide stakeholders to explore the viability of GWP reductions through recycling or refrigerant recovery methods and potentially identify viable measures and develop refrigerant avoided costs. SDG&E will continue to monitor developments in the low-GWP refrigerants and explore potential program measures, both

custom and deemed, for inclusion in the EE portfolio. In addition, SDG&E will cooperate with the incoming Market Transformation administrator should new HVAC and refrigeration initiatives be introduced to handle new low-GWP changes and regulations.¹⁴

SDG&E's initial research has identified potential measure categories that may be worthy of further analysis including: custom measures for new or existing industrial processes that achieve life cycle emissions savings from reductions in refrigerant leakage or utilization of low-GWP or natural refrigerants; refrigerant leak detection and repair using smart sensors; and deemed low-GWP measures that appear to have the highest potential for measure package development including water-cooled chillers, air-cooled chillers, refrigerators and freezers, and natural refrigerant racks for supermarkets. SDG&E will utilize the updated refrigerant avoided cost calculator to conduct cost-benefit analysis of potential low-GWP refrigerant measures.

SDG&E has allocated funding and resources in its 2022-2023 budget advice letter¹⁵ and this application for further low-GWP research and measure package development. SDG&E will continue this research during the 2022 and 2023 program years with the goal of a more concrete list of viable measures to support the 2024-2027 business plan and where appropriate, submit measure packages to Energy Division via CalTF's measure screening process.

SDG&E will collaborate with its Third Parties to develop quantitative portfolio forecasts for the true-up advice letter to be filed on September 1, 2023.

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

SDG&E prioritizes innovation in all its solicitation efforts. SDG&E works with current Third-Party Implementers to discuss and discover innovative ways to serve the territory markets. SDG&E will leverage relationships with industry organizations and focus groups to identify innovative ideas for EE and GHG reductions.

SDG&E actively works with Community Based Organizations (CBOs) to gain further knowledge and insight into market sectors to gain knowledge on any potential areas of GHG technologies. SDG&E also works across company departments to ensure alignment with other initiatives and efforts as it relates to Energy Efficiency, Resiliency and GHG Reductions.

¹⁴ D.21-05-031 at 60.

¹⁵ SDG&E Advice Letter 3887-E-A/3035-G-A, Supplemental - San Diego Gas & Electric Company's 2022-2023 Biennial Energy Efficiency Program and Portfolio Budget Request (January 7, 2022), available at <https://tariff.sdge.com/tm2/pdf/3887-E-A.pdf>.

**4. Strategies For Market Intervention and Energy Efficiency Adoption:
e.g., Targeted Points of Intervention; Delivery
Channels/Platforms/Methods**

Chapter IV below presents the various sector plans, which include holistic strategies for market intervention across each sector. These strategies are supported by tactics that include targeted delivery channels to facilitate the customer journey to increased energy efficiency and whole building decarbonization approaches.

Residential strategies may include the development of an online platform to engage and educate customers, provide direct links to home energy checkups, finance opportunities and track their progress. For multifamily tenants, direct installation will be an entry point, and offerings and seminars will be promoted to assist and engage multifamily owners and property management companies. Coordination with Energy Savings Assistance (ESA) will allow ESA qualified customers to be referred to the appropriate ESA programs and will also serve as a program entry point for customers who earn over the ESA income guidelines as well as for tenants in master metered buildings.

Onsite ads directed to potential building tenants may include a building benchmark score to educate and promote renting in more environmentally friendly and efficient buildings. Leveraging benchmarking scores to enhance the marketability of buildings may serve as a customer’s entry point into energy efficiency and start them on a journey to reducing their carbon footprint. Additionally, communication displays of standard consumption statistics for seasonal changes to new tenants may be introduced. Real estate professionals offer another delivery channel for promoting the value and benefits of participating in energy-efficiency programs and services.

For all sectors, streamlining the initial enrollment process will expand the reach of contractors who are knowledgeable and educated via the Workforce Education & Training (WE&T) offerings. This will enable customers and contractors of all sizes throughout the service territory, including hard-to-reach populations, to take advantage of energy efficiency opportunities.

C. APPLICATION SUMMARY TABLES (4-YEAR BUDGET REQUEST)

1. Annual Budget Request for 2024-2027

Table 2 below provides the total annual budget for Program Years 2024 to 2027. Details for the budget can be found in Attachment A Tabs 4.1 and Tab 7.3.

Table 2: 2024-2027 Portfolio Budgets

2024	2025	2026	2027	Total 4 Years
\$ 79,664,685	\$ 83,915,516	\$ 82,638,623	\$ 85,940,881	\$ 332,159,706

2. Distribution of Effort (Budget) Across Segments and Sectors

Table 3 below provides the total segment budgets for Program Years 2024 to 2027. Details for the segment budgets can be found in Attachment A Tabs 4.1 and Tab 7.3.

Table 3: 2024-2027 Segment Budgets

Segment	2024	2025	2026	2027	Total 4 Years
Resource Acquisition	\$ 48,115,551	\$ 50,824,269	\$ 49,944,603	\$ 52,620,587	\$ 201,505,010
Market Support	\$ 18,661,344	\$ 20,002,059	\$ 19,473,278	\$ 19,795,454	\$ 77,932,135
Equity	\$ 5,145,073	\$ 5,125,189	\$ 5,272,550	\$ 5,402,705	\$ 20,945,517
Codes & Standards	\$ 4,556,131	\$ 4,607,379	\$ 4,642,647	\$ 4,684,500	\$ 18,490,656
EM&V	\$ 3,186,587	\$ 3,356,621	\$ 3,305,545	\$ 3,437,635	\$ 13,286,388
Total	\$ 79,664,685	\$ 83,915,516	\$ 82,638,623	\$ 85,940,881	\$ 332,159,706
Market Support & Equity %	29.88%	29.94%	29.94%	29.32%	29.77%

Tab 4 below provides the total sector budgets for Program Years 2024 to 2027. Details for the segment budgets can be found in Attachment A Tabs 4.1 and Tab 7.3.

Table 4: 2024-2027 Sector Budgets

Sector	2024	2025	2026	2027	Total 4 Years
Commercial	\$ 22,654,760	\$ 24,389,795	\$ 25,322,101	\$ 26,576,147	\$ 98,942,803
Residential	\$ 20,695,461	\$ 22,255,665	\$ 21,993,217	\$ 22,833,629	\$ 87,777,972
Public	\$ 13,451,779	\$ 14,398,500	\$ 12,397,016	\$ 13,331,297	\$ 53,578,593
Industrial	\$ 5,971,777	\$ 5,861,935	\$ 5,711,917	\$ 5,629,324	\$ 23,174,954
Codes and Standards	\$ 4,556,131	\$ 4,607,379	\$ 4,642,647	\$ 4,684,500	\$ 18,490,656
WE&T	\$ 3,792,704	\$ 3,716,065	\$ 3,843,276	\$ 3,866,538	\$ 15,218,583
Emerging Technologies	\$ 3,591,173	\$ 3,619,103	\$ 3,629,530	\$ 3,640,966	\$ 14,480,772
EM&V	\$ 3,186,587	\$ 3,356,621	\$ 3,305,545	\$ 3,437,635	\$ 13,286,388
Agricultural	\$ 1,070,738	\$ 1,174,677	\$ 1,264,343	\$ 1,357,211	\$ 4,866,970
Finance	\$ 693,575	\$ 535,775	\$ 529,030	\$ 583,633	\$ 2,342,014
Total	\$ 79,664,685	\$ 83,915,516	\$ 82,638,623	\$ 85,940,881	\$ 332,159,706

3. For All Segments: Projected Sector-Level and Portfolio-Level Cost Effectiveness (Total Resource Cost (TRC) and Program Administrator Cost (PAC) to Show the TRC and PAC Ratios for All Segments of the Portfolio, Separately and Combined, Including Separately Showing the Portfolio Cost-Effectiveness with and without the C&S Segment of the Portfolio.

Please refer to Attachment A Tabs 7.2 and 7.3.

4. For Resource Acquisition Segment: Forecasted Program-, Sector-, and Portfolio-Level Cost- Effectiveness Over 4-Year Period

Please refer to Attachment A Tabs 7.2 and 7.3.

5. For All Segments: Forecasted Annual Program-, Sector-, and Portfolio-Level Total System Benefit (TSB), Kilowatt-Hours, Kilowatts, and Therms.

Table 5 below provides the forecasted annual portfolio TSB and the Commission adopted TSB goals.¹⁶ For more details, please refer to Attachment A Tabs 7.2 and 7.3.

Table 5: 2024-2027 Commission Adopted TSB and Forecasted TSB

	2024	2025	2026	2027
Forecasted Portfolio TSB (w/out C&S)	\$ 66,866,561	\$ 76,501,655	\$ 77,996,216	\$ 86,093,559
TSB Goals	\$ 27,389,666	\$ 31,386,333	\$ 35,088,813	\$ 41,758,229
Percent of TSB Goal Forecasted	244%	244%	222%	206%
Codes & Standards TSB	\$ 265,698,988	\$ 250,313,220	\$ 237,139,641	\$ 225,575,627

6. Projected Percentage Portfolio that is Third-Party Solicited (for IOUs)

The Commission specified the required minimum percentages of the portfolio budget to be allocated and contracted to Third Party programs. D.18-01-004 requires that by December 31, 2022, Third Party allocation should meet the 60 percent minimum requirement.¹⁷ SDG&E’s 2024-2027 portfolio allocation for Third-Party programs is projected to exceed the 60 percent requirement with at least a 74 percent allocation. SDG&E’s Third-Party programs solicitation is a continuous activity, as contracts end and may need to be re-bid, new programs need to be solicited to meet service gaps in the various market sectors and segments. Table 6 shows the annual percentage allocations for Third-Party Implementers.

Table 6: 2024-2027 Projected Third-Party Portfolio Budget Allocation

Program Type	2024	2025	2026	2027	Total 4 Years
Local Third Party	\$ 35,587,858	\$ 39,849,436	\$ 38,712,896	\$ 40,703,664	\$ 154,853,854
Statewide Third Party	\$ 23,146,509	\$ 22,971,132	\$ 22,251,449	\$ 22,874,548	\$ 91,243,638
Portfolio Budget	\$ 79,664,685	\$ 83,915,516	\$ 82,638,623	\$ 85,940,881	\$ 332,159,706
Total Third Party %	74%	75%	74%	74%	74%
Statewide Third Party %	29%	27%	27%	27%	27%

¹⁶ D.21-09-037 at 20.

¹⁷ D.18-01-004 at 30.

II. FORECAST METHODOLOGY

OVERVIEW

SDG&E has undertaken a zero-based budgeting approach in the development of its portfolio savings and budget for 2024-2027. SDG&E also provides a comparison of the proposed budgets to its actual 2020 expenditures. Information on its 2022 and 2023 portfolio are also provided as additional points of reference. (See Attachment A Tabs 9 through 16). Attachment B provides additional assumptions used in the development of the budget. Below are some highlights of the budget forecasting process.

Program budgets for administrative, marketing, direct implementation (incentive and non-incentive) components of the budgets are informed by the following:

- Review of historical consumption by sector, 2021 EE Potential & Goals Study and available market studies on sector needs are all considered when budgeting for the individual programs.
- Historical expenditures, both SDG&E labor and non-labor costs (see Attachment A Tabs 9 through 16).
- Management review and evaluation of proposed program advisor budgets to validate all budget assumptions, including SDG&E staffing requirements.
- Portfolio review/assessment of forecast in relation to key metrics and compliance areas.
 - Portfolio must meet or exceed Commission annual TSB goals.¹⁸ SDG&E uses historical data and usage information in comparison with the most recent 2021 EE Potential & Goals Study to help determine TSB and evaluate forecasted values.
 - SDG&E's Administrative costs are assessed based on historical and current day activities to ensure appropriateness. The Administrative budget should not exceed the administrative cap of 10 percent.¹⁹
 - Portfolio meets the Third Party minimum outsourcing requirement of 60 percent of portfolio budget.²⁰ SDG&E monitors contract term schedules and solicitation schedules to ensure a clear pathway to maintain minimum 60 percent outsourcing requirement.
 - Portfolio meets the 25 percent portfolio budget allocation requirement for Statewide program contribution.²¹ SDG&E collaborated with the other IOUs

¹⁸ D.21-09-37 at 20.

¹⁹ D.21-05-031 at 33, and COL 19 at 77.

²⁰ D.18-01-004 at 30.

²¹ D.18-05-041, OP 23 at 187.

to meet this requirement. Details of the Statewide program budgets are in Attachment A Tab 6.

- Market Support and Equity segment budgets do not exceed 30 percent of the portfolio budget.²² SDG&E has identified new Market Support and Equity programs that will be solicited to serve those subsegments, while staying under the 30 percent budget cap.
- Resource Acquisition segment TRC of 1.0 or greater.²³
- Assessment of sectors in relation to the most recent 2021 EE Potential & Goals Study
 - SDG&E uses historical data, usage data and market sector information to identify areas of need. The market sector information is obtained from the various market actors that SDG&E interfaces with to determine trends and needs for these areas. SDG&E compares this data to the 2021 EE Potential & Goals Study to validate areas of needs. This in-depth review and evaluation becomes the basis for the budget request.
- Optimization/Refinement of the portfolio

General Assumptions used for Portfolio Planning are as follows:

- SDG&E used all approved deemed measures in the forecast as of July 2021.
- Existing Third-Party Implementers provided forecasts for their market segment. These were used as an additional evaluation point for the forecast.
- For planned solicitations, SDG&E uses representative measures that include expected savings/benefits to provide a reasonable forecast.²⁴

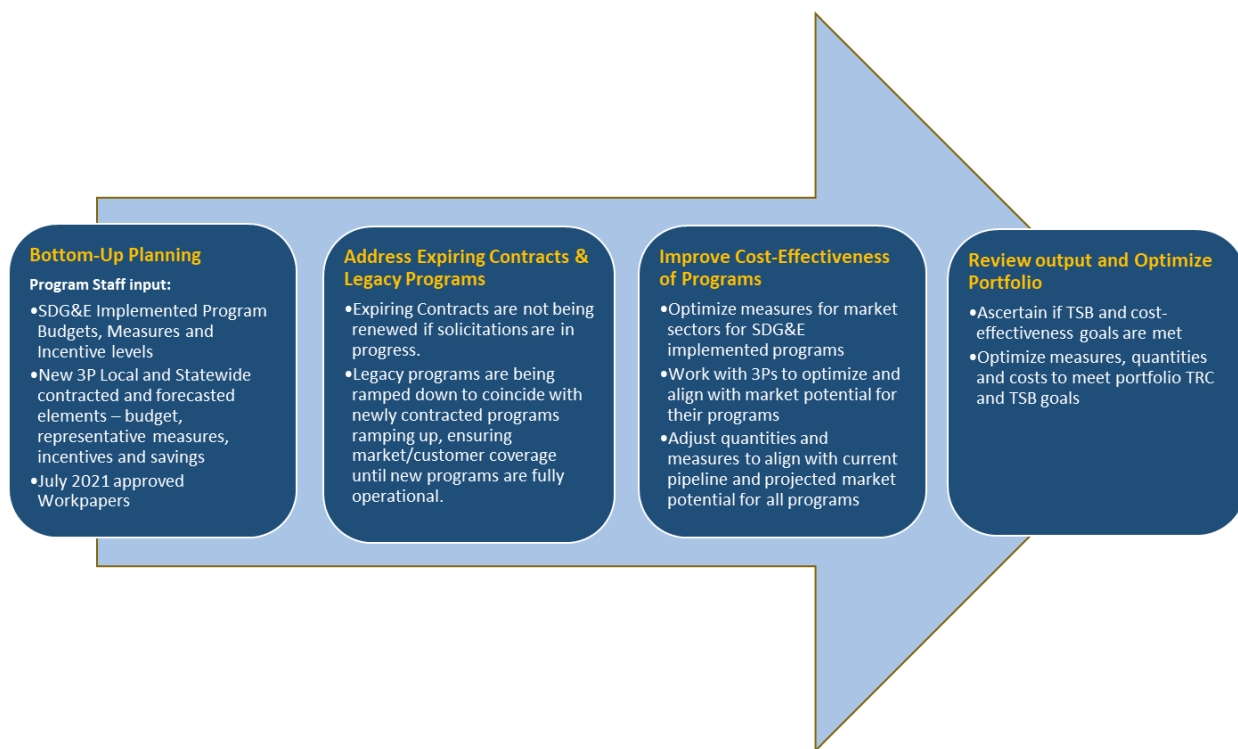
SDG&E provides a description of its forecasting process that optimizes the total system benefits and designs its portfolio to meet Commission objectives. During the implementation phase, SDG&E undertakes a cyclical optimization and refinement process to track its portfolio performance towards meeting portfolio goals and objectives. SDG&E regularly evaluates administrative costs to ensure applicability and to remain in accordance with all Commission mandates. Figure 1 below illustrates SDG&E's process:

²² D.21-05-031, OP 4 at 81.

²³ D.21-05-031, COL 8 at 75.

²⁴ D.19-08-034 at 30.

Figure 1: SDG&E Forecast Process for 2024-2027



A. PROGRAM MODIFICATIONS FROM 2023 PORTFOLIO

This section includes a description of program modifications (e.g., categorization changes or significant budget shifts), new programs and discontinuation of existing programs from the current portfolio.

SDG&E has made a number of changes from its 2023 portfolio regarding program offerings and overall budgets. Based on the changes, along with a thorough review of program level budget assumptions, SDG&E has reduced the annual budget of the portfolio for the 2024-2027 cycle by an average of 12 percent in relation to Program Year (PY) 2023, while continuing to meet its increasing TSB goals over the 2024-2027 program years.

Changes and modifications are outlined below:

1. Program Closures or Discontinuation:

During the implementation of the SDGE4003 – Commercial Small Customer Services (<20kW) program, significant challenges arose that affected achievement of program goals. Some of these challenges were due to the economic slowdown resulting from the COVID-19 pandemic, which disproportionately impacted this fragile sector. In response to these challenges, SDG&E proposes to solicit for a new small commercial program that will specifically target Hard-to-Reach (HTR) and Disadvantaged Communities (DAC) customers within the commercial sector. This program will be classified as an Equity program to specifically target those typically underserved through traditional energy efficiency interventions.

SDG&E will sunset its SDGE4004 – Commercial Large Customer Services (>20kW) program after the 2024 program year and solicit for four subsectors within the commercial sector. They will include Lodging (hotels/motels); Groceries, Restaurant and Food Storage; Wholesale, Retail, Office; and Private Institutions/Healthcare (medical facilities, private schools). During the 2021 program year implementation, SDG&E learned that there was too much reliance on two main programs to meet portfolio goals and is therefore shifting its approach to distribute budget and goals among more programs to manage program and portfolio risks.

SDG&E will close SDGE3254 - Local WE&T-Integrated Energy Education & Training program (Centergies), as it will be replaced by a new Third-Party Implemented program. SDG&E intends to begin soliciting for a new local offering in 2022.

SDG&E will formally close the three local Emerging Technology Programs (ETP) (SDGE3246, SDGE3247 & SDGE3248) as those programs close out final commitments during the 2023 program year. Emerging Technology efforts will be run through statewide offerings.

SDG&E will close out SDGE3317 - HOPPs - Building Retro-Commissioning. The program will conclude all project commitments and formally close with the disposition of this application.

SDG&E will close out SDGE3222 - SW-COM-Calculated Incentives-Savings by Design. This program will have completed all project commitments and be formally closed with this disposition of this application.

2. Solicitations for New Programs

As mentioned above, SDG&E will solicit for new commercial programs to take the place of the Large Commercial program - Lodging (hotels/motels); Groceries, Restaurant and Food Storage; Wholesale, Retail, Office; and Private Institutions/Healthcare (medical facilities, private schools).

To help support Property Managers, SDG&E will solicit a Market Support program targeted at this segment to help overcome traditional barriers this set of customers face when it comes to energy efficiency adoption.

SDG&E will also be soliciting the market for a local fuel substitution program aimed at advancing the State's decarbonization goals. This program will be focused on the residential sector.

SDG&E is adding a solicitation for an Equity program to service both residential single family and multifamily customers.

SDG&E will solicit a new local Workforce Education & Training program to replace the local program currently implemented by SDG&E.

As part of the effort to address summer reliability concerns for 2022 and 2023, pursuant to D.21-12-011, SDG&E plans to submit an advice letter for a Market Access program for a Non-Residential Behavioral offering in 2022. SDG&E plans to continue this program into the 2024-2027 Application period.

B. PORTFOLIO ADMINISTRATION VS PROGRAM IMPLEMENTATION COSTS

SDG&E will continue general administration functions consistent with Commission-approved administration functions.²⁵ Administrative expenditures are necessary to support the Third-Party programs that make up the bulk of SDG&E's portfolio. Contract administrative functions consistent with Administrative Overhead costs include, but are not limited to, contract administration labor, accounting support, IT services and support, reporting database, regulatory and filing support, data request responses, quality verification of project installation and other ad-hoc support required to verify contract invoices.

In addition to its administration and oversight functions listed above, SDG&E plans to continue using utility staff personnel or contracted labor to ensure successful delivery of Third-Party programs. SDG&E will continue limited delivery functions and incur Direct Implementation costs for Third-Party programs as needed to support these programs. General non-administrative costs include the following, without limitation:

- Engineering (Direct Implementation)
 - Workpaper development and submittals to ED for approval
 - Workpaper review and updates
 - Measure changes
 - Data request responses
 - Response to Recommendation activities
 - CalTF and DEER support
- Evaluation, Measurement and Verification (EM&V)
 - Program and project evaluation activities: Ex-post reviews, Impact evaluations
- System Support (Direct Implementation)
 - System configuration, testing, and maintenance tailored for each program
- Marketing (Marketing and Outreach)
 - Co-branding activities
 - Marketing and communications support

²⁵ CPUC, Energy Efficiency Policy Manual Version 6 (April 2020), Appendix C: Cost Categories and Related Cap and Targets, available at <https://www.cpuc.ca.gov/-/media/cpuc-website/files/legacyfiles/e/6442465683-ee-policy-manual-revised-march-20-2020-b.pdf>.

In D.21-05-031, the Commission adopted the California Energy Efficiency Coordinating Committee (CAEECC) proposal's definition of Program Administration costs, which is as "[e]verything else not in Program Implementation. Costs for things like managing a solicitation, negotiating a contract, and reviewing/paying invoices all are part of Administration (this should not be put into the 'implementation' bucket)."²⁶ SDG&E requests solicitation costs be classified as Direct Implementation Non-Incentive costs. Please refer to Exhibit 1, Recommendations for New or Modified EE Policy discussion, for this request.²⁷

²⁶ D.21-05-31 at 33 (citation omitted).

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

III. SEGMENTATION STRATEGY

A. STRATEGIES DRIVING DISTRIBUTION OF BUDGET AMONG SEGMENTS AND ALIGNMENT WITH BROADER PORTFOLIO OBJECTIVES

D.21-05-031 directed the Program Administrators to segment its portfolio or assign programs to the appropriate segment.²⁸ This allows SDG&E to focus on cost effective energy savings and benefits along with addressing important policies that may have negative impacts on cost effectiveness, e.g., hard-to reach programs, disadvantaged communities, training and outreach, etc. Such segmentation allows SDG&E to motivate and support these customers more effectively, which in turn helps to achieve energy savings and GHG reduction in these sensitive groups. The segments are as follows:

- Resource Acquisition: 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.
- Market Support: 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.
- Equity: 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.
- Codes & Standards: Programs that support the development of the next generation of state and federal building and appliance standards.

Most SDG&E programs and budgets are classified under the Resource Acquisition segment. The remaining portfolio budget is allocated to the Market Support and Equity segments (not to exceed 30 percent of the budget), Codes and Standards, and Evaluation Measurement & Verification (EM&V) (budgeted at 4 percent of the total portfolio budget).²⁹

D.21-05-031 also directed the PAs to implement segmentation of the portfolio in the 2022-2023 Biennial Budget Advice Letter (BBAL).³⁰ SDG&E provided this segmentation for its proposed portfolio programs, both existing continuing programs and expected programs currently in solicitation in its BBAL.³¹ SDG&E did not propose any new programs in these segments in its BBAL. However, in this application, SDG&E is taking the opportunity to expand its offerings in these segments to better serve its customers.

²⁸ D.21-05-031, OP 2 at 81 and discussion at 14-15.

²⁹ D.12-05-015, OP 157 at 433.

³⁰ SDG&E Advice Letter 3887-E-A/3035-G-A, Supplemental - San Diego Gas & Electric Company's 2022-2023 Biennial Energy Efficiency Program and Portfolio Budget Request (January 7, 2022), available at <https://tariff.sdge.com/tm2/pdf/3887-E-A.pdf>.

³¹ *Id.* at 5-7.

The Market Support segment is comprised primarily of the Statewide Residential and Non-Residential New Construction programs administered by Pacific Gas and Electric Company (PG&E), which limits funding availability for SDG&E to plan local offerings in both the Market Support and Equity segments due to the 30% budget cap on these two segments. The Statewide WE&T and SDG&E's local WE&T programs are also within the Market Support segment. SDG&E plans to outsource its existing local WE&T program through a Third-Party solicitation. SDG&E also proposes to add a local Residential Fuel-Substitution program and a program designed to target property managers of leased commercial spaces to be classified as Market Support programs

For its Equity segment, SDG&E is proposing to bolster the segment with two new programs and offerings. The first is focused on serving Residential Single Family and Multi Family customers who meet Hard to Reach guidelines but do not qualify for the ESA programs. The second solicitation will be for the Small Business Customer Outreach program, focused on Hard-to-Reach small businesses.

All new programs will be competitively solicited through the approved Third-Party solicitation process.

Table 7 provides a summary of the 2024-2027 Segment budgets. Specific program budgets can be found in the segment discussions below and Attachment A Tab 4.1.

Table 7: 2024-2027 Portfolio Segment Budgets

Segment	2024	2025	2026	2027	Total 4 Years
Resource Acquisition	\$ 48,115,551	\$ 50,824,269	\$ 49,944,603	\$ 52,620,587	\$ 201,505,010
Market Support	\$ 18,661,344	\$ 20,002,059	\$ 19,473,278	\$ 19,795,454	\$ 77,932,135
Equity	\$ 5,145,073	\$ 5,125,189	\$ 5,272,550	\$ 5,402,705	\$ 20,945,517
Codes & Standards	\$ 4,556,131	\$ 4,607,379	\$ 4,642,647	\$ 4,684,500	\$ 18,490,656
EM&V	\$ 3,186,587	\$ 3,356,621	\$ 3,305,545	\$ 3,437,635	\$ 13,286,388
Total	\$ 79,664,685	\$ 83,915,516	\$ 82,638,623	\$ 85,940,881	\$ 332,159,706
Market Support & Equity %	29.88%	29.94%	29.94%	29.32%	29.77%

D.21-05-031 requested CAEECC, through working groups, to develop market support and equity metrics. SDG&E participated in these working groups and supports the working group metric recommendations as described in the working group reports, (1) *CAEECC-Hosted Market Support Metrics Working Group Report and Recommendations to the California Public Utilities Commission and the Energy Efficiency program Administrators* (October 6, 2021); and (2) *CAEECC-Hosted Equity Metrics Working Report and Recommendations to the California Public Utilities Commission and the energy Efficiency Program Administrator* (October 20, 2021). These metrics can be found in Attachment A Tab 18.1-Equity Segment Metrics and Tab 18.2-Market Support Metrics. SDG&E recommends that once the Commission adopts these metrics, that the working groups reconvene to develop the appropriate methodologies and data collection requirements. Only after this work is completed will the PAs establish baselines and targets for the portfolio cycle.

B. RESOURCE ACQUISITION

As stated above, the Resource Acquisition segment is comprised of “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.”³² D.21-05-031 further clarifies that short-term refers to implementation during the approved budget period for the portfolio and this segment should make up the bulk of savings to achieve TSB goals.³³

SDG&E will rely heavily upon its Resource Acquisition segment to meet its energy savings goals and help achieve the State’s ambitious policy goals under SB 350, which requires a cumulative doubling of energy efficiency savings by 2030.³⁴ In addition to the avoided cost benefits to the electric and natural gas systems, SDG&E recognizes that its Resource Acquisition programs are also a critical tool to help meet GHG reductions to support the State’s carbon reduction goals. Resource Acquisition programs provide consumer benefits as well, such as assisting customers with reducing their utility bills. By offering financial incentives and technical assistance to end-use customers, SDG&E’s Resource Acquisition programs have historically been able to generate predictable savings and quantifiable impacts, as highlighted in its annual report each year. Moving forward, SDG&E’s vision for this segment will focus on achieving deeper energy efficiency savings in each market sector by overcoming market barriers that have historically impeded participation and suppressed energy efficiency investment. Some of the market barriers identified by SDG&E include:

- **Program complexities**– multiple program options or multiple step program processes.
- **Lack of knowledge about energy efficiency**– customers do not have the expertise needed to implement a project.
- **Misperception of energy efficiency value** – customers do not recognize the benefits of energy efficiency, resulting in lower priority of investment.
- **Financial limitations** – participants lack the capital needed to invest or are unaware of financing options.
- **Split incentives between landlords and tenants** – neither tenants nor landlords are motivated to make energy efficiency investments, as the tenant does not own the building and the landlord does not pay the energy bill.

1. Preliminary Distribution of Budget Among Segments for 2024-2027, and Rationale for the Distribution

Table 8 below identifies the Resource Acquisition programs and their respective 2024-2027 budgets. The budgets presented in the table includes both the Third-Party

³² D.21-05-031 at 14.

³³ *Id.*

³⁴ SB 350, De Leon. Clean Energy and Pollution Act of 2015, Section 6(c)(1), amended in Public Resource Code Section 25310(c)(1).

Implementer and SDG&E's program costs. For Statewide programs, the program budgets include both SDG&E's contribution to the Statewide Third-Party contract and SDG&E's administrative cost for support activities as agreed upon by the IOU PAs.

Table 8: 2024 - 2027 Resource Acquisition Programs and Budgets

Program	2024	2025	2026	2027	Total 4 Years
Single Family Program	\$ 1,947,013	\$ 1,971,456	\$ 2,073,851	\$ 2,166,399	\$ 8,158,719
Multi Family Program	\$ 4,991,253	\$ 5,506,117	\$ 5,409,798	\$ 5,420,448	\$ 21,327,616
Commercial Large Customer Services (>20KW) Program	\$ 6,893,291				\$ 6,893,291
Industrial Sector Program	\$ 3,119,854	\$ 2,624,895	\$ 2,496,017	\$ 2,517,819	\$ 10,758,584
Industrial Port Tenant Customers Services Programs	\$ 1,506,927	\$ 1,701,156	\$ 1,717,055	\$ 1,607,465	\$ 6,532,604
Agricultural Growers Services Program	\$ 770,284	\$ 784,648	\$ 816,198	\$ 848,285	\$ 3,219,415
Local Government Customers Program	\$ 2,856,719	\$ 2,649,833	\$ 1,659,477	\$ 1,606,559	\$ 8,772,589
K-12 Customer Services Program	\$ 3,301,851	\$ 3,704,423	\$ 3,605,280	\$ 4,398,434	\$ 15,009,988
Federal Customer Services Program	\$ 4,442,909	\$ 4,991,843	\$ 4,347,920	\$ 4,492,691	\$ 18,275,362
IDSMS Local Residential Behavioral Program (EE)	\$ 3,005,868	\$ 3,266,213	\$ 3,162,352	\$ 3,169,608	\$ 12,604,042
Lodging (Hotels/Motels)		\$ 826,823	\$ 844,813	\$ 964,858	\$ 2,636,493
Groceries, Restaurants and Food Storage		\$ 2,179,544	\$ 2,123,819	\$ 2,436,368	\$ 6,739,730
Wholesale/Retail/Office, including Entertainment Services		\$ 5,030,339	\$ 4,998,708	\$ 6,106,934	\$ 16,135,981
Private Institutions/Healthcare		\$ 1,383,509	\$ 2,127,874	\$ 1,695,233	\$ 5,206,616
Non-Residential Behavioral Program	\$ 1,514,360	\$ 1,522,339	\$ 1,527,092	\$ 1,531,969	\$ 6,095,759
SW Institutional Partnerships: DGS & DoC	\$ 963,685	\$ 970,629	\$ 967,164	\$ 974,116	\$ 3,875,593
SW Higher Education	\$ 564,972	\$ 565,257	\$ 565,447	\$ 565,701	\$ 2,261,377
SW Midstream Commercial Water Heating	\$ 1,616,484	\$ 1,615,646	\$ 1,614,561	\$ 1,613,575	\$ 6,460,266
SW Foodservice Point of Sale Program	\$ 1,700,776	\$ 1,701,158	\$ 1,701,340	\$ 1,701,694	\$ 6,804,969
SW Lighting Program	\$ 674,184				\$ 674,184
SW Plug Load and Appliances	\$ 4,089,246	\$ 3,590,679	\$ 3,821,503	\$ 4,314,616	\$ 15,816,044
SW Downstream Water/Wastewater Pumping Program	\$ 746,808	\$ 747,108	\$ 747,297	\$ 747,567	\$ 2,988,780
SW HVAC Upstream Commercial	\$ 2,570,519	\$ 2,846,225	\$ 2,949,454	\$ 3,049,951	\$ 11,416,149
SW HVAC Upstream Residential	\$ 838,548	\$ 644,430	\$ 667,584	\$ 690,298	\$ 2,840,860
Total	\$ 48,115,551	\$ 50,824,269	\$ 49,944,603	\$ 52,620,587	\$ 201,505,010

The Commercial sector is SDG&E's largest and most diverse sector and SDG&E has planned a number of programs to address those customers and their unique needs. Budgets for those programs reflect market potential in those areas of the commercial sector.

SDG&E's Industrial and Agricultural customers make up the two smallest sectors within the service territory, with also the smallest energy savings potential. The budgets for these programs reflect their potential and market share that these customers have within the portfolio.

Budgets for the Residential sector have similar budgets in this application as in previous program years.

2. Segment-Specific Strategies, Goals and Outcomes

To ensure the value of energy efficiency measures is realized, SDG&E proposes the following goals for the Resource Acquisition segment:

Goal 1: Meet or exceed the Commission's annualized EE Portfolio savings and TSB goals.

SDG&E will seek to optimize its Resource Acquisition programs around Total System Benefit. Given that the primary purpose of Resource Acquisition programs is to produce energy savings, this goal is a portfolio top priority and essential to the existence of these programs, while serving all market sectors effectively.

Goal 2: Meet or exceed the Commission's cost-effectiveness threshold of a 1.0 TRC for all resource acquisition programs.

SDG&E agrees with the Commission that “the ratepayer investment or costs of the program should be less than the ratepayer benefits or energy savings.”³⁵ This goal is the basis and guiding principle for the Resource Acquisition strategies outlined below.

- Strategy: Incorporate a pay-for-performance approach to align incentives with TSB and TRC.

SDG&E agrees with the Commission's stated preference for pay-for-performance and seeks to ensure its Third-Party Implementers are motivated to achieve energy savings in the most cost-effective manner possible.³⁶ As such, SDG&E's pay-for-performance structure will continue to directly link implementer compensation to TSB and TRC goals. It also plans to structure its compensation approach to reserve a percentage of contract budget, pending verification, to reward exceptional performance. Incorporating pay-for-performance payment terms maximizes contract value and balances the risk between SDG&E and the implementer, while reducing ratepayer risk.

- Strategy: Solicit programs designed, implemented, and delivered by Third-Party Implementers with a minimum forecasted TRC of 1.25 to hedge against performance risk and meet an evaluated 1.0 TRC.

SDG&E will continue to solicit for Resource Acquisition programs with a TRC of greater than 1.25. A 1.25 TRC ratio accounts for underperformance and variations between the initial forecast and final evaluation to provide SDG&E with some leeway to meet an evaluated 1.0 TRC. SDG&E recognizes that there may be differences between projected and realized savings, especially in times of economic uncertainty, when customers may be more hesitant to invest in energy efficiency than initially anticipated. Establishing higher goals as part of a pay-for-performance methodology may also result in better performance.

- Strategy: Explore the expansion of various procurement vehicles by leveraging market opportunities to achieve targeted, deeper, or incremental savings

A key component of this strategy is leveraging the use of Third Parties to develop and deliver intervention strategies and incorporate new and innovative program offerings into the portfolio. This approach will allow SDG&E to further diversify efforts and resources and uncover incremental market potential through more customized and targeted program offerings. In addition, this provides an opportunity to continue to focus on incremental demand reduction programs that support reliability concerns as described in D.21-12-011, which encourages PAs to propose ideas that address summer reliability peak and/or net peak demand reduction purposes.³⁷

³⁵ D.21-05-031 at 21-22.

³⁶ D.16-08-019 at 75-76.

³⁷ D.21-12-011 at 36.

To monitor its progress, SDG&E will utilize the approved, standard metrics identified below for its Resource Acquisition offerings. SDG&E's proposed targets for these metrics are contained in attachment A Tab 17.

3. For All Segments: Projected Annual Portfolio- And Sector-Level Metrics

- Energy Savings – first year annual and lifecycle ex ante (pre-evaluation) gas, electric, and demand savings (gross and net)
- Cost Per Unit Saved –Program Administrator Cost (PAC) levelized (\$/unit) and Total Resource Cost (TRC) levelized (\$/unit)
- Total System Benefit – an expression, in dollar terms, of the lifecycle energy, capacity, and GHG benefits, expressed on an annual basis³⁸
- GHG Savings – GHG (metric ton CO₂eq) savings, reported on an annual basis

The currently approved metrics are associated with the Resource Acquisition programs or sectors.

a. Residential – Single Family

- **Energy Savings** – first year annual and lifecycle ex ante (pre-evaluation) gas, electric, and demand savings (gross and net)
- **GHG Savings** – GHG (metric ton CO₂eq) savings, reported on an annual basis
- **Depth of Interventions** - average lifecycle ex-ante (pre-evaluation) gas, electric, and demand savings per participant - upstream, midstream, downstream, and opt out
- **Penetration of Energy Efficiency Programs in the Eligible Market**- participation relative to eligible population – upstream, midstream, downstream, Disadvantaged Communities (DAC) customers, and Hard-to-Reach (HTR) customers
- **Cost Per Unit Saved** – Program Administrator Cost (PAC) levelized (\$/unit) and Total Resource Cost (TRC) levelized (\$/unit)
- **Energy Intensity Indicator** – annual usage for single family per household per Kbtu

b. Residential – Multifamily

- **Energy Savings** – first year annual and lifecycle ex ante (pre-evaluation) gas, electric, and demand savings (gross and net) - in units, common area, and master metered accounts
- **GHG Savings** – GHG (metric ton CO₂eq) savings, reported on an annual basis
- **Depth of Interventions** – annualized lifecycle ex-ante (pre-evaluation) gas, electric, and demand savings per building, per property (downstream), and per square foot
- **Penetration of Energy Efficiency Programs in the Eligible Market** - participation relative to eligible population - total accounts, number of units, square feet, DAC customers, and HTR customers

³⁸ D.21-05-031 at 9.

- **Benchmarking** – percent of benchmarked multi-family properties relative to the eligible population
- **Cost Per Unit Saved** –Program Administrator Cost (PAC) levelized (\$/unit) and Total Resource Cost (TRC) levelized (\$/unit)
- **Average Energy Use Intensity** – annual usage for multifamily units and buildings per square foot per Kbtu

c. Commercial Sector

- **Energy Savings** –first year annual and lifecycle ex ante (pre-evaluation) gas, electric, and demand savings (gross and net)
- **Percent Overall Sectoral Savings** – first year annual and lifecycle ex ante (pre-evaluation) gas, electric, and demand savings (gross and net) as a percentage of overall sectoral usage
- **GHG Savings** - GHG (metric ton CO₂eq) savings, reported on an annual basis
- **Depth of Interventions** - lifecycle gross gas, electric, and demand savings as a fraction of total project consumption
- **Penetration of Energy Efficiency Programs in the Eligible Market** - participation relative to eligible population - small customers, medium customers, large customers, square feet, and HTR customers
- **Benchmarking Penetration** – percent benchmarked relative to eligible population - small customers, medium customers, large customers, square feet, and HTR customers
- **Cost Per Unit Saved** – Program Administrator Cost (PAC) levelized (\$/unit) and Total Resource Cost (TRC) levelized (\$/unit)

d. Public Sector

- **Energy Savings** – First year annual and lifecycle ex ante (pre-evaluation) gas, electric, and demand savings (gross and net)
- **GHG Savings** – GHG (metric ton CO₂eq) savings, reported on an annual basis
- **Depth of Interventions** – annualized lifecycle ex-ante (pre-evaluation) gas, electric, and demand savings per building and per square foot
- **Water Penetration** – percent of public sector water/wastewater projects enrolled relative to eligible population and average of savings per gallon per project
- **Penetration of Energy Efficiency Programs in the Eligible Market** - participation relative to eligible population – public sector customers and square feet
- **Cost Per Unit Saved** – Program Administrator Cost (PAC) levelized (\$/unit) and Total Resource Cost (TRC) levelized (\$/unit)
- **Energy Use Intensity** –average energy usage for the public sector per square foot per Kbtu
- **Benchmarking Penetration** – percent benchmarked relative to eligible population – public sector customers and square feet

e. Industrial Sector

- **Energy Savings** –First year annual and lifecycle ex-ante (pre-evaluation) gas, electric, and demand savings (gross and net)
- **GHG Savings** GHG (metric ton CO₂eq) savings, reported on an annual basis
- **Penetration of Energy Efficiency Programs in the Eligible Market** - participation relative to eligible population - small customers, medium customers, and large customers
- **New Participation** –percent of customers participating that have not received an incentive for the last three years by customer category - small, medium, and large
- **Cost Per Unit Saved** – Program Administrator Cost (PAC) levelized (\$/unit) and Total Resource Cost (TRC) levelized (\$/unit)
- **Percent Overall Sectoral Savings** – First year annual and lifecycle ex ante (pre-evaluation) gas, electric, and demand savings (gross and net) as a percentage of overall sectoral usage

f. **Agricultural Sector**

- **Energy Savings** – First year annual and lifecycle ex-ante (pre-evaluation) gas, electric, and demand savings (gross and net)
- **GHG Savings** – GHG (metric ton CO₂eq) savings, reported on an annual basis
- **Penetration of Energy Efficiency Programs in the Eligible Market** - participation relative to eligible population - small customers, medium customers, and large customers
- **Cost Per Unit Saved** – Program Administrator Cost (PAC) levelized (\$/unit) and Total Resource Cost (TRC) levelized (\$/unit)

4. **Segment-Specific Coordination**

SDG&E's Resource Acquisition programs will play a significant role in meeting the CPUC's requirement to have 60 percent of the PA's programs outsourced to Third-Party Implementers. SDG&E will need to continue to collaborate with the other IOUs, implementers, and stakeholders during program solicitations, selection process, and program design and implementation. As part of that collaboration, SDG&E will work closely with its Contract Management Office (CMO) to continually refine its solicitation documents and contract templates based on input from the Independent Evaluator, the CPUC's Procurement Review Group (PRG), and other stakeholders.

SDG&E's approach to coordination between the statewide and local resource acquisition programs has been one of collaboration with other PAs and communication with local implementers. SDG&E prioritizes the statewide upstream and midstream programs and will continue to communicate with its local implementers on how to best manage their programs to avoid double dipping and minimize customer confusion.

In addition, this segment will look to coordinate with other programs that complement its offerings. For example, SDG&E's Resource Acquisition programs can support the statewide Emerging Technology (ET) program by identifying specific high-need areas so that appropriate technologies are explored and evaluated. Program implementers can also utilize emerging technology evaluations to help identify technologies suitable for new

pilots or program offerings. Coordination with WE&T may build customer demand by highlighting the value of energy efficiency and promoting market acceptance by educating trade professionals on how to maximize sales through value proposition. Market Support and Equity programs may also complement this segment. For instance, some customers may be served more effectively under an Equity program, or a Market Support program may help advance a particular technology that would otherwise not be cost-effective if classified as a Resource Acquisition program. An Equity or Market Support program may also serve as the point of entry to EE for a customer but, once the objectives of such program are fulfilled, the customer may need to be referred to a Resource Acquisition program. SDG&E will expect its program implementers to engage with other local and statewide program implementers to develop processes that allow for seamless customer interaction with these various programs and support the long-term success of the energy efficiency market.

C. CODES & STANDARDS

Following the CPUC's direction per D.16-08-019, PG&E was assigned as the Lead Program Administrator (Lead PA) for Codes & Standards (C&S) Statewide Advocacy Program which was officially launched at the beginning of 2020. PG&E is tasked with implementing the three advocacy subprograms: Title 24 Building Code, Title 20 State Appliance Standard, and Federal Appliance Standard. Please refer to the Codes & Standards chapter of PG&E's Business Plan for details regarding the statewide components of the C&S program. SDG&E's support to PG&E in the implementation of the statewide C&S subprograms is addressed by PG&E in their filed program Implementation Plan (IP). SDG&E provides funding to PG&E as listed in Tables 3 and 4 of D.18-05-041. SDG&E receives the proportional energy and demand saving benefits from the Statewide Program through the CPUC's CEDARs reporting system.

SDG&E's C&S business plan pertains primarily to three locally implemented C&S subprograms: Compliance Improvement, Reach Codes, and Planning & Coordination. SDG&E staff serve as local resources to ensure that development and implementation of energy efficiency programs incorporates past and future updates to codes and standards, and updates to technical assumptions related to codes and standards are integrated into programs after adoption. In addition, informing and educating program staff and market actors regarding likely future changes to codes and standards helps improve program and measure development. Working jointly with SDG&E's local government support teams SDG&E staff will support municipalities interested in pursuing reach codes and support their compliance improvement activities.

1. Preliminary Distribution of Budget Among Segments for 2024-2027, and Rationale for the Distribution

For the rationale of C&S budgets, please refer to Sector Strategy – Crossing Cutting – Codes & Standards.

Table 9: Preliminary Distribution of Budget Among Segments For 2024-2027

Program	2024	2025	2026	2027	Total 4 Years
SW C&S - Compliance Enhancement (NET SAVINGS)	\$ 973,745	\$ 989,044	\$ 1,004,402	\$ 1,021,758	\$ 3,988,949
SW C&S - Planning Coordination (NET SAVINGS)	\$ 367,855	\$ 378,282	\$ 384,118	\$ 390,261	\$ 1,520,517
SW C&S - Reach Codes (NET SAVINGS)	\$ 507,699	\$ 521,757	\$ 526,625	\$ 534,999	\$ 2,091,081
SW Codes & Standards Advocacy - National Codes & Standards Advocacy (NET SAVINGS)	\$ 710,400	\$ 710,400	\$ 710,400	\$ 710,400	\$ 2,841,601
SW Codes & Standards Advocacy - National Codes & Standards Advocacy (Utility) (NET SAVINGS)	\$ 76,099	\$ 79,385	\$ 82,021	\$ 84,880	\$ 322,386
SW Codes & Standards Advocacy - State Appliance Standards (NET SAVINGS)	\$ 593,083	\$ 390,663	\$ 327,843	\$ 558,183	\$ 1,869,773
SW Codes & Standards Advocacy - State Appliance Standards (Utility) (NET SAVINGS)	\$ 78,070	\$ 81,027	\$ 83,615	\$ 87,013	\$ 329,726
SW Codes & Standards Advocacy - State Building Codes (NET SAVINGS)	\$ 1,137,682	\$ 1,340,102	\$ 1,402,922	\$ 1,172,582	\$ 5,053,288
SW Codes & Standards Advocacy - State Building Codes (Utility) (NET SAVINGS)	\$ 111,497	\$ 116,718	\$ 120,699	\$ 124,422	\$ 473,336
Total	\$ 4,556,131	\$ 4,607,379	\$ 4,642,647	\$ 4,684,500	\$ 18,490,656

2. Segment-Specific Strategies, Goals, And Outcomes

For the C&S segment-specific strategies, goals and outcomes, please refer to Sector Strategy – Crossing Cutting – Codes & Standards.

3. For All Segments: Projected Annual Portfolio- and Sector-Level Metrics

C&S and the other cross-cutting programs are focused on supporting statewide policy objectives, such as the doubling of energy efficiency by 2030 and efforts towards building decarbonization. C&S’s primary goal is to cost-effectively reduce energy use for ratepayers and significantly increase the likelihood that California will achieve its climate goals. As such, energy savings is the primary metric for C&S at the Business Plan level. Please refer to PG&E’s Business Plan for C&S savings goals and allocation among the four CA IOUs (PG&E, Southern California Edison Company (SCE), Southern California Gas Company (SCG or SoCalGas) and SDG&E). It also lists several indicators that will be used to measure strategies at the implementation plan level, which may be adjusted and improved to more accurately reflect program progress.

Indicators related to Compliance Improvement and Reach Codes include:

- Number of tools and resources that support codes (before and after their effective date)
- Number of trainings to support new codes (before and after their effective date)
- Number of attendees to the training classes and their knowledge swing percentages
- Number of visitors to ECA (Energy Code Ace) Compliance Improvement website
- Social media engagement stats
- Reach codes adopted by local jurisdictions

4. Segment-Specific Coordination

Just as the C&S program serves a diverse customer landscape, it also plays a cross-cutting role in supporting the other programs within energy efficiency. Accurate data derived from data gathering from code-driven research and market analysis to support

the development of effective standards may also be a resource for program developers and implementers serving customers that the standard will eventually impact. This positions the C&S program to share knowledge through existing relationships.

C&S works closely with the CEC to implement new building codes and appliance standards through an open stakeholder process. Although this process has effectively achieved energy savings, it has not incorporated the lessons learned from voluntary programs on market effects. The C&S program and the voluntary programs are increasing their collaboration to incorporate lessons learned from the implementation of each code cycle. This feedback will provide lessons on improved stakeholder collaboration, insight into loopholes, increases in costs to customers, contractor education gaps, and customer acceptance of specific technologies. Work to simplify codes during development of new code change proposals should help alleviate stranded potentials by reducing complexity and improving code compliance.

For measures included in incentive programs, codification of a measure provides an exit strategy to sunset incentive support for technologies that have graduated from emerging to standard practice, completing transformation and liberating funds to be used for new technologies. To ensure the savings from newly adopted codes and standards are realized, the compliance improvement team conducts education and training, and develops tools, to help individuals within compliance supply chain (builders, contractors, manufacturers, etc.) correctly implement state and federal regulations.

Through Reach Codes and Planning & Coordination activities, the program conducts activities to advance and harmonize codes, standards, and ratings by local governments, the American Society of Heating and Air-Conditioning Engineers (ASHRAE) and others to support California building codes and appliance standards and other goals. Internal coordination serves to inform programs of upcoming changes and gather information to support future code enhancement proposals.

D. MARKET SUPPORT SEGMENT

1. Preliminary Distribution of Budget Among Segments for 2024-2027, and Rationale for the Distribution

Table 10 below identifies the Market Support programs and their respective 2024-2027 budgets. The budgets presented in the table includes both the Third-Party implementer and SDG&E's program costs. For Statewide programs, the program budgets include both SDG&E's contribution to the Statewide Third-Party contract and SDG&E's administrative cost for support activities as agreed upon by the IOU PAs.

Table 10: 2024 - 2027 Market Support Programs and Budgets

Program	2024	2025	2026	2027	Total 4 Years
SW-FIN-On-Bill Finance	\$ 693,575	\$ 535,775	\$ 529,030	\$ 583,633	\$ 2,342,014
3P-IDEEA	\$ 3,284,649	\$ 2,473,556	\$ 2,751,004	\$ 2,804,304	\$ 11,313,512
Property Management		\$ 318,538	\$ 329,008	\$ 339,821	\$ 987,368
Workforce, Education & Training Programs	\$ 3,326,251	\$ 3,255,040	\$ 3,380,852	\$ 3,402,593	\$ 13,364,736
Local Residential Fuel-Substitution		\$ 1,116,044	\$ 1,179,004	\$ 1,240,016	\$ 3,535,064
SW New Construction Non Residential - All Electric	\$ 1,636,048	\$ 2,559,015	\$ 2,078,638	\$ 2,596,076	\$ 8,869,777
SW New Construction Non Residential - Mixed Fuel	\$ 2,336,321	\$ 2,308,455	\$ 1,775,610	\$ 1,342,198	\$ 7,762,584
SW New Construction Residential - All Electric	\$ 1,345,140	\$ 1,338,071	\$ 1,332,931	\$ 1,310,622	\$ 5,326,765
SW New Construction Residential - Mixed Fuel	\$ 434,746	\$ 443,694	\$ 436,414	\$ 470,447	\$ 1,785,301
SW Emerging Technologies - Electric	\$ 3,285,359	\$ 3,311,780	\$ 3,321,386	\$ 3,331,907	\$ 13,250,432
SW WET Career Connections	\$ 159,702	\$ 160,570	\$ 161,270	\$ 162,024	\$ 643,566
SW HVAC QI/QM Program	\$ 1,853,738	\$ 1,874,198	\$ 1,889,987	\$ 1,902,754	\$ 7,520,676
SW Emerging Technologies - Gas	\$ 305,814	\$ 307,323	\$ 308,144	\$ 309,058	\$ 1,230,340
Total	\$ 18,661,344	\$ 20,002,059	\$ 19,473,278	\$ 19,795,454	\$ 77,932,135

Budgets for the Market Support segment were determined based on several factors. The 3P-IDEEA budget is utilized by SDG&E to fund and run all Third-Party solicitations. SDG&E plans outsourcing a majority of programs and offerings in order to stay above the required 60 percent outsourcing requirement as set forth by D.18-05-041. This budget is used to fund staffing as well as Independent Evaluator costs.

2. Segment-Specific Strategies, Goals, And Outcomes

D.21-05-031 requested that CAEECC form a working group to develop and vet new reporting metrics for the market support and equity segments.³⁹ In response the Market Support Metrics Working Group (MSMWG) was formed and has now completed their report. It is important to note that the report recommends that these metrics should focus on measuring the performance of the overall segment and not of individual programs.⁴⁰ The MSMWG Report developed a high-level Primary Objective, with five sub-Objectives that will guide Market Support programs and activities. The recommended Primary Objective of the Market Support segment is to “support[ing] the long-term success of the energy efficiency [EE] market.”⁴¹ The MSMWG Report further defines “‘EE Market’ as ‘individuals and organizations participating in transactions around energy efficiency products or services including customers and market actors (which includes demand and supply side).’”⁴² The MSMWG recommends the following five sub-Objectives:⁴³

Sub-Objective #1: Demand

Build, enable, and maintain demand for energy efficient products and services in all sectors and industries to ensure interest in, knowledge of benefits of, or awareness of how to obtain energy efficiency products and/or services.⁴⁴

³⁹ D.21-05-031, OP 14 at 84.

⁴⁰ CAEECC.org, CAEECC-Hosted Market Support Metrics Working Group, *Report and Recommendations to the California Public Utilities Commission and the Energy Efficiency Program Administrators* (October 6, 2021) (MSMWG Report) at 9, available at <https://www.caeccc.org/9-21-21-msmwg-mtg> .

⁴¹ *Id.* at 13.

⁴² *Id.* at 13.

⁴³ *Id.* at 13-14.

⁴⁴ Activity, e.g., educating customers, building demand. Market Support Working Group Final report. <https://www.caeccc.org/market-support-metrics-wg>.

Sub-Objective #2: Supply

Build, enable, and maintain supply chains to increase the capability and motivation of market actors to supply energy efficient products and/or services and to increase the ability, capability, and motivation of market actors to perform/ensure quality installations that optimizes energy efficiency savings.⁴⁵

Sub-Objective #3: Partnerships

Build, enable, and maintain partnerships with consumers, governments, advocates, contractors, suppliers, manufacturers, community-based organizations and/or other entities to obtain delivery and/or funding efficiencies for energy efficiency products, and/or services and added value for partners.⁴⁶

Sub-Objective #4: 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.⁴⁷

Sub-Objective #5: Access to Capital

Build, enable, and maintain greater, broader, and/or more equitable access to capital and program coordination to increase affordability of and investment in energy efficient projects, products, or services.⁴⁸

3. Market Support Strategies

SDG&E's Market Support programs will seek to support existing or anticipated market needs, some of which require ongoing support and continuing customer education on the benefits of EE. The Market Support segment identifies important services that the EE market can participate in that would lead to a change in customer attitudes and encourage EE measures installations. These services include, but are not limited to, workforce education and training, identification and field-testing emerging EE technologies, and financing options intended to support multiple EE resources. The strategies that will support the Market Support segment include:

Strategy: Deliver technical training, continuing education, and industry-recognized certifications to ensure a skilled workforce can implement quality energy savings projects.

Energy efficiency codes and standards, technologies and tools are dynamic and ever changing; thus, it is important for workers to receive continuing education and training to

⁴⁵ Activity, e.g., training contractors. Market Support Working Group Final report. <https://www.caeec.org/market-support-metrics-wg>.

⁴⁶ Activity, e.g., Building partnerships. Market Support Working Group Final report. <https://www.caeec.org/market-support-metrics-wg>.

⁴⁷ Activity, e.g., moving beneficial technologies towards greater cost-effectiveness. Market Support Working Group Final report. <https://www.caeec.org/market-support-metrics-wg>

⁴⁸ Activity e.g., access to capital. Market Support Working Group Final report. <https://www.caeec.org/market-support-metrics-wg>.

fully realize energy savings and remain competitive in the marketplace. SDG&E will continue to deliver technical training and continuing education at no cost, and certifications at a reduced cost to ensure a trained and skilled workforce that can deliver energy savings. Educational offerings will be:

- ✓ Prioritized by data-driven decisions that incorporate energy potential and employment market data.
- ✓ Delivered through multiple approaches (in-person, hands-on, online), as many factors may prevent market actors from taking training, including workload, size of company, and time of day.⁴⁹
- ✓ Better marketed through appropriate channels so market actors and organizations are aware of available training, expected outcomes of offerings, and the benefits of attending the educational offerings.
- ✓ Tailored to multiple audiences, as there is a substantial difference in the needs and issues between sectors, and even size of buildings within sectors, such as small commercial versus large commercial. Matching course content to a course attendee will allow for more meaningful participation in offerings.
- ✓ More comprehensive and integrated training across end-uses.
- ✓ Align course delivery method to expected actions so participants have appropriate opportunities for education.
- ✓ Focus on lifecycle savings to include proper building operation for commercial and residential customers to realize savings once equipment and systems have been properly designed, installed, and maintained.

Strategy: Collaborate with appropriate organizations to expand awareness and access to energy efficiency education

While many occupations work on the periphery of energy efficiency and can influence energy efficiency savings, energy efficiency is not the focus for core workforce education and training organizations. As a result, these organizations may not have the latest information, may offer very narrow training on single end-uses, or may not emphasize energy efficiency at all. Each organization is unique and requires a different set of solutions to meet their curriculum needs. SDG&E will continue to collaborate with relevant organizations to:

- ✓ Educate professional stakeholders to better align offerings to match the needs of the market and increase the likelihood of acquired knowledge being incorporated into jobs
- ✓ Enhance current curriculum or develop new curriculum that incorporates additional energy efficiency education
- ✓ Increase dissemination of educational offerings and support self-sustaining programs that are created using energy efficiency funds

⁴⁹ CALMAC.org, *2013-2014 Statewide WE&T Program, Program Theory and Logic Model Update; Centergies Data Needs; And Critical WE&T Data Needs* (June 2014) (2013-2014 Statewide WE&T Program) at 11, available at http://www.calmac.org/publications/2013-2014_WET_PTLM_and_Critical_Data_Gap_Assessment.pdf.

- ✓ Support efforts with organizations that are inclusive of all incumbent and potential energy efficiency workers so that access to energy efficiency education is available
- ✓ Establish consistent standards of education resulting in better quality assurance of work performed⁵⁰

Strategy: Educate all customers on the value proposition of energy efficiency and hiring skilled workers to implement projects

Customers need to understand the value proposition of energy efficiency and the importance of hiring skilled workers to implement projects. An increase in demand for comprehensive energy efficiency projects will have a major impact on the workforce. As more energy efficient projects are designed, installed and maintained, there will be a need for a trained workforce that can deliver savings. Educational offerings will inform customers that an investment in energy efficiency results in a greater return on their investment, including non-energy benefits like increased comfort and productivity.

Just as customers need to understand the value proposition of energy efficiency, trade professionals must understand how to sell it. Educating and engaging trade professionals will help SDG&E realize its energy efficiency potential, increase trade professionals' value, and continue to drive business opportunities to those actors. Educating trade professionals on selling, bidding and managing work can help contractors sell energy efficiency as an investment and contractors will win customer business.

Strategy: Provide ease of access to the workforce to attend training.

To reach more customers and more of the workforce, SDG&E will need to make trainings more accessible by utilizing the right platform for the right training. In the past, SDG&E focused on an in-person platform to conduct trainings. However, customers have been showing an increased interest in online activities. Online learning is anticipated to grow at an exponential compound annual growth rate of over 21 percent between 2021 and 2027.⁵¹

Due to this shift, different types of training platforms were explored. A virtual classroom model that included webinars and on-demand courses was adopted in 2020 and has been shown to be well received by the workforce, with SDG&E customer satisfaction survey indicating 77 percent preferred online learning versus in person.⁵² Listed below are some characteristics to consider when choosing a platform:

- ✓ Length of training
- ✓ Popularity and demand for training
- ✓ Learning level (beginner, intermediate, or advanced)
- ✓ Type of training

⁵⁰ CALMAC.org, *California HVAC Contractor & Technician Behavior Study*, Phase II (April 30, 2015), available at http://www.calmac.org/publications/HVAC_C%26T_Behavior_Phase2_FINAL_REPORT.pdf.

⁵¹ Global Market Insights, *E-Learning Market*, available at <https://www.gminsights.com/industry-analysis/elearning-market-size>.

⁵² SDG&E, *WE&T Program, 2021 Customer Satisfaction Survey Results* (2021).

Strategy: Train trade professionals to ensure EE projects realize energy savings.

Many occupations impact energy consumption, however, workers receive minimal education specifically focused on energy efficiency. Energy efficiency is often a small component or ignored completely, as workers develop their skillsets. Trade professionals need to be made aware that ongoing education is available and participate in training to realize the value of energy savings. The education and training offerings described herein will further workforce engagement to implement energy efficiency measures and will be specific for every sector and program.

Incumbent and new trade professionals will need to receive energy efficiency education when participating in core education for their trade or when participating in additional educational opportunities. Offerings will be coordinated to address the needs of the market and the requirements and goals of EE programs to enable trade professionals to participate and deliver realized energy savings to customers. WE&T will collaborate with EE resource programs to ensure that training offerings are provided to meet any program requirements needed to achieve higher EE savings. As program requirements for qualifications are adopted, WE&T will make appropriate training available.

Strategy: Educate customers to prioritize energy efficiency when paying for a project

In conjunction with marketing, education, and outreach efforts, customers need additional education around the value of energy efficiency and enough understanding to request a comprehensive approach and quality installation and maintenance of equipment.

Customers will benefit from the industry-recognized certification offerings that SDG&E will support. Certifications are tangible credentials that signify competency to customers.

Strategy: Continue to promote financing options for customers to facilitate the purchase and installation of qualified energy efficiency measures

SDG&E will coordinate with assigned account executives, partnership programs and Third-Party programs to support financing of approved measures and projects. SDG&E will provide outreach and participate in seminars, tradeshow and meetings to educate customers.

a) For All Segments: Projected Annual Portfolio- and Sector-Level Metrics

The MSMWG was not tasked with setting specific numeric targets for the metrics used in each PA's filing, but rather establishing those principles related to target-setting. Thus, each PA must undertake that effort. Market Support segment metrics should have meaningful targets based on available target data. With little or no data existing for new programs pilots and/or programs in development, targets cannot be reasonably established. Existing programs that are categorized as Market Support may not have relevant data to be able to report on the newly determined Market Support segment metrics. SDG&E will collect baseline data to ensure targets are appropriate and reportable. Targets for SDG&E programs will be set after a sufficient period to collect baseline data of approximately two years. Program metrics will be reported out in the Annual Report and target metrics will be updated after two years of program operations to set the baseline.

According to the MSMWG final report, metrics for the new Market Support segment will be used for justifying portfolio segmentation and program design for the Market Support segment budget and for program tracking and evaluation.

The MSMWG recommended a series of metrics for each of the five Sub-Objectives. Each recommendation includes the following:

- ✓ Applicable existing Metrics that will continue to be tracked and data collected
- ✓ New Metrics with data that can be collected now (program outputs for relevant programs)
- ✓ New Metrics with data that should be collected later

To monitor its progress, SDG&E will utilize the recommended metrics identified in the MSMWG Report. Specific Market Support metrics targets can be found in Attachment A Tab 18.2. The following list provides the proposed metrics associated with the Market Support programs or activities below.

Metrics for Sub-Objective #1: Demand

New Metrics with data that can be collected now (program outputs for relevant programs):

- Number and percentage increase/decrease of inquiries and/or requests for information on EE products and services through relevant MS programs.
- Number and percentage increase/decrease of customers receiving information, education, or outreach on EE projects, products, and services through relevant MS programs.

New metrics with data to be collected:

- Awareness, Knowledge, Attitudes, and Behavior (AKAB) Survey to IOU Customers
 - percentage of customer sample knowledgeable about EE products/service benefits (knowledge)
 - percentage of customer sample interested in obtaining EE product/service (attitude)
 - percentage of customer sample that has taken action towards obtaining EE product/service (behavior)
 - percentage of customers that have obtained EE products/services (behavior)

Metrics for Sub-Objective #2: Supply

Applicable existing metrics that will continue to be collected:

- Number of collaborations by Business Plan sector to jointly develop or share training materials or resources.
- Number of participants by sector.

- Percentage of participation relative to eligible target population for curriculum.
- Percentage of total WE&T training program participants that meet the definition of disadvantaged worker.
- Percentage of incentive dollars spent on contracts with a demonstrated commitment to provide career pathways to disadvantaged workers.⁵³
- Number of Career & Workforce Readiness (CWR) participants who have been employed for 12 months after receiving the training.

New metrics with data that can be collected now (program outputs for relevant programs):

- Number of Contractors (that serve in PA service territory) with knowledge and trained by relevant MS programs to provide quality installations that optimize EE

New metrics with data to be collected:

- AKAB survey to market actors around capability and desire to supply
 - percentage of market actors aware of energy efficient products and/or services that can be supplied to customers (awareness)
 - percentage of market actors knowledgeable of energy efficient products and/or services that can be supplied to customers (knowledge)
 - percentage of market actors that are interested in supplying energy efficient products and/or services to customers (attitude)
 - percentage of market actors that have supplied energy efficient products and/or services to customers (behavior)
- AKAB survey to market actors around increased ability, capability and desire to realize quality installations

⁵³ See D.18-10-008 at 58, defining “Disadvantaged Worker” means a worker 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.” If one census tract in the participant’s zip code is in the top 25 percent of the unemployment indicator of the CalEnviroScreen Tool, then the participant will qualify as a disadvantaged worker.

- percentage 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)
- percentage 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)
- percentage of market actors that are interested in performing/ensuring quality installation of energy efficient products and/or services that optimizes energy efficiency savings (attitude)
- percentage of market actors that have performed/ensured quality installation of energy efficient products and/or services that optimizes energy efficiency savings (behavior)

Metrics for Sub-Objective #3: Partnerships

New metrics with data that can be collected now (program outputs for relevant programs):

- Number of EE customers/market actors reached through partner networks and partner communications channels

New metrics with data to be collected:

- Assessed value of the partnership by partners
- Percentage of partners that have taken action supporting energy efficiency

Indicators (for relevant programs):

- Number of partners by type and purpose
- Dollar value of non-ratepayer in kind funds/contributions utilized via partnerships

Metrics for Sub-Objective #4: Innovation and Accessibility

Applicable existing metrics that will continue to be collected:

- ETP-T1: Prior year: percentage of new measures added to the portfolio that were previously ETP technologies
- ETP-T2: Prior Year: number of new measures added to the portfolio that were previously ETP technologies
- ETP-T3: Prior year: percentage of new codes or standards that were previously ETP technologies
- ETP-T4: Prior Year: number of new codes and standards that were previously ETP technologies

- ETP-T5: 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

New Metrics with data that can be collected now (program outputs for relevant programs):

- Number of new, validated technologies recommended to CalTF
- 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
- Cost effectiveness of a technology prior to market support programs relative to cost effectiveness of a technology after intervention by the market support programs (percent change in cost effectiveness)

New metrics with data to be collected:

- Percent market penetration of emerging/under-utilized or existing EE products or services
- Percent market participant aware of emerging/under-utilized or existing EE products or services
- Aggregated confidence level in performance verification by product, project, and service (for relevant programs)

Indicators for relevant programs:

- Number of providers for performance verification services

Metrics for Sub-Objectives #5: Access to Capital

Applicable existing indicators that will continue to be collected:

- Participant data, e.g., credit score, census tract income, CalEnviroScreen Scores of areas served, zip code
- Comparisons between market-rate capital vs. capital accessed via energy efficiency program, e. g., interest rate, monthly payment

New metrics with data that can be collected now (program outputs for relevant programs):

- Total projects completed/measures installed and dollar value of consolidated projects - ratio of ratepayer funds allocated/private capital leveraged
- Differential cost defrayed from customers (e.g., difference between comparable market rate products and program products)

New metrics with data to be collected:

- Percentage of market participants aware of capital access opportunities for investments in energy efficient projects, products, and/or services (awareness)
- percentage of market participants knowledgeable about capital access opportunities for investments in energy efficient projects, products, and/or services (knowledge)
- Percentage of market participants interested in leveraging capital access opportunities for investments in energy efficient projects, products, and/or services (attitude)
- Percentage of market participants unable to take action due to access to capital or affordability of energy efficient projects, products, or services (behavior)

b) For Market Support Segment: Projected Annual Segment and Program-Level Performance Metrics per Recommendations of the CAEECC Metrics Working Groups

i) Cross Cutting – Workforce Education & Training

SDG&E will implement its local WE&T program until 2024, at which time a Third-Party Implementer is expected to implement the program. The WE&T program focuses on education skills and market development training. There are two components to WE&T: Technical Upskill and Core Energy Education Collaboration. Technical Upskill provides training courses, seminars, workshops, demonstrations, efficiency equipment testing, and lectures to promote industry trends and developments for advancing energy efficiency as a professional discipline. Technical Upskill is tailored towards people in a job/career who are focused on upskilling in the energy efficiency topic area. Core Energy Education Collaboration is an initiative to reach training organizations with the goal of forming strategic partnerships to reach a broader range of the workforce. The energy efficiency curriculum is infused or added as a stand-alone option to promote the development for advancing energy efficiency as a professional discipline. It is geared towards those on a chosen educational track towards a job/career or re-training for those who have identified an energy career path. The current metrics that will continue to be collected within the WE&T program include:

- Number of collaborations by Business Plan sector to jointly develop or share training materials or resources
- Number of participants by sector
- Percentage of participation relative to eligible target population for curriculum
- Percentage of total WE&T training program participants that meet the definition of disadvantaged worker

- Percentage of incentive dollars spent on contracts with a demonstrated commitment to provide career pathways to disadvantaged workers
- Number of Career & Workforce Readiness (CWR) participants who have been employed in an EE job for 12 months after receiving the training

ii) Cross Cutting - On Bill Financing and Statewide Financing Pilots

SDG&E will both support implementation of the statewide financing pilots and locally implement the On-Bill Financing (OBF) subprogram. OBF offers interest-free, unsecured, on utility-bill loans that work in conjunction with utility energy efficiency programs. It is designed primarily to facilitate the purchase and installation of qualified energy efficiency measures by non-residential customers who may lack up-front capital to invest in real and sustainable long-term energy cost reductions.

iii) Metrics That Will Be Collected as Part of the Locally Implemented OBF Program

- Total projects completed/measures installed and dollar value of consolidated projects
- Differential cost defrayed from customers (e.g., difference between comparable market rate products and program products)

iv) Cross Cutting – Emerging Technologies

The Emerging Technologies program is a Statewide Program administered by Southern California Gas Company and Southern California Edison. Note that SDG&E provides funding to the Lead Program Administrators as listed in Tables 3 and 4 of D.18-05-041. SDG&E receives the proportional benefits from the Statewide Program through the CPUC's CEDARs reporting system. Please refer to the Lead Program Administrators Application for the vision, design, development and intervention strategies for the respective Statewide Program.

v) Residential – Statewide HVAC QI/QM Program

The proposed Statewide HVAC QI/QM program, currently in solicitation, will support quality installation and quality maintenance of HVAC systems in the residential sector across all four California investor-owned utilities. Consistent with target setting for SDG&E's new Market Support programs, the program will collect baseline data for approximately two years. After that period, this program will contribute the following metrics as detailed from the MSMWG guidance:

- Number and percentage increase/decrease of customers receiving information, education, or outreach on EE projects, products, and services through relevant MS programs.
- Number of contractors (that serve in PA service territory) with knowledge and trained by relevant MS programs to provide quality installations that optimize EE.

- Number of EE customers/market actors reached through partner networks and partner communications channels.
- Number of market support projects (outside of Emerging Technology Products (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.
- Total projects completed/measures installed and dollar value of consolidated projects.

vi) Residential – Proposed Program Offering Fuel Substitution Measures

The proposed program targets Single Family customers that are focused on transitioning from an all-gas appliance household to an all-electric appliance household. The focus of the proposed program will be to provide education and awareness around the benefits of fuel substitution appliances. The proposed program will be delivered in a downstream mechanism offering incentives directly to end-use customers to offset the high cost of the transition from gas to electric appliances. Additionally, this program will help to further understand the magnitude of the barriers faced by customers when transitioning from gas to electric appliances. This program will contribute to the following metrics once a baseline is set:

- Number and percentage increase/decrease of inquiries and/or requests for information on energy efficient (EE) products and services through relevant Market Support programs
- Number and percentage increase/decrease of customers receiving information, education, or outreach on EE projects, products, and services through relevant Market Support programs.
- Percentage of customer sample aware of EE product/service (awareness)
- Percentage of customer sample that is knowledgeable of EE product/service's benefits (knowledge)
- Percentage of customer sample that is interested in obtaining an EE product/service (attitude)
- Percentage of customer sample that has taken action towards obtaining EE product/service (behavior a)
- Percentage of customers that have obtained EE products/services (behavior b)
- Number of Contractors (that serve in PA service territory) with knowledge and trained by relevant MS programs to provide quality installations that optimize EE

- Participant data, e.g., credit score, census tract income, CalEnviroScreen Scores of areas served, zip code
- Total projects completed/measures installed and dollar value of consolidated projects

vii) Commercial – Proposed Program Targeting Property Managers

The proposed program targeting property managers will provide education and training, including support with benchmarking to property owners, tenants, and other stakeholders. This program will contribute to the following metrics once a baseline is set:

- Number and percentage increase/decrease of inquiries and/or requests for information on EE products and services through relevant Market Support programs
- Number and percentage increase/decrease of customers receiving information, education, or outreach on EE projects, products, and services through relevant Market Support programs
- Percentage of market actors aware of energy efficient products and/or services that can be supplied to customers (awareness)
- Percentage of market actors knowledgeable of energy efficient products and/or services that can be supplied to customers (knowledge)
- Total projects completed/measures installed and dollar value of consolidated projects
- Differential of cost defrayed from customers (e.g., difference between comparable market rate products and program products)
- Percentage of market participants aware of capital access opportunities for investments in energy efficient projects, products and/or services (awareness)
- Percentage of market participants knowledgeable about capital access opportunities for investments in energy efficient projects, products, and/or services (knowledge)

c) Segment-Specific Coordination

SDG&E's Market Support programs contribute to the CPUC's 60 percent Third-Party budget allocation requirement, and SDG&E will need to continue to collaborate with the other IOUs, implementers and stakeholders during program solicitations, selection process and program design and implementation. As part of that collaboration, SDG&E's Contract Management Office (CMO) will continually refine its solicitation documents and

contract templates based on input from the Independent Evaluator (IE),⁵⁴ the CPUC's PRG, and other stakeholders.

SDG&E's approach to coordination between the statewide and local market support programs has been one of collaboration with the other Program Administrators and communication to local implementers. SDG&E manages its portfolio and market support segment on the principle that the statewide up and midstream programs take precedence and will continue to communicate with its local implementers on how to best manage their programs to avoid double dipping and minimize customer confusion.

In addition, this segment will look to coordinate with other programs, especially with the programs in the Resource Acquisition segment, to help support those programs and the achievement of portfolio goals. For example, SDG&E's Market Support programs can support the Statewide Emerging Technology program by identifying and conveying specific high need areas so that appropriate technologies are explored and evaluated. Program implementers can also utilize emerging technology evaluations to help identify the technologies suitable for new pilots or program offerings. Coordination with WE&T will be important because it can help build customer demand by highlighting the value of energy efficiency and promote market acceptance by educating trade professionals on how to maximize sales through value proposition.

Therefore, SDG&E will expect its program implementers to engage with other local and statewide program implementers to develop processes that allow for seamless movement between programs and support the long-term success of the energy efficiency market.

Interaction with Market Transformation activities

SDG&E actively monitors Market Transformation initiatives and plans to integrate those initiatives into the market support programs. These efforts will continue to enhance the overall effort to help customers reduce their carbon footprint.

E. EQUITY SEGMENT

The third segment created by the Commission in D.21-05-031 is the Equity Segment. The equity segment is defined as:

Programs with a primary purpose of providing energy efficiency to hard-to-reach or underserved customers and disadvantaged communities in advancement of the Commission's Environmental and Social Justice (ESJ) Action Plan; Improving access to energy efficiency for ESJ communities, as defined in the ESJ Action Plan, may provide corollary benefits such as increased comfort and safety, improved indoor air quality, and more affordable utility bills, consistent with Goals 1, 2, and 5 in the ESJ Action Plan.^{55, 56}

⁵⁴ D.18-01-004, OP 5 at 62-63.

⁵⁵ D.21-05-031 at 14 (citation omitted).

⁵⁶ CPUC, Environmental and Social Justice Action Plan (February 21, 2019) at 15 and 17, available at <https://www.cpuc.ca.gov/-/media/cpuc-website/divisions/news-and-outreach/documents/news-office/key-issues/esj/environmental-and-social-justice.pdf>.

SDG&E notes that the Equity category is distinct from Energy Savings Assistance (ESA) programs so as to avoid overlap with low-income programs offering energy assistance measures at no cost.

Segments are not meant to be mutually exclusive. For example, some programs categorized as Market Support or Equity may be able to deliver quantifiable energy savings. However, a program can only be classified within one segment. The Equity and Market Support segments of the portfolio, combined, must not exceed 30 percent of the total budget.

Table 11: SDG&E’s Proposed Equity Programs by Sector

Sector	Program	Purpose	Proposed or Existing	Timeframe
Residential	Multifamily (Middle Income)	SDG&E plans to solicit a new Equity program targeting Multifamily residential customers who meet the Family Electric Rate Assistance (FERA) income guidelines. The focus of the new Equity program will be to provide customized outreach and education to navigate the utility’s portfolio of rate options, bill management, load management, and energy savings programs. Offering will coordinate with the Energy Savings Assistance Program to ensure no duplication of incentives.	Proposed	2024-2031
Residential	Single Family	SDG&E plans to solicit a new Equity program targeting Single Family residential customers that meet the Family Electric Rate Assistance (FERA) income guidelines. The focus of the new Equity program will be to provide customized outreach and education to navigate utility’s portfolio of rate options, bill management, load management, and energy savings programs. Offering will coordinate with the Energy Savings Assistance Program to ensure no overlap.	Proposed	2024-2031
Commercial	Small Business	SDG&E plans to solicit a new Equity program targeting small	Proposed	2024-2031

Sector	Program	Purpose	Proposed or Existing	Timeframe
		commercial customers that will replace the existing Small Commercial Program. The focus of the new Equity program will be to drive persistent bill savings for Small Business customers through one-on-one energy management coaching to navigate the utility's portfolio of rate options, bill management, load management, and energy savings programs. Offering will coordinate with other existing programs for small commercial customers to ensure no overlap.		
Cross Cutting	Statewide WE&T Career and Workforce Readiness	This is a statewide program administered by PG&E.	Existing	2021-2031

1. Preliminary Distribution of Budget Among Segments for 2024-2027, and Rationale for the Distribution

Table 12 below identifies the Equity programs and their respective 2024-2027 budgets. The budgets presented in the table includes both the Third-Party Implementer and SDG&E's program costs. For Statewide programs, the program budgets include both SDG&E's contribution to the Statewide Third-Party contract and SDG&E's administrative cost for support activities as agreed upon by the IOU PAs.

Table 12: 2024 - 2027 Equity Programs and Budgets

Program	2024	2025	2026	2027	Total 4 Years
Small Business Outreach	\$ 3,850,335	\$ 3,819,555	\$ 3,818,824	\$ 3,791,035	\$ 15,279,750
Residential Single Family Equity Program	\$ 495,902	\$ 502,264	\$ 573,514	\$ 653,820	\$ 2,225,500
Residential Multi Family Equity Program	\$ 492,085	\$ 502,913	\$ 579,058	\$ 655,929	\$ 2,229,985
SW WE&T Career & Workforce Readiness (CWR)	\$ 306,750	\$ 300,455	\$ 301,154	\$ 301,921	\$ 1,210,282
Total	\$ 5,145,073	\$ 5,125,189	\$ 5,272,550	\$ 5,402,705	\$ 20,945,517

A majority of the Equity segment budget is targeted to support the new Small Business Outreach program that will be solicited via the Third-Party solicitation process to replace the Small Commercial Program. This program's objective is to provide SDG&E's small businesses the support they need to participate in energy efficiency offerings. Small Commercial customers make up 77 percent of the Commercial Sector, and therefore represent a significant potential in terms of energy savings opportunities.

An additional local offering will target both Residential Single Family and Multi-Family customers who meet the FERA income guidelines but do not qualify for the Energy Assistance Savings (ESA) programs. The program will assist customers by providing outreach and education on rate options, bill management, load management, and energy savings programs. This program will primarily serve as a Marketing, Education and Outreach program and therefore requires a smaller budget than the Small Business Outreach program, which will include measure offerings.

The Statewide Career & Workforce Readiness Program is administered by PG&E. Note: SDG&E provides funding to the Lead Program Administrators as listed in in Tables 3 and 4 of D.18-05-041. SDG&E receives the proportional benefits from the Statewide Program through the CPUC's CEDARs reporting system. Please refer to the Lead Program Administrators Application for the vision, design, development and intervention strategies for the respective Statewide Program.

2. Segment-Specific Strategies, Goals, And Outcomes

D.21-05-031 requested the CAEECC form a working group to develop and vet new reporting metrics for the market support and equity segments.⁵⁷ The Equity Metrics Working Group (EMWG) has completed their report. It is important to note that the report recommends that these metrics should focus on measuring the performance of the overall segment and not of individual programs.⁵⁸ The primary objective for the Equity segment is to target hard-to-reach, disadvantaged and/or underserved individuals, households, businesses, and communities; address disparities in access to energy efficiency programs and workforce opportunities; promote resilience, health, comfort, safety, energy affordability, and/or energy savings; and reduce energy-related GHG and criteria pollutant emissions.⁵⁹

In alignment with consistent feedback from stakeholders and direction from the CPUC, SDG&E will engage Third-Party Implementers to bring innovation, expertise, and cost efficiencies to the portfolio through a competitive solicitation process.

a) For All Segments: Projected Annual Portfolio- and Sector-Level Metrics

The strategies outlined below will form the basis of SDG&E's approach to its new Equity Programs for the Residential and Commercial sectors.

Residential Multifamily

- ✓ **Strategy 1:** Make energy efficiency products and services more accessible
- ✓ **Strategy 2:** Provide a simple, comprehensive, customized energy management solution for this hard- to-reach segment.

⁵⁷ D.21-05-031, OP 14 at 84.

⁵⁸ CAEECC.Org, CAEECC-Hosted Equity Metrics Working Group, *Report and Recommendation to the California Public Utilities Commission and the Energy Efficiency programs Administrators* (October 20, 2021) at 10, available at <https://www.caeccc.org/9-29-21-emwg-mtg>.

⁵⁹ *Id.* at 15.

- ✓ **Strategy 3:** Implement a concierge approach to facilitate cross-promotion and encourage engagement

Residential Single Family

- ✓ **Strategy 1:** Make energy efficiency products and services more accessible
- ✓ **Strategy 2:** Provide a simple, comprehensive, customized energy management solution for this hard-to-reach segment.
- ✓ **Strategy 3:** Implement a concierge approach to facilitate cross-promotion and encourage engagement

Commercial Small Business

- ✓ **Strategy 1:** Provide a simple, comprehensive, customized energy management solution for this hard-to-reach segment.
- ✓ **Strategy 2:** Implement a concierge approach to facilitate cross-promotion and encourage engagement
- ✓ **Strategy 3:** Explore the expansion of various procurement vehicles and intervention strategies to find targeted, deeper or incremental savings

b) For Market Support Segment: Projected Annual Segment and Program-Level Performance Metrics per Recommendations of the CAEECC Metrics Working Groups

The metrics for the new Equity segment will be used as rationale for program design, tracking, and evaluation within the Equity segment. To monitor its progress, SDG&E will utilize the recommended metrics identified in the MSMWG Report. Specific Equity metrics targets can be found in Attachment A Tab 18.2. The following list provides the proposed metrics associated with the Equity programs or activities below.

Residential-Multifamily

- Total number of multifamily units or households served by the Equity program
- Total number of multifamily buildings served by the Equity program
- Total number of contractors/workers served by the Equity segment programs

Residential Single Family

- Total number of single-family households served by the Equity program
- Total number of contractors/workers served by the Equity segment programs

Commercial-Small Business (SMB) <20 kW;<10,000 therms

- Total number of small business customers served by the Equity program
- Total number of companies/non-profits served by the Equity segment program
- Total number of contractors/workers served by the Equity segment programs

- Expected first-year bill savings in total dollars for SMB customers
- Energy Savings
 - GHG reductions (tons)
 - Total kWh savings
 - Total therm savings
 - Total kW savings

The EMWG developed the following Principles based on the Market Support Metrics Working Group (MSMWG) proposed set of principles,⁶⁰ with modifications and additions when appropriate to align with the EMWG structure and charge.

Principle #1: Segment vs. Program

- A) New Equity metrics proposed by the EMWG should focus on measuring performance of the overall segment, not of individual programs.
- B) When developing metrics, the EMWG should take a top-down approach to assess whether the Equity segment is performing against the primary Objective.

Principle #2: Guidelines to Setting Metrics

The recommendations of the EMWG should not prevent program and portfolio design flexibilities, necessary in the Equity segment.

- A) Metrics and indicators can be revisited in the future as needed, in a to-be-determined stakeholder process.
- B) The EMWG did not address all definitions and methodologies for the metrics; PAs should pursue the most cost efficient and feasible approaches to collecting data.
- C) PAs should collaborate and share methodologies for tracking and reporting metrics and indicators. The methodologies will be outlined as part of the regular reporting for all metrics and indicators.

Principle #3: Program Portfolios

- A) Equity programs must have a primary focus of “providing energy efficiency to hard-to-reach or underserved customers and disadvantaged communities in advancement of the Commission’s Environmental and Social Justice (ESJ) Action Plan; Improving access to energy efficiency for ESJ communities, as defined in the ESJ Action Plan, may provide corollary benefits such as increased comfort and safety, improved indoor air quality, and more affordable utility bills, consistent with Goals 1, 2, and 5 in the ESJ Action Plan.”⁶¹

⁶⁰ *Id.* at 10-12.

⁶¹ D.21-05-031 at 14 (citation omitted).

- B) Although Equity segment programs can contribute to Resource Acquisition program participation in the short and long term, Equity segment programs are not required to do so.
- C) The Equity Segment should build and enable the foundation for future long-term energy savings that align with Commission and California climate policy.
- D) PAs may file [in a formal proceeding] additional or refined Equity Segment Objective and associated Metric(s) if and when they identify an intervention that fits into the overall Equity segment but does not clearly fit into the current framework of Equity Segment Objective and associated Metrics, after receiving feedback through CAEECC.
- E) PAs must propose program level metrics for all their Equity programs. Note: PAs may use common metrics, segment level metrics, or develop their own program level metrics.

Principle #4: Best Practices for Program Development

The following principles for program design will be included in the forthcoming Program Implementation Plans (IPs) and/or via annual reporting to enable Energy Division and stakeholders to assess how these principles are being integrated into the Equity segment portfolios. Note: these principles should be applied when designing Equity segment programs, to the extent applicable.

- A) Prioritize customers in most need
- B) Support concurrent equity efforts, such as those that align with related social determinants of health (e.g., physical environment).
- C) Advance climate resiliency (e. g., keeping indoors cool during heatwaves and ensuring tight building shell to protect from wildfire smoke).
- D) Align with local grid reliability needs (e.g., focus efforts that reduce energy usage at critical times and locations).

Principle #5: Reporting

- PAs must propose Equity program-level metrics with targets in their applications that demonstrate progress toward segment defined Objectives in accordance with Equity principles. PAs may also propose Equity program-level indicators as appropriate
- PAs should begin tracking all Equity relevant metrics and reporting on all Equity metrics during program years 2022-2023. Note: if a particular metric is not being addressed by any PA program it will be reported as X. A consistent reporting format should be applied across PAs.

3. Segment-Specific Coordination

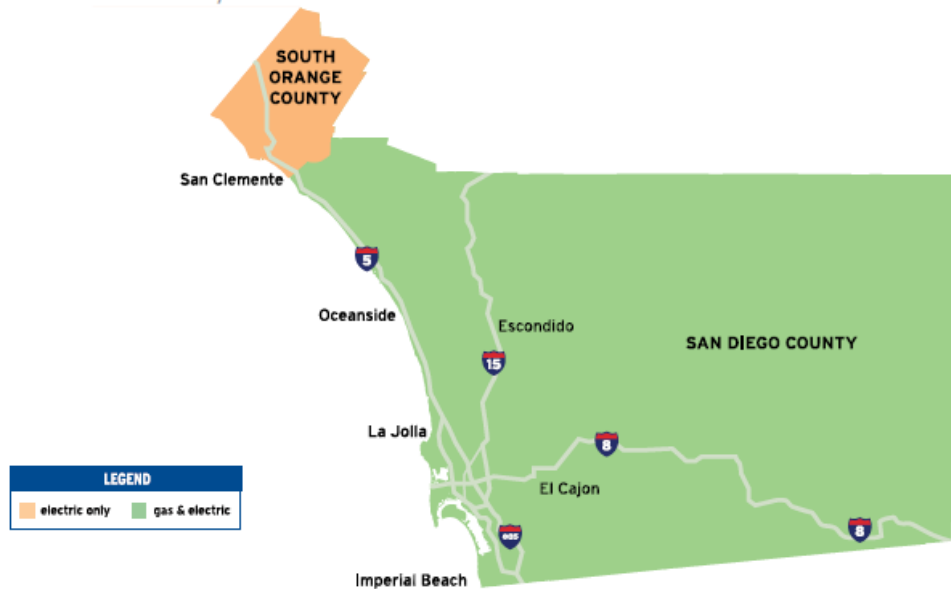
The Equity segment will look to coordinate with the local resource acquisition programs that can complement its offerings. In addition, collaboration with Community Based Organizations (CBO), SDG&E Account Executives, and Program Implementers will be critical as in most cases the Equity Programs will serve as the point of entry for the customer. SDG&E will expect its program implementers to engage with other local program implementers to develop processes that allow for seamless movement between programs and support the long-term success of the energy efficiency market and goals.

IV. SECTOR STRATEGY

OVERVIEW AND MARKET CHARACTERIZATION OF SDG&E'S SERVICE TERRITORY

Figure 1 - SDG&E Service Territory

The SDG&E Service Territory

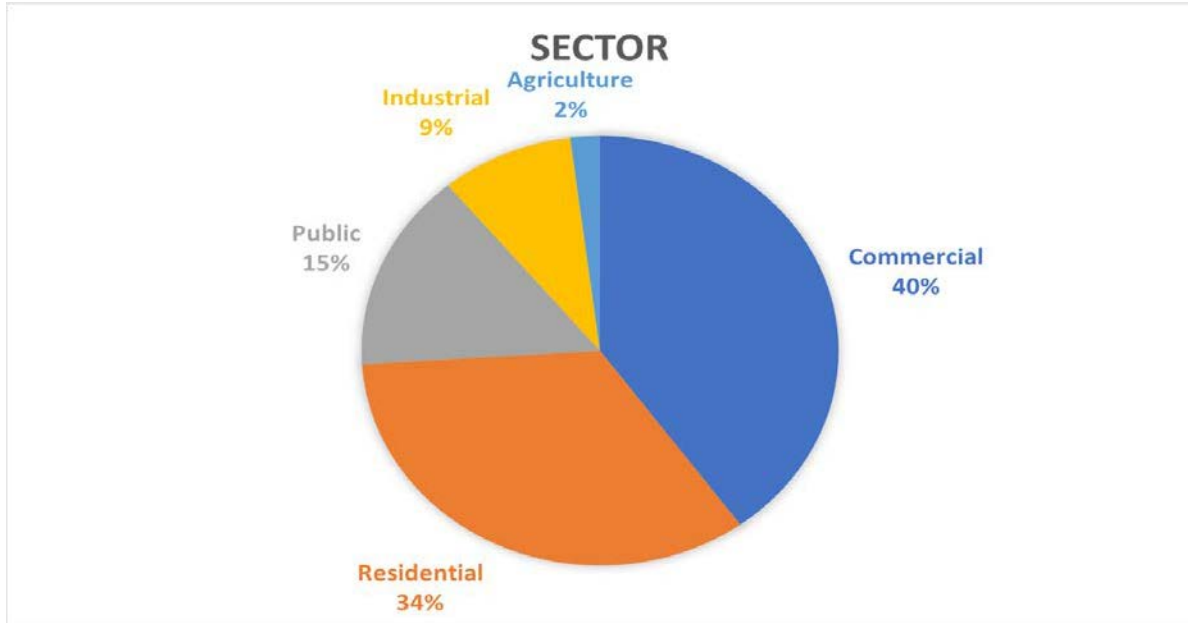


- 4,100 square miles in San Diego and southern Orange counties
- 3.6 million customers
- 1.4 million electric and 873,000 natural gas meters
- Mostly three climate zones (7, 10, & 14)
- Approximately 80% of gas and electric consumption comes from residential and commercial sectors

1. Electric Customer Consumption

The Commercial sector accounts for approximately 40 percent of electric consumption, followed closely by the Residential sector at approximately 34 percent. The remaining 26 percent is from the Public, Industrial and Agricultural sectors. Figure 2 below shows the 2018-2020 average electric consumption by market sector.

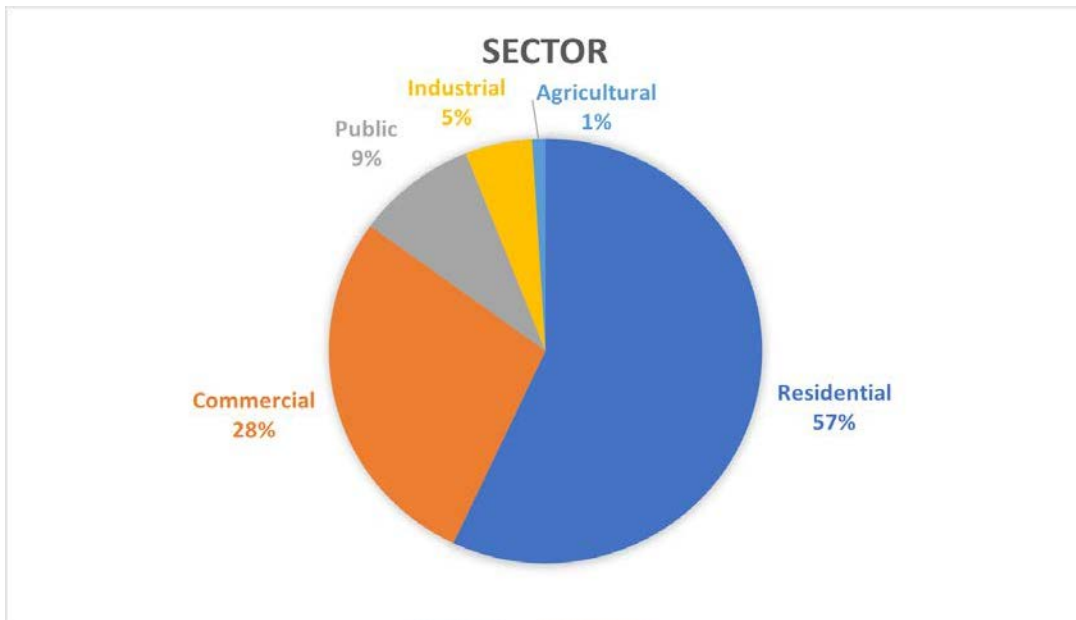
Figure 2 - 2018-2020 Average Percentage Electric Consumption by Sector



2. Natural Gas Customer Consumption

The Residential sector accounts for approximately 57 percent of natural gas consumption. The primary residential natural gas end uses are space heating and water heating. The Commercial and Public sector has an attribution of 28 percent of gas consumption. The remaining 19 percent is from the Industrial and Agricultural sectors. Figure 3 below shows the 2018-2020 average electric consumption by market sector.

Figure 3: 2018-2020 Average Percentage Gas Consumption by Sector



A. STRATEGIES DRIVING DISTRIBUTION OF BUDGET AMONG SECTORS, AND ALIGNMENT WITH BROADER PORTFOLIO OBJECTIVES

SDG&E evaluated all market sectors and usage within its service territory to identify market needs. This identified market sector demand and potential savings areas. SDG&E then worked with current Third-Party Implementers and internal program team members to focus on the potential end uses and savings within each sector.

SDG&E also used the Commission’s 2021 EE Potential & Goals Study to help validate assumptions and identify potential areas of most need.

Budgets for each sector were developed using a zero-based budgeting methodology and based on the identified need and potential of each sector. For additional information, please refer to the discussion in Chapter II describing SDG&E’s forecasting methodology.

B. DESCRIPTION OF SECTORS PROGRAM ADMINISTRATOR PROPOSES TO SERVE (NOTING EXPANSION INTO NEW SECTORS OR WITHDRAWAL FROM SECTOR)

SDG&E plans to service all sectors previously served through SDG&E programs and offerings. This includes Commercial, Residential, Industrial, Agricultural, Public and Cross-Cutting (Finance, Workforce Education & Training, Codes & Standards and Emerging Technologies). SDG&E has planned its portfolio to ensure full coverage of all customer sectors and sub-markets, with an emphasis on avoiding overlap or duplicative offerings. For sector specific details and plans see the detailed discussion for each within Chapter IV.

C. PRELIMINARY DISTRIBUTION OF BUDGET AMONG SECTORS FOR 2024-2027, AND RATIONAL FOR THE DISTRIBUTION

Table 13: 2024-2027 Sector Budgets

Sector	2024	2025	2026	2027	Total 4 Years
Commercial	\$ 22,654,760	\$ 24,389,795	\$ 25,322,101	\$ 26,576,147	\$ 98,942,803
Residential	\$ 20,695,461	\$ 22,255,665	\$ 21,993,217	\$ 22,833,629	\$ 87,777,972
Public	\$ 13,451,779	\$ 14,398,500	\$ 12,397,016	\$ 13,331,297	\$ 53,578,593
Industrial	\$ 5,971,777	\$ 5,861,935	\$ 5,711,917	\$ 5,629,324	\$ 23,174,954
Codes and Standards	\$ 4,556,131	\$ 4,607,379	\$ 4,642,647	\$ 4,684,500	\$ 18,490,656
WE&T	\$ 3,792,704	\$ 3,716,065	\$ 3,843,276	\$ 3,866,538	\$ 15,218,583
Emerging Technologies	\$ 3,591,173	\$ 3,619,103	\$ 3,629,530	\$ 3,640,966	\$ 14,480,772
EM&V	\$ 3,186,587	\$ 3,356,621	\$ 3,305,545	\$ 3,437,635	\$ 13,286,388
Agricultural	\$ 1,070,738	\$ 1,174,677	\$ 1,264,343	\$ 1,357,211	\$ 4,866,970
Finance	\$ 693,575	\$ 535,775	\$ 529,030	\$ 583,633	\$ 2,342,014
Total	\$ 79,664,685	\$ 83,915,516	\$ 82,638,623	\$ 85,940,881	\$ 332,159,706

Budget distribution for the various sectors takes into account a number of factors including markets needs and potential. SDG&E’s service territory is comprised of mainly small commercial and residential customers, which represents the largest budget share of the Energy efficiency portfolio. The budget for Codes & Standards, Emerging Technologies and Workforce, Education & Training are primarily driven by statewide programming administered by other IOUs, with budgets for some local programming as well as administration costs for supporting the statewide programs.

D. AGRICULTURAL SECTOR

OVERVIEW OF THE AGRICULTURAL SECTOR

Market Characterization

San Diego County has a geographic area of 4,200 square miles. The County has more than 5,000 farms -- more than any other county in the United States. San Diego County ranks in the top 20 largest farm economies in the nation, boasting top crops in nursery, avocados, tomatoes, citrus, poultry, and strawberries. Almost 70 percent of San Diego County farms are less than 10 acres and nearly 35 percent are operated by women. San Diego County also has more certified organic growers than any other county nationally, with more than 360 certified organic farms.⁶² In 2020, the direct economic output from agricultural production totaled over \$1.8 billion. The overall acreage devoted to commercial agriculture was 224,549; a little less than 10 percent of the County acreage in 2020.⁶³

SDG&E's Agricultural sector has significantly smaller consumption than the agricultural customers of other utilities within California. It is also the smallest sector in SDG&E's energy efficiency portfolio, representing just 1.4 percent of total portfolio electric consumption and 0.6 percent of portfolio gas consumption. The Agricultural sector provides 0.15 percent of the portfolio's electric savings and 3.4 percent of the gas savings. SDG&E's Agricultural sector customer usage breaks down as follows: 81 percent of the accounts are under 20 kW (small), 18 percent of accounts are between 20-199kW (medium), with the remaining 1 percent representing customers 200kW and above (large).

The SDG&E Agriculture sector represents approximately 5,100 accounts and can be characterized by five main features:⁶⁴

- Mild Climate — The service territory has a mild, Mediterranean climate. With an average temperature of 63 degrees and ample sunlight, this area is capable of year-round production for many crops.
- Expensive Land — Land values in SDG&E's service territory trend more with home real estate values than agricultural inputs and values.
- Poor Soils — Only six percent of the soils in the County are considered prime for agricultural use. Soil improvement is a major task for any area farmer.

⁶² Farm Bureau, San Diego County, *The Voice of Local Farmers, Target Market*, available at <https://www.sdfarmbureau.org/our-mission/>.

⁶³ Sandiegocounty.gov, *County of San Diego 2020, Crop Statistics and Annual Report (2020)* at 9, available at <https://www.sandiegocounty.gov/content/dam/sdc/awm/docs/2020CropReportSanDiego.pdf>.

⁶⁴ A.17-01-014, Application of SDG&E To Adopt Energy Efficiency Rolling Portfolio Business Plan Pursuant to Decision 16-08-019 (January 17, 2017), Exhibit 1 at 167.

- Expensive Water — Not only is water availability an issue in California, but the cost of the water is expensive.⁶⁵ In 2020, about two-thirds of the region’s water supplies came from the Colorado River, about 20 percent came from local sources and the rest came from Northern California.
- Small, Numerous Farms — The average farm size in California is approximately 334 acres, which is below the national average of approximately 438 acres. These farms include Socially Disadvantaged Farmers as defined in AB 1348 Farmer Equity Act of 2017.⁶⁶

While most segments of the Agricultural industry suffered losses in the first half of 2020, during the start of the COVID-19 pandemic, several rebounded in the second half of the year; crop production in the nursery and cut flower products and fruits and nuts categories remained top crop producers compared to results identified in the SDG&E Agricultural Sector Market Study conducted by Evergreen Economics, Inc in 2015.⁶⁷ The overall value of the industry increased 0.8 percent to \$1.8 billion in 2020.⁶⁸ Below are highlights from the 2020 County of San Diego Crop Statistics & Annual Report:⁶⁹

- San Diego ranks 1st in the number of organic producers in California. California is the leader in Certified Organic Operation in the United States.
- San Diego ranks 12th in the sale of agriculture in California.
- San Diego is the top leader in California in the sale of flowers and foliage.
- San Diego ranks first in nursery products sales in California.
- San Diego is the top leader in California in the sale of avocados.

Market Subsectors

⁶⁵ World Population Review, *Water Prices by State 2022*, available at worldpopulationreview.com.

⁶⁶ AB 1348, Farmer Equity Act of 2017, Section 1, Article 6, amended as Food and Agricultural Code Section 512(b) and (c), stating, “‘Socially disadvantaged farmer or rancher’ means a farmer or rancher who is a member of a socially disadvantaged group. . . . ‘Socially disadvantaged group’ means a group whose members have been subjected to racial, ethnic, or gender prejudice because of their identity as members of a group without regard to their individual qualities. These groups include all of the following: African Americans, Native Indians, Alaskan Natives, Hispanics, Asian Americans, Native Hawaiians and Pacific Islanders.”

⁶⁷ Cf., CALMAC.gov, Evergreen Economics, *SDG&E Agricultural Sector Market Study Final Report* (March 26, 2015) at 21-22, available at http://calmac.org/publications/SDG&E_Agricultural_Sector_Market_Study_Final_Report_032615.pdf.

⁶⁸ Sandiegocounty.gov, County of San Diego 2020, Crop Statistics and Annual Report (2020) at 7, available at <https://www.sandiegocounty.gov/content/dam/sdc/awm/docs/2020CropReportSanDiego.pdf>

⁶⁹ *Id.* at 29.

Market segmentation provides additional insights that can inform targeting, strategy, and program design. SDG&E has historically characterized the agricultural sector within its territory as one segment: growers. Further analysis and a market characterization study of agricultural accounts shows that greater differentiation is possible.

The SDG&E Agricultural Sector Market Study conducted by Evergreen Economics Inc. in 2015 identified the following main Agricultural subsectors:⁷⁰

- Nursery & Cut Flower Products
- Fruit & Nuts
- Vegetables
- Livestock & Poultry
- Livestock & Poultry Products
- Miscellaneous Products and Services (including apiary).

All these subsectors have previously been reported under the North American Industry Classification System (NAICS) designation of “Growers.” While additional work is needed to further dissect the Miscellaneous Products and Services subsector, the other five subsectors directly align with the major crops categories outlined in 2020 County of San Diego Crop Statistics & Annual Report.

There are some key observations that can be surmised from assessing the subsector distribution for this sector within SDG&E’s service territory. The Vegetable subsector is the largest, followed by the Fruits & Nuts subsector.

Each subsector has unique consumption patterns and needs that may influence their program participation. By understanding these participation patterns and trends, SDG&E will propose offerings that better suit each of these unique subsectors.

Gaps & Barriers

With most agricultural customers using less than 20kW per month, these customers are very small and are typically challenged with resource constraints (expensive land/water/labor) when it comes to planning and implementing energy efficiency improvements. Smaller farms do not typically have the in-house expertise to navigate the complexities of energy efficient installations. SDG&E’s efforts to reach the agricultural sector will need to recognize these limitations and treat them as opportunities to provide true value-added offerings.

Trends

Although there is participation in a few subsectors, most of the sector’s savings came from the Nursery & Cut Flower Products subsector. While the Vegetable subsector represents the most consumption within the sector, their savings relative to their participation is lower than expected. This dissociation is true also of the Miscellaneous

⁷⁰ CALMAC.gov, Evergreen Economics, SDG&E Agricultural Sector Market Study Final Report (March 26, 2015) at 22, available at http://calmac.org/publications/SDG&E_Agricultural_Sector_Market_Study_Final_Report_032615.pdf.

Products and Services subsector. Both subsectors offer opportunities for greater participation and savings.

When analyzing the historical program participation for this sector by end-use, a few key measures make up most of the projects. Most gas savings are from building envelope, including greenhouse heat curtains and infrared film for greenhouses. To a lesser degree, the water heating category with measures such as pipeline insulation and hot water line insulation, also contributed gas savings to this sector. Moving forward, it will be important to identify additional measures to offer this subsector as many of the gas measures noted are now considered to be maintenance and standard practice and therefore are not eligible for incentive or rebate. On the electric side, lighting provides most savings, followed by building envelope. Lighting is expected to grow as a result of the legalization of cannabis in California. More about this future trend will be discussed later in this plan.

Two major trends that will impact agriculture in the San Diego region are:

- Water scarcity
- Cannabis industry

Agriculture in California will continue to be challenged with trying to stay productive, prosperous, and relevant in the face of California's fifth driest year based on statewide runoff in 2020.⁷¹ With water costs in California already being among the highest in the country,⁷² water will continue to be a driving factor in how SDG&E's agricultural customers make their decisions on where to spend their resources.

Market Potential

The Cannabis industry is another subsector of the Agricultural sector that requires focus. As cannabis has now been legal in California for several years, the number of growers has continued to increase over time. Sales in California exceeded \$4 billion in 2020. In San Diego County, the tax revenues from cannabis sales were nearly \$20 million for the period of Q4 2019 through Q3 2020.⁷³

In a study commissioned by SDG&E, Evergreen Economics estimated that energy will account for at least half of the operating costs for indoor growers, and, as a result, utilities will experience increased energy demand.⁷⁴ Growers are not typically experienced in energy efficiency, which leads to inefficient lighting and HVAC systems. Lighting, cooling,

⁷¹ California Department of Water Resources, California Natural Resources Agency, State of California, *Water Year 2021: An Extreme Year* (September 2021) at 2, available at https://water.ca.gov/-/media/DWR-Website/Web-Pages/Water-Basics/Drought/Files/Publications-And-Reports/091521-Water-Year-2021-broch_v2.pdf.

⁷² World Population Review, *Water Prices by State 2022*, available at worldpopulationreview.com.

⁷³ California State University San Marcos, *Economic Impact of Cannabis in San Diego County* (2021) at 14-17, available at [cannabisreport2021.pdf](#).

⁷⁴ CALMAC.gov, Evergreen Economics, *SDG&E Agricultural Sector Market Study Final Report* (March 26, 2015), available at http://calmac.org/publications/SDG&E_Agricultural_Sector_Market_Study_Final_Report_032615.pdf

and dehumidification are the largest energy end uses and represent the primary areas for potential improvements in energy performance for indoor grow facilities.⁷⁵

When assessing potential, it is important to see the sector potential in relation to the overall portfolio potential. Both the electric and gas potential for SDG&E's agricultural sector are very small compared to the overall portfolio. The forecast in the 2021 EE Potential & Goals Study for the Agricultural sector ranges from .64 GWh in 2024 to 1.4 GWh in 2032 and .02 million therms (MMTherms) in 2024 to .08 MMTherms in 2032.

The predominant electric measures are strategic energy management (SEM) and custom measures. Water pumping, greenhouse LED grow lights, dairy-VFD-motor efficient and dairy-EE Fans and vent motor efficient measures also have some potential electric savings that slightly increase annually through 2032. The predominant gas measure is generic custom with a small portion of gas savings attributed from strategic energy management. The gas potential also increases from 2024 through 2032.

Legislative Drivers

This section of the business plan discusses the ways legislation, specifically, Senate Bill (SB) 350 and Assembly Bills (AB) 793, 802 and 1348, help shape SDG&E's sector approaches.

For example, SB 350's requirement to achieve a doubling of EE goals aligns very well with the sector's primary goal of doubling agricultural customers' participation in SDG&E programs. SDG&E will employ strategies of expanding use of third parties to serve agricultural customer needs and actively use strategic energy management principles to provide customers actionable energy efficiency solutions.

Most agricultural customers will benefit from SDG&E's AB 793 offerings to small commercial customers that may also apply to agricultural customers, most of whom run smaller farms. Small commercial customers are eligible to receive free programmable communicating thermostats (PCTs), which enable them to better understand and manage their energy use.

Agricultural buildings do not easily fit within AB 802's building benchmarking requirements as the predominant building types are not easily benchmarked. However, SDG&E will seek opportunities to provide better information about customers' energy use by comparing usage at similar operations.

AB 802's changes to baselines will be one of the factors shaping SDG&E's pursuit of Third Party-administered programs for this sector. It is anticipated that Third Party-designed programs will utilize the normalized metered energy consumption approaches with specific application for agricultural customers' needs.

Lastly, AB 1348 defines socially disadvantaged farmers and seeks to ensure this group is included in outreach activities of programs and services available to all agricultural customers. Statewide, socially disadvantaged farmers tend to own small farms that may

⁷⁵ ACEEE.org, *Summer Study on Energy Efficiency in Industry, Trends and Observations of Energy Use in the Cannabis* (2017), available at https://aceee.org/files/proceedings/2017/data/polopoly_fs/1.3687880.1501159058!/filesserver/file/790266/filename/0036_0053_000046.pdf.

be missed in traditional marketing and outreach activities. Table 14 below presents the key policy drivers that helped shape the proposed strategies for this sector.

Table 14: Key Policy Drivers for the Agricultural Sector

Policy Driver	Specific Requirement/Guidance	Response
SB 350 – Clean Energy and Pollution Reduction Act of 2015	<p>Achieve a cumulative doubling of savings in electricity and gas retail customers’ final end uses by 01/01/2030.</p> <p>The CEC shall adopt a responsible contractor policy to ensure that ratepayer-funded EE retrofits meet high-quality performance standards and reduce energy savings lost or foregone due to poor-quality workmanship.</p>	<p>Programs will increasingly link the issue of water scarcity and cost to offerings for agricultural customers with the aim of serving two purposes – reducing water use while improving agricultural sector energy efficiency.</p> <p>SDG&E will cultivate stronger relationships with the agricultural community and support the long-term economic and environmental success of the sector.</p> <p>WE&T programs will facilitate training on responsible contractor policies and ensure that any requirements applicable to SDG&E EE programs are incorporated, as necessary.</p>
AB 793 – Energy Management Technology Incentive Offering	Provides incentives to help residential and small/medium business customers acquire energy management technology and educate them about these programs.	Offerings available to small commercial customers through the commercial strategies and tactics will also apply to agricultural customers, most of whom run smaller farms.
AB 802 – Benchmarking and Changes to energy Efficiency Baselines	<p>Must provide aggregated energy usage data to its owner, its agent or the building operator.</p> <p>Baselines — Authorizes utilities to provide incentives to customers for energy efficiency</p>	Provide agricultural customers improved opportunities to access program offerings and control their energy use.

Policy Driver	Specific Requirement/Guidance	Response
	projects based on normalized metered energy consumption as a measure of energy savings.	
AB 1348 – Farmer Equity Act of 2017	Inclusion of socially disadvantaged farmers in the development, adoption, implementation, and enforcement of food and agriculture laws, regulations, and policies and programs.	Provide targeted program offerings to small agricultural customers. Provide targeted outreach to small, hard to reach, and socially disadvantaged farmers through trade associations, training programs, and distributors.

1. Sector-Specific Goals, Objectives and Strategies

SDG&E’s market analysis highlights consistent themes with respect to barriers agricultural customers face in adopting more energy efficient behaviors. SDG&E has analyzed these issues to establish goals and strategies to allow agricultural customers to realize the benefits of energy efficiency and the services offered by SDG&E’s programs.

SDG&E created goals, strategies, and sample tactics in the 2018 – 2025 Business Plan intended to remove barriers and attract both customers and vendors to energy efficiency. These goals and strategies are still applicable today for the Agricultural sector.

a. Agricultural Goal 1: Double the Energy Efficiency Participation by the Agricultural Sector

As described above in this chapter, energy savings attributable to the Agricultural sector have been proportionally lower than other sectors. Yet, agriculture is an important part of the San Diego area economy and increasing the sector’s participation in EE by a meaningful margin is a reasonable goal. Thus, SDG&E aims to double participation in this sector. The 2020 data show that the Agricultural sector program participants represent less than one percent of SDG&E’s total Agricultural sector.

Strategy: Expand the Use of Third Parties to Develop and Deliver Intervention Strategies

SDG&E’s market analysis and review of its current approach indicate two major changes are necessary. First the program offerings must be combined and customized for the Agricultural sector. Doing so will enable the design of an offering focusing on the needs of agricultural customers. Second, communications and marketing must be sector and

sub-sector specific. Some elements listed in the sample tactics such as training and targeted outreach could be considered Market Support activities and are needed for sector participation improvement. SDG&E believes that the best approach to delivering such a customized solution is through one or more Third-Party Implementers. SDG&E is currently in the Request for Proposal stage of the competitive bid process for the Local Agricultural Sector. In 2022, the program implementer(s) will be selected with an anticipated program launch in Q3 2022.

To support the overall Agricultural sector further, the following Market Support statewide programs are available to this sector:

- Statewide New Construction Non-Residential – Agricultural – All Electric*
- Statewide New Construction Non-Residential – Agricultural – Mixed Fuel*

**Note that SDG&E provides funding to the Lead Program Administrators as listed in Tables 3 and 4 of D.18-05-041. SDG&E receives the proportional benefits from the Statewide Program through the CPUC's CEDARs reporting system. Please refer to the Lead Program Administrators Application for the vision, design, development and intervention strategies for the respective Statewide Program.*

Sample Tactics

While the details of the Agricultural program offering(s) will be designed by the selected implementers, SDG&E will seek to find third parties who provide offerings that include:

- ✓ Energy management systems and emerging technologies
- ✓ Working with trade associations to educate sector leaders
- ✓ New operation and maintenance training
- ✓ Expanding financing options through the utility financing programs and other financing products
- ✓ Developing agricultural EE case studies, and
- ✓ Educating and training agricultural customers to identify process savings and how to achieve deeper savings through strategic energy management principles.

b. Agricultural Goal 2: Provide the Agricultural Sector an Offering to Address the Water/Energy Nexus

The Agricultural sector has historically been underrepresented in the energy efficiency arena for a number of reasons. As in other sectors, energy efficiency is not the top priority for agricultural customers. With the drought in California, the agricultural sector has been more focused on water consumption, rather than energy consumption. Thus SDG&E proposes its second goal be focused on the connection between the use of water and consumption of energy. SDG&E believes that if this connection can be successfully addressed, the energy savings from this sector could be relatively significant.

Strategy: Work with Third Parties to Incorporate Embedded Energy Savings in Offerings

Efforts to save water also result in small embedded electric savings in the form of reduced water pumping. However, the electrical energy savings produced by water saving

measures are not often factored into savings estimates or incentive calculations. The use of the updated Water-Energy Calculator 2.0⁷⁶ was released in December 2021 and will aid in capturing embedded energy from water. This strategy will support Third-Party Implementer(s) in their incorporation of embedded energy savings in their savings and incentive calculations.

Sample Tactics

While the details of the Agricultural program offering(s) will be designed by the selected implementer(s), SDG&E will seek to find third parties that can provide offerings that include:

- ✓ Solutions addressing water savings
- ✓ Partnering with water agencies to develop shared offerings
- ✓ Water/energy management systems and emerging technologies

Agricultural Sector Metrics

Sector level metrics can be found in Attachment A Tab 17

2. Sector-Specific Coordination

The Agricultural sector is highly specialized, and SDG&E's WE&T program will offer a wide array of training that may be beneficial to customers in this sector. SDG&E currently offers a series of On-Demand videos specifically targeted to agricultural customers. The On-Demand video series includes:

- Controlled Environments for Commercial Cannabis Cultivators
- Designing Energy Efficient Ag Pump Systems
- Cooling Your Commercial Greenhouse in the Hot SoCal Sun
- Heat Your Commercial Greenhouse When It's Cold Outside Low-Cost
- Ag Refrigeration Strategies

As a cross-cutting program, SDG&E's WE&T program has and will continue to focus on the following areas to engage with both agricultural customers and the trade professionals who support them. Looking ahead, the WE&T program will continue to provide support in the following areas and will expand or contract based on market and potential data forecasts:

- Building Design & Construction
- Building Performance
- Codes & Standards
- HVAC
- Lighting
- Renewable Energy

⁷⁶ CPUC, *Water/Energy Nexus Programs, W-E Calculator 2.0*, available at https://www.cpuc.ca.gov/nexus_calculator/.

- Sustainability
- Rebate & Incentive Programs

More details on these efforts are provided in the WE&T chapter of this business plan. In addition, once the implementer(s) are selected, the WE&T program will collaborate with them to ensure that this sector has access to comprehensive WE&T offerings.

Financing Opportunities

The Third-Party Implementer(s) are encouraged to seek financing options for customers in the Agricultural sector to address concerns regarding project costs. SDG&E's On-Bill Financing (OBF) program may be an option as well as other financing programs offered through the statewide financing pilots (GoGreenFinancing) or other financing institutions.

EM&V Considerations

The agricultural sector is unique in that whole building data, specifically singular meter, may not be appropriate to measure interventions associated with strategies outlined in this section, such as WEN approaches. SDG&E believes the general approach remains valid, but recognizes this constraint. SDG&E will examine where NMEC is appropriate and deviate to other approaches upon determination that a net-metered approach will not produce results.

3. Categorization by Segment

Table 15: Categorization by Segment for Agricultural Sector

Resource Acquisition	Market Support	Equity
<ul style="list-style-type: none"> Agricultural 	<ul style="list-style-type: none"> Statewide Non-Residential New Construction Agricultural – Mixed Fuel* Statewide Non-Residential New Construction Agricultural – All Electric* 	

**Note that SDG&E provides funding to the Lead Program Administrators as listed in Tables 3 and 4 of D.18-05-041. SDG&E receives the proportional benefits from the Statewide Program through the CPUC’s CEDARs reporting system. Please refer to the Lead Program Administrators Application for the vision, design, development and intervention strategies for the respective Statewide Program.*

The Agricultural sector will be comprised of the new Third-Party program that will be categorized as Resource Acquisition. With that, energy savings will be the primary driver for the sector. However, within the selected program, there may be Market Support activities that will also be implemented to drive program participation. For example, training may be offered to customers to educate them on the benefits of implementing energy efficiency and water saving projects. There may also be financing options available to assist customers with access to capital to install energy efficiency upgrades.

To support the overall Agricultural sector further, the following Market Support statewide programs are available to this sector.

- Statewide New Construction Non-Residential – Agricultural – All Electric
- Statewide New Construction Non-Residential – Agricultural – Mixed Fuel

SDG&E proposes an administrative budget for Statewide programs in which SDG&E is not the Lead Program Administrator. Activities and functions that are covered under this budget are as follows:

- Program staff time related to participation in statewide meetings, responding to Lead PA requests, directing customer inquiries, marketing and cobranding approval, analytics as it relates to SDG&E’s proportional share of the budget and savings

- Administration and facilitation of Cofunding Agreements for each statewide program; monthly accounting activity related to the transfer of funds
- IT overhead related to regulatory budget filings

4. Program Details

SDG&E is not proposing to design and implement any new programs for this sector as a part of this application. The markets outlined above are being solicited through the Third-Party solicitation process. Once contracts are executed and Advice Letters are approved, Implementation Plans will be uploaded to CEDARS.

E. COMMERCIAL SECTOR

OVERVIEW OF THE COMMERCIAL SECTOR

Market Characterization

SDG&E's commercial sector is the largest sector within the service territory and is perhaps the most important component of SDG&E's energy efficiency portfolio in terms of market size and energy savings opportunities. SDG&E provides electricity and gas service to over 136,000 commercial accounts in San Diego and southern Orange Counties, including customers in all varieties of non-residential, non-manufacturing business establishments, such as hotels, restaurants, wholesale businesses, retail stores, warehouses, storage facilities, and health, and social institutions. From 2018 – 2020, this sector represented approximately 40 percent of SDG&E customers' total electric energy consumption, 33 percent of portfolio electric energy efficiency spending, and 6 percent of SDG&E's portfolio electric savings. For the same period, the commercial sector represented approximately 28 percent of total gas consumption and 6 percent of portfolio gas savings.

Although the commercial sector is SDG&E's largest, it primarily consists of very small customers. SDG&E defines customers by electric demand: small (<20 kW), medium (20 –199 kW), and large (>200 kW). These ranges and the distribution of customers within them differ significantly by California utility. Looking at SDG&E's commercial sector, approximately 77 percent of commercial customers are under 20kW (small). The preponderance of small commercial customers within the sector poses unique challenges but also creates opportunities for SDG&E to pursue innovative approaches to achieving energy efficiency goals.

Market Subsectors

Market segmentation provides additional insights that can inform targeting, strategy, and program design. Utilizing North American Industry Classification System (NAICS) designations, SDG&E has categorized its commercial accounts by industry type, grouped them by similar energy usage patterns, and found that the majority (around 79 percent) fall into two main segments:⁷⁷

⁷⁷ The groupings of Wholesale/Retail/Offices and Hospitality/Services were made based on the observation that these segments exhibit similar load shapes and usage patterns.

- Wholesale/Retail/Offices – includes the majority of commercial customers
- Hospitality/Services – e.g., hotels and motels

In terms of number of accounts, the Wholesale/Retail/Offices segment is the commercial sector's largest segment, making up approximately 48 percent of commercial customer accounts. The Wholesale/Retail/Office segment is comprised of businesses such as:

- Groceries
- Non-Food Retail
- Property Management and Offices
- Restaurants
- Wholesale/Warehousing

The Hospitality and Service segment makes up approximately 31 percent of commercial customer accounts and includes businesses such as:

- Lodging (hotels and motels)
- Recreation and Entertainment (e.g., amusement parks)
- Miscellaneous Services (e.g., nail or hair salons, banks, dry cleaners)

Gaps & Barriers

SDG&E's market analysis and input from stakeholders highlight consistent themes with respect to barriers customers face in adopting more energy efficient behaviors. SDG&E has analyzed these barriers in detail to determine the goals required to establish a unified, achievable framework that will yield concrete results in support of the mission and vision of the commercial sector.

SDG&E found that when assessing barriers for the broader commercial market, there are two categories of concern, namely barriers affecting a customer's attitude towards energy efficiency, and those that negatively impact the customer's aptitude to participate in energy efficiency programs.

Barriers that impact attitude — Attitude barriers are those that shape a customer's attitude and perception about energy efficiency and determine the likelihood of their participation in programs. The more complex and difficult it is for a customer to participate, the less likely they are to participate. Sometimes these complexities are not created by the program but exist within the customer's business structure. Tenant and landlord situations are an example of this. Additional complexities can arise when there are multiple layers of management and decision makers within an organization.

- Split incentives
 - Tenant/landlord leasing
- Multiple levels of decision making
 - Corporate vs. local decision making
 - Facility manager vs. business manager
- Misperception of EE value
 - Uncertainty of project savings
 - Unaware of the benefits beyond utility energy cost savings
- Program complexities diminish value
 - Multiple program options can create confusion
 - Multiple step program processes can add to the uncertainty of project savings and create a “hassle” factor that deters customers
- Contractors are often single end-use focused
 - Customers that have comprehensive needs must seek multiple contractors to complete projects
 - Contractors do not tend to cross-promote other programs or end-uses

Barriers that impact aptitude — Aptitude barriers provide an explanation for why customers who recognize the benefits of energy efficiency still may not participate in programs. These reasons deal with whether or not the customer or company has the technical capacity to act. In some cases, even customers that recognize the benefits of energy efficiency and have the technical capacity to act still may not have the financial ability to take action. Lack of awareness of financing options is another barrier in this category.

- Customer sophistication
 - Gap in technical expertise
 - Lack of in-house expertise
- Financial considerations
 - Lack of capital
 - Unaware of financing options

Trends

The following trends have influenced the goals and strategies selected for the commercial sector and may impact tactics used in the future:

- A focus on premium, urban office space with an emphasis on green and LEED-certified building and retrofits. “LEED-certified buildings command the highest rents ... [and] vacancy rate for green buildings are an estimated 4% percent lower than non-green properties.”⁷⁸
- Data-driven decisions for future energy efficiency investments. “While supermarket retailers have primarily focused on low-hanging fruit, such as reducing energy use through LED lighting retrofits and advanced refrigeration rack control algorithms, the next wave of energy efficiency initiatives will focus on

⁷⁸ US Green Building Council, *Why LEED*, available at <https://www.usgbc.org/leed/why-leed>.

combining data to better invest their maintenance budgets.”⁷⁹ The COVID-19 pandemic has further necessitated the need for real-time data and made live performance monitoring all the more critical. After all, “by only accessing data from utility invoices, it would take months to reflect any changes in consumption due to the pandemic. Real-time data gives ... [building operators] the ability to measure the specific impacts of energy improvements and use those metrics to make long-term energy goals and plan future projects.”⁸⁰

- The desire for a personalized, hyper-relevant customer experience. “Customers have become more aware, and they now expect a personalized, digital experience, including offers and recommendations, similar to what they would get in other service sectors, such as telecommunications, banking, retail, and entertainment.”⁸¹ In fact, 82 percent of all respondents in a study rated “products and services that are personalized to my needs and preferences” as somewhat or very important⁸² and research shows that 90 percent of active, digital users are more likely to sign up for additional energy-related products and services if offered effortless, personalized, digital customer service.⁸³

Another trend that will impact all commercial customers is evolving rate structures. Changing rates and differing energy usage profiles will make customized solutions more important in the coming years. The occupancy of commercial buildings, for instance, is rapidly changing due to the COVID-19 pandemic. This trend creates an opportunity for SDG&E’s energy efficiency programs to engage property management companies in the re-design of these buildings. In addition, broader trends, including the continued installation of solar, as well as electric vehicles and their effect on the grid and energy efficiency policies, will also impact energy usage in the commercial sector in years to come.

⁷⁹ Environmental Leader, *Trends that Will Impact Supermarket Retailers in 2015* (December 30, 2014), available at <https://www.environmentalleader.com/2014/12/trends-will-impact-supermarket-retailers-2015/>.

⁸⁰ GRESB, *COVID-19 and Commercial Energy: Realizing and Sustaining Savings* (July 7, 2020), available at <https://gresb.com/nl-en/2020/07/07/covid-19-and-commercial-energy-realizing-and-sustaining-savings/>.

⁸¹ Capgemini, *Hyper Personalization – The Future of Customer Engagement in Utilities* (September 2, 2021), available at <https://www.capgemini.com/2021/09/hyper-personalization-the-future-of-customer-engagement-in-utilities/>.

⁸² Accenture, *New Energy Consumer: Serving Small and Medium-Size Businesses – Shaping Customer Experience Their Way* (2019) at 10, available at https://www.accenture.com/_acnmedia/pdf-93/accenture-smb-energy-experience-pov.pdf.

⁸³ Accenture, *New Energy Consumer: New Paths to Operating Agility* (2017) at 15, available at https://www.accenture.com/_acnmedia/Accenture/next-gen-5/insight-new-energy-consumer-2017/Accenture-NEC2017-Main-Insights-POV.pdf?lang=en.

Market Potential

The 2021 EE Potential & Goals Study provided data on energy efficiency market potential by utility, sector, and end-use.⁸⁴ While the total market potential for the commercial sector (which includes those in the public sector) fluctuates between approximately 21 and 36 GWh from 2024 to 2032, the individual end-uses also show significant variation from previous studies. For instance, lighting was a large percentage of the commercial sector market potential, but it diminishes by 2024. Through 2032, in SDG&E's service territory, Behavioral, Retro-commissioning, and Operational (BRO) measures make up the largest potential in the Commercial sector, followed by Whole Building offerings. In fact, BRO measures constitute around half of the market potential from 2024-2032.

In contrast, the total gas potential for the Commercial sector, including those in the public sector, is less than a million therms annually between 2024-2032. BRO measures are again the largest contributor, followed by HVAC offerings. Food Service and Water Heating are areas that present other opportunities as well. Since the potential for gas savings is relatively small, a greater emphasis will be placed on the electric side, while bundling gas measures as appropriate with whole building approaches and comprehensive programs.

Table 16: Commercial Legislative Drivers

Policy Driver	Specific Requirement/Guidance	Response
SB 350 — Clean Energy and Pollution Reduction Act of 2015	<p>Achieve a cumulative doubling of savings in electricity and gas retail customers' end uses by 1/1/30</p> <p>The CEC shall adopt a responsible contractor policy to ensure that ratepayer- funded EE retrofits meet high-quality performance standards and reduce energy savings lost or foregone due to poor-quality workmanship</p>	<p>Interventions targeted to the Commercial sector are fundamental to SDG&E's ability to achieve SB 350's objectives</p> <p>Continue successful approaches while substantially increasing efforts to engage the commercial properties segment, provide actionable solutions, and experiment with innovative procurement vehicles and intervention strategies</p> <p>WE&T programs will facilitate training on responsible contractor</p>

⁸⁴ SDG&E's analysis of the 2021 EE Potential & Goals Study
<https://www.cpuc.ca.gov/industries-and-topics/electrical-energy/demand-side-management/energy-efficiency/energy-efficiency-potential-and-goals-studies/2021-potential-and-goals-study>

Policy Driver	Specific Requirement/Guidance	Response
		policies and ensure that any requirements applicable to SDG&E EE programs are incorporated as necessary
AB 793 — Energy Management Technology Incentive Offering	Provides incentives to help residential and small/medium business customers acquire energy management technology and educate them about these programs	<p>Promote increasing the value of the building as an asset</p> <p>Work with 3rd parties to design offerings that maximize landlord and tenant value while minimizing the impact to both the landlord and tenant businesses</p>
AB 758 — Existing Buildings Energy Efficiency Action Plan	Requires the Energy Commission, in collaboration with the CPUC and stakeholders, to develop a comprehensive plan to achieve greater energy efficiency in the state’s existing buildings	<p>Streamline program requirements and operational procedures</p> <p>Improve and expand programs for hard-to-reach populations</p> <p>Focus on a whole-building approach rather than single measures to overcome the transactional nature of EE</p>
AB 802 — Benchmarking and Changes to Energy Efficiency Baselines	<p>For multi-unit buildings, utilities must provide aggregated energy usage data to their owner, its agent or the building operator. Commission will set requirements for public disclosure of information for benchmarking purposes</p> <p>Baselines - Authorizes utilities to provide incentives to customers for energy efficiency projects based on normalized metered energy consumption as a measure of energy savings.</p>	<p>Establish benchmarking scores as the best practice to sell energy efficiency projects</p> <p>Use benchmarking results to support Third-Party Implementers in their efforts to sell energy efficiency.</p>

Policy Driver	Specific Requirement/Guidance	Response
SB 1414	<p>Directs the CEC to develop a system to track central heating and air-cooling equipment sales and installations to verify compliance with permitting and other requirements</p> <p>Prohibits IOUs from paying incentives unless the recipient proves compliance with the state's building standards</p>	Work with 3 rd parties to implement Quality Assurance processes that ensure participants are complying with the state's building standards before receiving incentives

1. Sector-Specific Goals, Objectives and Strategies

The Commercial sector plays a critical part in SDG&E's success in reducing energy consumption to achieve the objectives established in SB 350. The assessment of the market and identification of barriers led to the creation of goals for the sector. This business plan identifies goals and strategies, in addition to the TSB and cost effectiveness targets that will help customers move to the next level of energy efficiency adoption. SDG&E has provided examples of how its existing Third-Party programs support the strategies described in this plan and will look to leverage many of these existing program interventions as it launches new energy efficiency programs. Combining current program-level interventions with new, innovative, and targeted approaches will allow SDG&E to penetrate the sector's various segments more efficiently and achieve its savings goals based upon approved budgets.

a. Commercial Goal 1: Improve the Energy Efficiency Penetration in the Property Management Market

As discussed in the Market Characterization section, SDG&E's Commercial sector is dominated by very small businesses. As the SDG&E service territory is dominated by small businesses who lease, rather than own, their facilities, property management companies hold the key to reaching the majority of its commercial customers. This creates a "three-legged stool" from a targeting perspective. SDG&E needs to target the property owners of small commercial spaces, the tenants of those leased spaces, and the contractors and vendors that service them. Due to the nature of most commercial leases, neither tenants nor landlords are motivated to make energy efficiency improvements at their facilities. This is known as the split incentive issue. Tenants, especially small businesses, are apprehensive to invest in energy efficiency projects for a number of reasons, including uncertainty about the longevity and/or profitability of their business and/or a lack of authority to make facility updates. Landlords have not been motivated to invest in energy efficiency because they are not responsible for the utility bill and thus are not financially motivated to become more energy efficient. In fact, the CPUC has identified leased space as one of the "hard-to-reach" criteria because split incentives make it difficult to align the interests of lessors and lessees with respect to energy

efficiency.⁸⁵ Considering that in some cases up to 80 percent of the energy consumption in commercial, multi-tenanted buildings is driven by the behavior, equipment, and operating decisions of the occupants, landlords (owners and managers) seeking to improve the energy performance of their buildings need to encourage and work with tenants to adopt best practices for energy management.⁸⁶ SDG&E proposes to increase customer uptake in this hard-to-reach segment by accessing small commercial properties through their property managers.

Strategy: Transform tenant energy savings into an asset value for property owners.

Traditionally, energy efficiency marketing and outreach strategies have focused on highlighting energy savings and return on investment (ROI) for potential participants. However, the managed property segment is driven more by a desire to increase revenues, and in turn increase asset values, as opposed to an interest in avoiding costs.⁸⁷ In fact, there are four benefits of energy efficiency that reflect financial gain: reduced operating expenses, increased rental income, increased net operating income, and increased asset value.⁸⁸ For example, when compared to other buildings, Energy Star buildings saw a 10 to 20 percent reduction in operating expenses, earned over 8 percent more in rental income per square foot, and sold for approximately 15 percent higher per square foot.⁸⁹ Furthermore, “Energy Star calculates that a 10 percent decrease in energy use could lead to a 1.5 percent increase in net operating income.”⁹⁰

This information results in an opportunity. SDG&E will transform the traditional approach to this market by shifting from a focus on energy savings to a focus on maximizing the asset value of the building for landlords and demonstrating the benefits realized by tenants. The commercial Resource Acquisition programs have conducted targeted marketing campaigns that educate stakeholders, such as landlords, on the non-energy benefits of energy efficiency technologies, which include a lower environmental impact, increased tenant comfort, and increased overall tenant retention. In addition, the programs are incorporating intelligent outreach tools that allow building owners to compare buildings and prioritize the investment by greatest increase in asset value.

⁸⁵ Resolution G-3497 (December 18, 2014), Attachment 3 at 63, available at <https://docs.cpuc.ca.gov/ResolutionSearchForm.aspx>.

⁸⁶ “Engaging Tenants in Energy Efficiency”, Better Buildings Alliance, US Department of Energy. <https://betterbuildingssolutioncenter.energy.gov/toolkits/engaging-tenants-energy-efficiency>.

⁸⁷ Upgrading Tenant Spaces, EPA 430-B-94-001B, 1994. https://www.pdfFiller.com/jsfiller-desk14/?requestHash=afa326f847540bc303a5bac3f0eb9fea2200cd2440ffc6b5d350128712002969&projectId=939794489&loader=tips&replace_gtm=false#073f202859d54f51a44393e871892089

⁸⁸ Mass Save, *Property Managers: Four Benefits of Investing in Energy Efficiency* (March 19, 2018) available at <https://www.masssave.com/en/learn/blog/business/property-managers-four-benefits-of-investing-in-energy-efficiency>.

⁸⁹ Energy Star, *Commercial Real Estate: Looking for Energy Solutions*, available at www.energystar.gov/ia/partners/spp_res/LFES_Commercial_Real_Estate.pdf

⁹⁰ Energy Star, *Commercial Real Estate: An Overview of Energy Use and Energy Efficiency Opportunities*, available at www.energystar.gov/sites/default/files/buildings/tools/CommercialRealEstate.pdf.

b. Commercial Goal 2: Increase Savings Through an Improved Customer Experience

The current transactional nature of EE encounters will evolve to an interactive, relational experience that provides customers with a starting point and milestones which will encourage ongoing participation. SDG&E will simplify the application process by creating a single point of entry for customers within this sector and providing a range of tools that align with the customer's desired level of sophistication as part of its program offerings. SDG&E believes that this approach will result in an improved customer experience and an increase in penetration.

Strategy: Provide a simple, yet comprehensive, customized energy management solution for this hard-to-reach segment.

Current EE models rely heavily on a transactional relationship with the customer; the customer transacts business with the utility or a program implementer for a given measure. However, that limits the potential for deeper energy savings. To overcome the transactional nature of EE, customers must be encouraged to engage with SDG&E and its Third-Party Implementers on an ongoing basis. A key component of this approach is ensuring that customers know where to start and have a single point of entry so that all available opportunities, recommendations, and measures are captured upfront. Another hurdle to maximizing potential is customer confusion. SDG&E works with our Third-Party Implementers to encourage a one-stop shop, helping to reduce the confusion that arises when multiple options exist. Customers no longer have to apply to one program for deemed offerings and another program for custom offerings. In addition, our current Third-Party programs are tailored to specific customer segments, which avoids overlap and allows each program to take into account the unique considerations faced by that particular segment. Providing a customized, comprehensive plan with a single point of entry moves a customer along a path towards solutions and reduces confusion.

The programs use customer data from existing SDG&E systems and intelligent, intuitive technologies to ensure that a customer's experience is customized to their needs. This approach simplifies the transactional process while empowering the customer to take action on an ongoing basis. Our current Third-Party program simplify participation with tools that can be used to enroll customers during the first site visit and provide a clear communication path between contractors and customers. The program also provides technical assistance in the form of audits, specifications, scopes of work, bid document preparation, construction management, and turnkey proposals. Another program offers a simplified, more streamlined, online application process. Key accounts also receive a customized Energy Plan, which directs customers through available program offerings. The program follows an approach which focuses on "quick win", low-cost, simple measures, such as retro commissioning. As customer trust is gained, a collaborative road map is developed to identify and implement measures across the customer's facility achieving deeper energy savings. The program's website also hosts additional features to support the customer's efficiency journey, such as links to benchmarking and online energy assessment tools, and a "Find a Contractor" feature. A live chat feature further ensures that customers are helped at the time and in the way needed to act on energy efficiency opportunities. These tactics simplify the transactional process while

empowering the customer to take action on an ongoing basis. Additionally, both programs customize incentive amounts based on customer need in place of fixed rates and provide a range of financing options to further address customer capital concerns. SDG&E believes that by offering a simple, comprehensive, customized energy management solution, it will improve the customer experience and lead to greater EE participation and an increase in savings.

Strategy: Implement a concierge approach to facilitate cross-promotion and encourage engagement.

Our current Third-Party programs are equipped with tools and training to provide customers with a simplified, minimal touch program. A representative works closely with the customer to understand their needs, decision-making process, and regulatory requirements. This individualized approach provides consistency throughout the journey, with the Third-Party Program Representative acting as the facility manager to support with equipment and contractor selection, construction management, and financing options. The Implementers seek to provide customers with a seamless Program experience. Outreach staff works closely with the customer to understand their needs, decision-making process, and regulatory requirements, and will collaborate with the project's "Energy Champion" (the staff member who advocates for energy projects and acts as an internal representative for the proposed energy project) to navigate complex decision-making processes and influence decision makers within multi-layered organizations. This individualized approach includes developing a strategy, supporting the customer at internal meetings, and providing customized materials catered to key stakeholder roles.

c. Commercial Goal 3: Maximize Savings and Efficiency by Executing New Approaches

The energy efficiency industry has the potential to see significant change in the next decade, providing opportunities for innovation and market transformation. This influx of innovation should not be limited solely to technologies, but rather should require us to consider fresh approaches to programs and procurements. SDG&E will use a 'test and learn' method to develop new approaches that maximize both savings and efficiency. Various ideas will be tested and refined, as needed, to achieve reliable, meaningful, and cost-effective savings for ratepayers.

To realize these transformational goals, in the near-term, SDG&E will utilize its existing local Third-Party program offering, the Comprehensive Energy Management Solutions (CEMS) Program, serving large commercial customers with a monthly demand greater than 20 kW. This program was solicited to directly address the goals in this Business Plan, as well as the needs of SDG&E's commercial customers. SDG&E proposes to change the focus of our program serving the small commercial sector in SDG&E. The small commercial sector's focus will be to target the HTR and DAC small commercial customers and will be classified under the Equity Segment to help these customers continue on their path to increased energy efficiency (please refer to Chapter III.E. above for more details on the Equity Segment approach). The reason for categorizing it as an equity program going forward is that the existing offering serves small commercial customers with a monthly demand of 20 kW or less, a large majority of whom are small

businesses that lease their facilities and therefore more likely to be defined by the California Public Utilities Commission (CPUC) as “hard-to-reach.”⁹¹ SDG&E feels that an equity approach, with a heavy emphasis on hard-to-reach customers and disadvantaged communities in advancement of the Commission’s Environmental and Social Justice (ESJ) Action Plan, will ensure that this customer segment, which continues to be underserved, is not left behind. Longer-term, SDG&E will look to find targeted, deeper, or incremental savings by narrowing its focus to specific sub-sectors and building types within the commercial sector and by continuing to work closely with its Third-Party Implementers to design and deliver comprehensive offerings that transform the way this unique segment values and implements energy efficiency. The strategies and tactics described in this plan complement SDG&E’s existing offerings and move customers towards a more comprehensive and sustained approach to energy efficiency implementation.

Strategy: Utilize the Statewide HVAC Program to further understand HVAC Market and influence More Efficient Design

SDG&E will continue to promote and support the Statewide Upstream and Midstream Statewide Heating, Ventilation & Air Conditioning (SW HVAC) program, which influences the market through changes in stocking and selling practices at the retailer, distributor and manufacturer levels and thus influencing the end users and installation contractors. By promoting high efficiency equipment, the program is designed to encourage manufacturers to develop California specific equipment and guidelines to further influence positive change in more efficient HVAC design.

To improve understanding of customer and market practices, the SW HVAC program will increase its analytic capabilities to provide improved end-user information. This will allow the program and the CPUC to better understand the HVAC market.

Additionally, SDG&E will continue to support partnerships with large energy efficiency organizations, such as Northwest Energy Efficiency Alliance (NEEA), a non-profit organization working to influence and accelerate HVAC technology improvements within the Pacific Northwest. Through this partnership, SDG&E will collaborate with NEEA to offer program market insights from the SW-HVAC program to accelerate the development of technical HVAC supported studies, that can be utilized within Measure Package development. This collaboration should accelerate the growth of new HVAC measures to be offered in the marketplace not only within California and the Pacific Northwest, but also in the United States.

Strategy: Explore the expansion of various procurement vehicles and intervention strategies to find targeted, deeper, or incremental savings.

The strategies already discussed assist in overcoming some of the barriers facing this sector, but additional opportunities exist. Thus, SDG&E plans to expand the methods by which it achieves energy savings by leveraging market opportunities and initiating solicitations for four new resource acquisition programs starting in 2025 that focus on specific sub-sectors. By doing so, SDG&E will be able to further refine its existing

⁹¹ Resolution G-3497 (December 18, 2014), Attachment 3 at 63, available at <https://docs.cpuc.ca.gov/ResolutionSearchForm.aspx>.

offerings to better suit the needs of each sub-segment as well diversify its efforts and resources to reduce performance risk.

Various other tactics will also be tested and refined as needed to achieve reliable, meaningful, and cost-effective savings for ratepayers. These may include:

- Providing the statewide Emerging Technology program with specific high need areas for SDG&E commercial customers so that appropriate technologies are explored and evaluated with available ET tactics. Emerging Technology evaluations will identify the technologies that are suitable for new pilots or program offerings in SDG&E's commercial programs;
- Exploring mutually beneficial opportunities with other agencies; and
- Targeting underperforming/high-potential end-uses such as refrigeration and food service.

Commercial Sector Metrics

Sector level metrics can be found in Attachment A Tab 17.

Considering that our first Third-Party Programs that serve the Commercial sector launched in January 2021, the outcomes from these programs have not been fully realized. SDG&E's metric filing,⁹² however, indicates that significant potential still exists and emphasis on this customer segment with dedicated program offerings should help improve penetration. For example, on average, between 2016 and 2020, only 2.65 percent of the eligible small commercial population participated in an energy efficiency program. Similarly, in 2020, participation from the hard-to-reach community was limited to just 2.58 percent of eligible customers.

To ensure that these smaller customers are served, SDG&E initially segmented the market, with small commercial target market being customers under 20 kW, the majority of whom are considered hard-to-reach. In fact, SDG&E's implementer estimates that approximately 90 percent of eligible small commercial customers are considered hard-to-reach,⁹³ so these metrics stand to improve in the years ahead. As mentioned above, SDG&E believes that a new equity-based program will better serve the small commercial customers' needs. This new program's design will take into consideration the results of the Small Business Pilot Program that will be launching in 2022. The percent of participation from medium and large customers also indicates that these customers could benefit from a targeted approach with direct outreach.

In 2020, only about 2.88 percent of medium and about 3.49 percent of large commercial customers participated in an energy efficiency program relative to their eligible populations. The large commercial program aims to improve those levels of engagement and is actively focused on identifying and prioritizing applicable measure and retrofit

⁹² SDG&E, 2016 through 2020 CPUC Metrics Filing Template Annual Filing – PY2020, available at <https://www.sdge.com/node/19451>.

⁹³ SDGE4003: [Small Commercial Program Implementation Plan](#), Program Delivery and Customer Services at 4.

opportunities for medium and large customers. Ultimately, SDG&E believes it can increase the energy efficiency adoption rate among both small and large commercial customers through its program implementers, and as stated above, will continue to further refine its Third-Party offerings, diversify efforts, and improve penetration through innovations in program design.

2. Sector-Specific Coordination

a) Workforce Education & Training (WE&T)

As a cross-cutting program, WE&T is critical to building customer demand by highlighting the value of energy efficiency, promoting market acceptance by educating trade professionals on how to maximize sales through the value proposition, and ensuring that a skilled and trained workforce properly installs and maintains equipment leading to greater savings. SDG&E's WE&T program has and will continue to engage with both commercial customers and the trade professionals who support them. Looking ahead, the WE&T program will continue to support the following areas and will expand or contract based on market and potential data forecasts:

- Building Design & Construction
- Building Performance
- Codes & Standards
- Food Service
- HVAC
- Lighting
- Marketing/Finance/Sales/Real Estate
- Renewable Energy
- Sustainability
- Rebate & Incentive Programs
- Financing Opportunities

SDG&E will provide financing opportunities and make financing programs easier to use by streamlining the application process and further integrating financing with the Commercial Energy Efficiency Programs. Traditional financing programs, such as SDG&E's On-Bill Financing, are helpful tools to encourage participation in Integrated Distributed Energy Resource programs. Although most customers qualify, trade professionals often must front the project costs for their customers until a project is completed, at the risk of the customer being disqualified from financing if the project scope

changes. Several of the statewide financing pilots are being designed to address this issue.

EM&V Considerations

The commercial and residential sectors have historically been the best candidates for NMEC. That is not to say this sector is without its challenges. Generally, there is a significant lack of understanding of occupant driven consumption variables, such as number of employees, working/operating hours, even square footage. To drive the success of net-metered energy consumption (NMEC) in the commercial sector SDG&E will work closely with the statewide EM&V team to understand the issues related to NMEC in the commercial sector, establishing studies to isolate critical routine and non-routine variables that drive consumption, develop frameworks and protocols for data collection, and identify additional study areas.

3. Categorization by Segment

Table 17: Commercial Programs and Solicitations by Segment

Resource Acquisition	Market Support	Equity
<ul style="list-style-type: none"> • CEMS Program • Lodging (hotels/motels) • Groceries, Restaurants, and Food Storage • Wholesale/Retail/Offices, including Entertainment & Services • Private Institutions/Healthcare (medical facilities, private schools) • Non-Residential Behavioral Program • SW HVAC Program • SW Midstream Commercial Water Heating Program* • SW Foodservice Point of Sale Program* • SW Lighting Program* 	<ul style="list-style-type: none"> • Property Management • Statewide Residential Construction Commercial Electric* – Non-New All • Statewide Residential Construction Commercial Fuel* – Non-New Mixed 	<ul style="list-style-type: none"> • Small Business Outreach

**Note that SDG&E provides funding to the Lead Program Administrators as listed in in Tables 3 and 4 of D.18-05-041. SDG&E receives the proportional benefits from the Statewide Program through the CPUC's CEDARs reporting system. Please refer to the Lead Program Administrators Application for the vision, design, development and intervention strategies for the respective Statewide Program.*

SDG&E proposes administrative budget for Statewide programs in which SDG&E is not the Lead Program Administrator. Activities and functions that are covered under this budget are as follows:

- Program staff time related to participation in statewide meetings, responding to Lead PA requests, directing customer inquiries, marketing and cobranding approval, analytics as it relates to SDG&E's proportional share of the budget and savings
- Administration and facilitation of Cofunding Agreements for each statewide program; monthly accounting activity related to the transfer of funds
- IT overhead related to regulatory budget filings

a. Commercial Resource Acquisition Programs

SDG&E proposes the following programs:

- Lodging (hotels/motels)
- Groceries, Restaurants, and Food Storage
- Wholesale/Retail/Offices, including Entertainment & Services
- Private Institutions/Healthcare (medical facilities, private schools)
- Non-Residential Behavioral Program

SDG&E realizes that different building types can have distinctly different uses and face special challenges regarding energy management. For instance, the food-sales industry shares many of the energy-related challenges seen in other business sectors, such as lighting, and heating and cooling, but what sets it apart is its high dependence on refrigeration. In fact, for grocery stores, refrigeration may use up to 40 percent of the property's total energy.⁹⁴ In contrast, heating and cooling represent almost 40 percent of the electricity and more than half of the natural gas used by hotels and motels. Additionally, unlike many other businesses, lodging facilities operate 24 hours a day and have varying occupancy loads.⁹⁵ SDG&E also recognizes that customers and others outside of the energy industry do not categorize themselves according to their electric

⁹⁴ Energy Star, *Energy Savings Tips for Small Businesses: Grocery and Convenience Stores*, available at www.energystar.gov/buildings/resources_audience/small_biz/grocery.

⁹⁵ Energy Star, *Energy Savings Tips for Small Businesses: Lodging*, available at www.energystar.gov/buildings/resources_audience/small_biz/lodging.

demand. Therefore, starting in 2025, SDG&E plans to pivot from its current demand-based approach to a building-type approach that serves all customer sizes. While the company will still seek to incorporate the strategies outlined earlier within these new program offerings, SDG&E believes that the sub-sectors identified above are more easily distinguishable by customers and implementers, and the equipment, recommendations, and offerings can be further customized to meet each business type's unique needs. In addition, as mentioned previously, by moving from two existing local resource acquisition programs to four new local resource acquisition programs, SDG&E is increasing the methods by which it procures energy savings, helping to reduce its performance risk. Additionally, to increase energy savings and make energy-efficient opportunities more accessible to all building types, the following statewide programs are available to this sector.

- Statewide Midstream Commercial Water Heating Program*
- Statewide Foodservice Point of Sale Program*
- Statewide Upstream Lighting Program*

*Note that SDG&E provides funding to the Lead Program Administrators as listed in in Tables 3 and 4 of D.18-05-041. SDG&E receives the proportional benefits from the Statewide Program through the CPUC's CEDARs reporting system. Please refer to the Lead Program Administrators Application for the vision, design, development and intervention strategies for the respective Statewide Program.

b. Commercial Market Support Program

In addition, SDG&E proposes to solicit a new market support program solely focused on the property management market. The program will support the long-term success of this market by building partnerships and providing education and training, including benchmarking support, to property owners, tenants, and other stakeholders.

In order to support the overall Commercial sector further, the following market support statewide programs are also available to this sector.

- Statewide New Construction Non-Residential – Commercial – All Electric*
- Statewide New Construction Non-Residential – Commercial – Mixed Fuel*

**Note that SDG&E provides funding to the Lead Program Administrators as listed in in Tables 3 and 4 of D.18-05-041. SDG&E receives the proportional benefits from the Statewide Program through the CPUC's CEDARs reporting system. Please refer to the Lead Program Administrators Application for the vision, design, development and intervention strategies for the respective Statewide Program.*

c. Commercial Equity Program

Furthermore, SDG&E plans to solicit a new equity program targeting small commercial customers. Traditionally, small business customers have struggled to realize bill savings due to, among other things, a lack of understanding of the best rate options, lack of

knowledge of utility programs, lack of time and capital to invest, and/or how to seek help from their local utility. The majority of small commercial customers are classified as hard-to-reach and an equity-based approach program is proposed to further engage these customers. SDG&E will seek to build on intended objectives, with SDG&E envisioning a simplified, minimal touch program with a “concierge” approach that can facilitate cross-promotion and funnel customers into its new resource acquisition programs. Program tactics to better serve these customers may include:

- Data analytics - Target participants with the highest savings potential
- Rate and energy action plans and tools - Identify behavioral no/low-cost energy savings opportunities the business can accomplish on their own
- Direct, customized outreach and education - Assign each participant an Energy Ambassador to walk the customer through online tools available
- Energy audits - Perform a detailed on-site energy assessment to identify further opportunities for energy savings
- Energy coaching - Energy Ambassador to provide monthly progress reports and quarterly counseling sessions to monitor energy savings and performance
- Direct install – energy efficiency solutions implemented at little or no cost through installation contractors

4. Program Details

The following program cards are for existing third-party programs that will be active during the period of this application.

Program Name: SDG&E’s Comprehensive Energy Management Solutions (CEMS) Program	
Program ID: SDGE4004 New/Existing: Existing	
Portfolio Segment: Resource	Implementation Party: Third-Party Implementer
Applicable Sector: Commercial	Market Sub-Sector: Large commercial sector. The Large commercial sector is defined as non-residential customers above 20 kW, excluding commercial customers located in the Port Tidelands and

	non-residential customers defined as Public, Industrial and Agricultural.
<p>Sector Challenge: Existing large commercial customers remain inefficient</p> <ul style="list-style-type: none"> • Split incentive (tenant/landlord leasing - neither tenants nor landlords are motivated to make energy efficiency improvements at their facilities) • Multiple levels of decision making • Misperception of EE value • Program complexities diminish value • Contractors are often single end use focused 	<p>Sector Opportunity: Increased participation in EE program and adoption of EE measures</p> <ul style="list-style-type: none"> • Flex incentives • Efficiency-as-a-Service (EaaS) financing • Data driven targeting • Savings persistence monitoring • Normalized metered energy consumption (NMEC) • Measure Graduation - To accommodate projects with expedited schedules, the program will introduce simplified custom applications, along with approved calculation tools, defined influence documentation, and clear M&V requirements that accelerate the approval process
<p>Known Equity Concerns in the Selected Markets: The Large Commercial customers have historically been underserved.</p> <ul style="list-style-type: none"> • Lack of capital • Lack of information • Lack of awareness • Lack of technical expertise 	<p>Proposed Solutions to Equity Concerns:</p> <ul style="list-style-type: none"> • Flexible Incentive Model • Promotion of financing options • Education • Concierge approach • Prime individuals to help influence decisions and transform them into “Energy Champions” (staff within a multi-layered organization who advocate for energy projects by navigating through complex decision-making processes, influencing decision makers, and acting as an internal representative for the proposed project). • Offer program support resources throughout the customer’s energy efficiency journey.
<p>Program Description: The CEMS Program provides end-to-end program implementation services, including marketing, outreach, engineering, operations, customer service, and data management and</p>	

reporting, to large commercial electric and gas customers on qualifying rates schedules with a monthly demand greater than 20 kW in SDG&E’s service territory. The Program leverages the implementer’s outreach staff, team of subcontractors, and network of trade professionals to provide customers with a single program that addresses all their energy efficiency needs.

<p>Intervention Strategy:</p> <p>Downstream: Direct Install, Incentive, Finance, Audit, Technical Assistance</p>	<p>Program Metrics:</p> <p>TSB: \$9,837,763</p> <p>kWh: 8,268,974</p> <p>Therms: 542,580</p> <ul style="list-style-type: none"> • Program Performance <ul style="list-style-type: none"> ○ Savings to Goal (kWh, kW, therms) ○ TRC Ratio ○ Passed Inspections • Financials/Savings <ul style="list-style-type: none"> ○ Savings Claimed ○ Budget Spent ○ Savings/Budget Alignment • Customer Satisfaction <ul style="list-style-type: none"> ○ Customer Satisfaction Survey Scores ○ Complaints Received • Compliance <ul style="list-style-type: none"> ○ Reporting Accuracy ○ HTR/DAC Penetration • Innovation <ul style="list-style-type: none"> ○ EaaS Participation ○ Unique Market Personas ○ Measures Graduated
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High-level description of delivery workforce including necessary scale and its risks:

Workforce requirements include skilled contractors, installers, program managers, outreach staff, equipment manufacturers, etc. There are high quantities of these workers and businesses in place. A closure or suspension of regular services of one or more major manufacturers could pose a risk to program effectiveness.

Market Actors necessary for success:

- Third Party Implementer
- Subcontractors
- Trade Professionals

<ul style="list-style-type: none"> • Outreach Staff • Equipment manufacturers 	
Solicitation Strategy: Third Party Solicited	Transition Plan: Not applicable
Expected Program Life: 2021-2024	Short Term Plan <ul style="list-style-type: none"> • Increase customer recruitment • Improve customer decision making for energy efficiency projects • Reduce market barriers to increase participation rate • Install cost-effective measures • Early program energy savings, GHG reduction, other non-energy benefits
Cost Effectiveness TRC: 1.12	Long Term Outlook <ul style="list-style-type: none"> • Long Term Energy Savings, GHG reduction, other non-energy benefits • Increased adoption of highest efficiency equipment leading to market transformation • Increased savings persistence/lifecycle savings
Proposed Annual Budgets for 2024-2027: 2024: \$6,893,290	Anticipated directional and scale changes in budget for years 2028-2031: Not applicable
Implementation Plan: Error! Hyperlink reference not valid.	

Program Name: Comfortably California Program (Comfortably CA)	
Statewide Program ID: SW_HVAC_Up_Com New/Existing: Existing	
Portfolio Segment: Resource	Implementation Party: Third-Party Implementer
Applicable Sector: Commercial	Market Sub-Sector: Not Applicable
Sector Challenge: Increase distributor equipment stocking practices for highly efficient HVAC equipment and contractor understanding of the benefits for selling more efficient HVAC equipment.	Sector Opportunity: Manufacturers optimize equipment to meet demand for highly efficient HVAC systems.
Known Equity Concerns in the Selected Markets: Not Applicable	Proposed Solutions to Equity Concerns: Not Applicable
Program Description: The Statewide HVAC program, named Comfortably CA is an upstream and midstream program that will offer HVAC measures including high-efficiency commercial unitary air conditioners, commercial heat pumps, commercial chillers and commercial space heating boilers. The program will engage HVAC distributors, manufacturers, or retailers and offers incentives for the energy efficient heating and air conditioning equipment that will deliver cost-effective and reliable energy savings for California residents and businesses.	
Intervention Strategy: Upstream & Midstream delivery targeting HVAC distributors, retailers, or manufacturers.	Program Metrics: <ul style="list-style-type: none"> • Program Performance <ul style="list-style-type: none"> ○ Savings to Goal (kWh, kW, Therms) ○ TRC Ratio • Financials/Savings <ul style="list-style-type: none"> ○ Savings Claimed ○ Budget Spent

	<ul style="list-style-type: none"> ○ Savings/Budget Alignment ● Distributor & Customer Satisfaction <ul style="list-style-type: none"> ○ Customer Satisfaction Survey Scores ○ Complaints Received ○ Enrollment of Distributors ● Compliance <ul style="list-style-type: none"> ○ Reporting Accuracy ○ HTR/DAC Penetration ○ DBE spending
<p>High-level description of delivery workforce including necessary scale and its risks:</p> <p>Workforce requirements include distributors, retailers, equipment manufacturers and installation contractors. There are high quantities of these workers and businesses in place. A closure or suspension of regular services of one or more major equipment manufacturers could pose a risk to program effectiveness.</p>	
<p>Market Actors necessary for success:</p> <ul style="list-style-type: none"> ● Third Party Implementer ● Subcontractors ● Partners (defined as Distributors, Manufactures, or Retailer organizations). ● Trade Professionals 	
<p>Solicitation Strategy:</p> <p>Third Party Solicited</p>	<p>Transition Plan:</p> <p>Not applicable</p>
<p>Expected Program Life:</p> <p>2021-2024</p>	<p>Short Term Plan</p> <ul style="list-style-type: none"> ● Increase Distributor recruitment ● Increase customer demand for high-efficiency (HE) products via Contractor recommendation ● Reduce customer and distributor market barriers for increase participation rates
<p>Cost Effectiveness</p> <p>TRC: 1.12</p>	<p>Long Term Outlook</p> <ul style="list-style-type: none"> ● Distributor stock more HE equipment ● Manufactures optimize equipment available to California market ● Support state building compliance building standard (SB 1414).
<p>Proposed Annual Budgets for 2024-2027:</p>	<p>Anticipated directional and scale changes in budget for years 2028-2031:</p>

2024: \$9,984,609	SDG&E plans to continue to pursue future SW HVAC solicitations in support of 2021 EE Potential & Goals Study Results for HVAC end use potential.
Implementation Plan: https://cedars.sound-data.com/programs/SDGE_SW_HVAC_Up/details/	

F. WORKFORCE EDUCATION & TRAINING

Market Characterization

San Diego Gas & Electric established its Workforce Education & Training (WE&T) program to support the training and educational needs of both California and SDG&E to meet its energy efficiency potential. Over the years, the WE&T program has offered energy efficiency education to incumbent and potential workers (trade professionals)⁹⁶ and customers, so that they may recognize and act on opportunities to save energy. Workforce Education & Training offerings need to continue to account for a diverse group of both trade professionals and end-use customers as trade professionals can impact energy savings through the selling, design, installation, and maintenance of energy efficient equipment and customers need education to understand and prioritize the value proposition of energy efficiency when planning projects. SDG&E will contribute to statewide efforts that prepare the workforce to achieve the energy efficiency needs of the State, as well as address the unique and specific needs of the local community. To achieve these goals, technical education offerings and collaboration with appropriate organizations will be critical.

Workforce Education & Training crosscuts sectors, end-uses, and the needs of individual participants and therefore must further the skill development of a diverse audience. Many occupations have the ability to influence energy savings, however training for their jobs usually does not include energy efficiency as an area of focus. Understanding where there may be gaps in education will allow SDG&E to offer technical trainings or work with traditional education tracks to incorporate energy efficiency into existing curriculum. It will be important to continually examine market data to understand current gaps and forecast future needs.

Trade professionals and customers often do not understand the full value and impact of energy efficiency and thus, make their decisions based on the lowest upfront costs without considering other critical aspects of a successful project such as: utilizing a skilled and licensed workforce and adhering to building codes for safety, efficiency, and legal compliance. WE&T programs provide trade professionals and customers with a deeper, more comprehensive understanding of energy efficiency and its benefits. Marketing, Education and Outreach (ME&O) efforts create awareness for and participation in energy efficiency programs. WE&T programs provide for a deeper, more comprehensive

⁹⁶ In this context, trade professionals represent both those who work in areas that could impact energy efficiency, as well as those that work directly or solely on energy efficiency.

understanding of energy efficiency concepts and how they relate to owning and operating buildings. Together, ME&O and WE&T programs will create increased demand for energy efficiency programs by providing the necessary market support for the energy efficiency programs.

To support the long-term energy efficiency goals of California, all sectors will need skilled trade professionals and customers who understand, appreciate and prioritize energy efficiency. However, special focus may be given to the commercial and residential sectors, as the service territory is primarily made up of these customers and are responsible for most EE savings achieved by SDG&E.

Working collaboratively with the other investor-owned utilities (IOUs), the Workforce Education & Training programs have provided educational offerings that cover a diverse set of end-uses. Collaboration has allowed the program to address a wider variety of topics and issues that impact all of California.

Collaboration with non-utility institutions continues to be important to expand access to energy efficiency education and be inclusive of a wide range of potential market actors. These organizations include:

- Government agencies: the California Department of Education, Department of Labor, and local, regional and state governments;
- Educational institutions: Community colleges, private colleges and universities, technical schools, and K-12 school districts;
- Community-based organizations: California Community Services and Development, California Workforce Investment Boards, and workforce training programs;
- Industry and labor organizations: trade unions and apprenticeship programs, home rating organizations, and trade associations.

Market Segments

The local San Diego market is like California, in that the largest electric and gas consumption occurs in the commercial and residential sectors.

Even though commercial and residential are the largest consuming sectors, there is potential in most sectors. Thus, while there may need to be a focus on the commercial and residential sectors, all sectors will need WE&T support and education will need to be specifically tailored for SDG&E to meet the market's needs. Further, given the large potential attributable to codes and standards, it is imperative that trade professionals and customers alike receive adequate training, so they are prepared for upcoming code changes.

Further, SDG&E's commercial and residential sectors have unique attributes that support the need for local WE&T offerings. Specifically, SDG&E's commercial sector is mostly composed of 77 percent small customers (under 20kW).

In the residential sector, the majority of customers live in single-family dwellings, indicating a training opportunity with single family housing stock. SDG&E will continue to work with contractors that perform work on multifamily dwelling units and common areas and will increase focus on single family contractors and its challenging market.

To achieve SDG&E's energy efficiency savings goals requires both a skilled workforce and educated customers.

The WE&T program serves a number of constituencies, specifically, providing education and training for:

- Trade professionals, including incumbent and potential contractors and equipment retailers;
- Customers, including owners, tenants, property managers, and facility managers; and
- Students, including K-12, community and technical colleges.

Gaps & Barriers

There are common barriers that Workforce Education & Training continues to overcome at a state and at a local level. Some of the consistent barriers at both levels include:

A gap identified by SDG&E is participation in WE&T training offerings and the value provided. SDG&E's Customer Insights Panel in 2020 identified that 15 percent of Residential and 24 percent of Business customer respondents were aware of SDG&E's Energy Center and 75 percent of the Residential customers and 72 percent of the Business customers expect to find training on energy efficiency there. Only 25 percent of respondents, from both customer classes, find access to this training valuable. In the last year, SDG&E has ramped up marketing efforts to increase awareness in WE&T training offerings. In 2020, the program exceeded the annual attendance metric and in 2021, the annual attendance metric was reached in November. The WE&T training web pages, which list all training offerings, have seen an increase in page views since marketing efforts began, from 7,567 in Q1 of 2021⁹⁷ to 21,599 in Q3.⁹⁸ Marketing efforts should not only focus on building awareness, but also on the value of EE trainings to encourage participation.

Through the process of engaging with educational institutes for Core Energy Education Collaborations, SDG&E found that the approval process for new curriculum at the colleges and universities engaged through the WE&T program can be lengthy and staff/administration place a low priority on energy efficiency given all their other competing demands. Demonstrating the value of energy efficiency training as it relates to job creation should be another key priority of the program.

Customers and trade professionals face many barriers to obtaining the training and education needed to maximize energy savings. To ensure that customers value and seek

⁹⁷ SDG&E Workpaper, WE&T Marketing Effectiveness (June-July 2021) at slide 4.

⁹⁸ SDG&E Workpaper, WE&T Marketing Effectiveness (Sep-Oct 2021) at slide 4.

out energy efficiency programs, they must be trained on both the energy (saving money, kWh, and therms) and non- energy benefits (comfort, safety, compliance) of energy efficiency, as well the importance of hiring well-qualified, licensed, code-compliant trade professionals. To ensure that incumbent and future trade professionals support the delivery of energy savings, they need proper training and access to continuing or advanced education on the value of energy efficiency to their business (implies quality, cutting edge products and knowledgeable, well-trained workers), how to sell energy efficiency, and how to assist customers in understanding and participating in incentive and rebate programs. Teaching both customers and trade professionals the value of energy efficiency and the value of skilled workers will increase the demand for both, resulting in an ever more qualified workforce that produces high quality projects that maximize savings and return on investment.

Trends

The evolution of the learning environment is ever changing. The COVID-19 pandemic demonstrated the critical need to be agile in training delivery methods. Virtual learning became an immediate priority in the execution of training classes. It is important to adapt and collaborate with educational organizations so that a broader range of the workforce can be reached through their preferred education and training method. SDG&E expects WE&T to be implemented by a Third-Party sometime in 2024. This will be facilitated through the Commission's approved solicitation process.

Market Potential

Workforce Education & Training is considered part of the Market Support segment and thus, energy savings are not attributed directly to the program.⁹⁹ According to San Diego Workforce Partnerships, job growth expected by advanced energy employers is expected to grow 8 percent.¹⁰⁰ The Advanced Energy Economy (AEE) fact sheet of 2021 stated that by the end of 2020 California filled over 500,000 jobs in this field, with over 48,000 of those specifically in San Diego County.¹⁰¹ This growth shows that there is a constant need to ensure the workforce is properly educated in energy efficiency in order to meet California's goals.¹⁰²

Legislative Drivers

Legislation, specifically, Senate Bill (SB) 350, 1013, 1383 and Assembly Bills (AB) 793, 758 and 802, help shape SDG&E's sector approaches. SB 350 calls for a doubling of energy efficiency savings during the timeframe covered by this Business Plan. The CPUC has provided initial guidance implementing these directives and SDG&E and the other PAs will continue to work with the CPUC to determine the most efficient means of complying with the legislative mandates. SDG&E believes that the strategies outlined below complement the adopted legislation. Specific tactics and their processes will be

⁹⁹ San Diego Workforce Partnerships, *Energy, Construction & Utilities* (2019), available at https://workforce.org/wp-content/uploads/2019/10/PS_2-pager_2019_ECU.pdf.

¹⁰⁰ *Id.*

¹⁰¹ Advanced Energy Works, *2021 State Employment Fact Sheets*, available at <https://www.advancedenergyworks.org/for-america/ca>.

¹⁰² See, D.21-05-031 at 14.

adjusted as needed to meet the legislative directives and any further direction from the CPUC.

Workforce, Education & Training activities will play a crucial role in supporting SDG&E's efforts to comply with legislative requirements. For SB 1013 and 1383, WE&T will develop and provide training around high-Global Warming Potential (GWP) gases, including refrigerant emissions and methane to lower the natural gas consumption and methane emissions.

The WE&T program helps educate market actors to design, install, maintain, and use energy management technologies. These efforts are focused on the residential sector as well as the small and medium commercial customer segments. SDG&E provides education and special skills training to facilitate implementation of WE&T components of the 2019 California Energy Efficiency Action Plan.¹⁰³ WE&T works with contractors and building operators to improve their understanding of and access to benchmarking information and tools. These initiatives are aimed at educating customers about the benefits provided by benchmarking properties.

¹⁰³ California Energy Commission, 2019 California Energy Efficiency Action Plan (December 2019) at iii, stating a ("combined update of the *Existing Buildings Energy Efficiency Action Plan and the Doubling of Energy Efficiency by 2030 Report*"), available at <https://www.energy.ca.gov/programs-and-topics/programs/energy-efficiency-existing-buildings>.

Table 18: Cross-Cutting Legislative Drivers

Policy Driver	Specific Requirement/Guidance	Response
<p>SB 350 — Clean Energy and Pollution Reduction Act of 2015</p>	<p>Achieve a cumulative doubling of savings in electricity and gas retail customers' final end uses by 1/1/30</p> <p>The CEC shall adopt a responsible contractor policy to ensure that ratepayer- funded EE retrofits meet high-quality performance standards and reduce energy savings lost or foregone due to poor- quality workmanship</p> <p>Workforce development and job training for residents in disadvantaged communities, including veterans, at-risk youth, and members of the state and local community conservation corps</p>	<p>Prepare the workforce to achieve a doubling of EE through educational opportunities that provide technical training, continuing education, and certifications</p> <p>WE&T programs will facilitate training on responsible contractor policies and ensure that any requirements applicable to SDG&E EE programs are incorporated as necessary</p> <p>Continue to collaborate with community organizations that serve the disadvantaged communities. In addition, SW-Career & Workforce Readiness program is exclusively focused on this audience</p>
<p>SB 1013</p>	<p>SB 1013 directed the Commission to consider developing a strategy for including low-GWP refrigerants in the energy efficiency portfolios. Added section 76002 to the PU Code.</p>	<p>WE&T programs will facilitate training on high-GWP gases, including refrigerant emissions and methane to lower the natural gas consumption and methane emissions.</p>
<p>SB 1383</p>	<p>California is required to reduce HFC emissions 40 percent below 2013 levels by 2030 under Senate Bill 1383. The regulations approved by CARB are the most comprehensive of their kind in the world, and will help hit that target</p>	<p>WE&T programs facilitate training on high-GWP gases, including refrigerant emissions and methane to lower the natural gas consumption and methane emissions.</p>

Policy Driver	Specific Requirement/Guidance	Response
<p>AB 793 — Energy Management Technology Incentive Offering</p>	<p>Provide incentives to help residential and small/medium business customers acquire energy management technology and educate them about these programs</p>	<p>Continue to develop or enhance market actor education on how to properly design, install, or maintain home energy management technology, based on any gaps in the market for this education.</p> <p>Continue to develop or enhance home-owner education on how to properly use energy management technology.</p>
<p>AB 758 — Existing Buildings Energy Efficiency Action Plan</p>	<p>Implement WE&T strategies that integrate Knowledge, Skills & Abilities with WE&T curriculum; update training to include best practice building science and code requirements</p> <p>Train contractors and other market actors to sell energy efficiency</p> <p>Include special skills training in core WE&T activities to help meet demand, spur innovation, and increase the body of knowledgeable building professionals</p>	<p>Include special skills training in core WE&T activities to help meet demand and increase the body of knowledgeable building professionals</p> <p>Train contractors on how to sell energy efficiency to customers</p> <p>Provide education and training around dynamic code changes, new technologies, and skills needed to meet legislative needs</p>

Policy Driver	Specific Requirement/Guidance	Response
AB 802 — Benchmarking and Changes to Energy Efficiency Baselines	<p>For multi-unit buildings, utilities must provide aggregated energy usage data to its owner, its agent or the building operator. Commission will set requirements for public disclosure of information for benchmarking purposes</p> <p>Baselines — Authorizes utilities to provide incentives to customers for energy efficiency projects based on normalized metered energy consumption as a measure of energy savings</p>	<p>Provide education and training around dynamic code changes, new technologies, and skills needed to meet legislative needs (such as Zero Net Energy Design, Benchmarking and Retrocommissioning)</p> <p>Educate contractors and building operators how to benchmark energy usage and software in facilities so they understand their energy use</p> <p>Educate customers about the value of benchmarking and the increase in value of their investments for the purpose of selling or leasing their property</p>

1. Sector Goals, Objectives & Outcomes

Workforce Education & Training is part of the Market Support segment that spans the commercial, residential, public, industrial and agricultural sectors. To achieve California’s energy efficiency and demand- side management potential, SDG&E and key policy, industry and education stakeholders must support the continued training of trade professionals and customers. SDG&E seeks to achieve the doubling of energy efficiency savings by providing continuing education and training to trade professionals, influencing the curriculum of external providers’ core education classes, and collaborating with other organizations.

To accomplish the mission to educate the workforce, SDG&E has established the following Workforce Education & Training sector goals:

- WE&T Goal 1: Prepare Workforce to Meet California’s Goal of Doubling Energy Efficiency Savings by 2030.
- WE&T Goal 2: Design and Deliver Workforce, Education and Training Programs that Help SDG&E’s Energy Efficiency Sectors Achieve Savings Goals.

- WE&T Goal 3: Deliver an Energy Efficiency Workforce through Statewide Programs that Focus on Career Awareness and Inclusion of Disadvantaged Workers.

Overview of Current and Proposed Offerings

Table 19 describes the proposed goals, strategies, and sample tactics in terms of whether they are new, existing, or modified interventions).

Table 19: Overview of Current and New Offerings

Goal	Strategy	Sample Tactics	New/Existing/Modified
Prepare Workforce to Meet California’s Goal of Doubling EE Savings by 2030	Deliver technical training, continuing education, and certifications to ensure a trained and skilled workforce can deliver energy savings	Provide education and training around dynamic code changes, new technologies, and skills needed to meet legislative requirements Support certification to provide market recognition of acquired skills or competency Incorporate a comprehensive approach into current offerings	Existing
	Collaborate with appropriate organizations of California’s education system to expand the reach & access of energy efficiency education	Work with organizations/industry stakeholders/research and identify stakeholder needs	Existing

Goal	Strategy	Sample Tactics	New/Existing/Modified
	Educate customers on the value proposition of energy efficiency and of hiring skilled workers to implement projects	Educate customers about: the return on investment for energy efficiency projects; the value of hiring well-trained, skilled, licensed workers; the importance of codes, standards, and permits to maximize the performance and safety of EE projects; and the non-energy benefits of EE projects.	Existing
	Provide ease of access to the workforce to attend trainings	<p>Identify delivery mechanism for each training curriculum</p> <p>Conduct an assessment to determine the need for virtual training</p> <p>Determine the time, length and difficulty of each training course in order to assign the appropriate delivery method</p>	New
Design and Deliver Workforce, Education and Training	Train trade professionals to ensure that EE projects realize energy savings	Educational offerings targeted towards appropriate workers	Existing

Goal	Strategy	Sample Tactics	New/Existing/Modified
Programs that Help SDG&E's Energy Efficiency Sectors Achieve Savings Goals	Educate customers/contractors on the value of EE and skilled workers	Educational offerings targeted towards customers Educational "How to sell EE" offerings targeted to contractors	Existing
Build the Future of an Energy Efficiency Workforce Through Statewide Programs that Focus on Career Awareness and Inclusion of Disadvantaged Workers	Promote Statewide-Career Awareness/Connections and Statewide-Career Readiness to support the availability of workers	SW — Connections	Existing
		SW — Career & Workforce Readiness	Existing

a. Goal 1: Prepare Workforce to Meet California’s Goal of Doubling Energy Efficiency Savings by 2030.

“[I]n order to achieve the very ambitious energy conservation targets set forth in the Strategic Plan and other policies, increasingly complex energy conservation measures and programs are needed. Energy efficiency jobs in the near future will require additional knowledge, skills, and abilities (KSAs) to complete this more complex work than were required for past EE success.”¹⁰⁴

To realize California’s goal of doubling energy efficiency savings, SDG&E’s Workforce Education & Training program will support ongoing collaborative efforts across the State

¹⁰⁴ Donald Vial Center on Employment in the Green Economy, UC Berkeley, *Workforce Issues and Energy Efficiency Programs: A Plan for California’s Utilities*, (May 2014) at 2, available at <http://laborcenter.berkeley.edu/pdf/2014/WET-Plan-Executive-Summary14.pdf>.

and participate in the development of new educational offerings to promote the knowledge, skills, and abilities of a broad and diverse set of workers and customers.

Strategy: Deliver technical training, continuing education, and industry-recognized certifications to ensure a skilled workforce can implement quality energy savings projects.

“[T]here may be a need for skills upgrade training for incumbent ... workers for new “beyond-code” technologies. ... Nevertheless, there can be a lag time for upgrading curriculum as the most cutting-edge energy efficiency and renewable energy skills and technology penetrate the market.”¹⁰⁵

Energy efficiency codes and standards, technologies, and tools are dynamic and ever changing; thus, it is important for incumbent workers to receive continuing education and training to fully realize energy savings and remain competitive in the marketplace. SDG&E will continue to deliver technical training and continuing education at no cost, and certifications at a reduced cost to ensure a trained and skilled workforce that can deliver energy savings. Educational offerings will be:

- Prioritized by data driven decisions that incorporate energy potential and employment market data.
- Delivered through multiple approaches, not just in-person, as the pandemic demonstrated the importance of online learning. There are several factors that can prevent market actors from taking training, including the economy, size of company, and time of day.¹⁰⁶
- Better marketed through appropriate channels so that market actors and organizations are aware of the available training, the expected outcomes of offerings, and the benefits of attending the educational offerings
- Tailored to multiple audiences, as there is a substantial difference in the needs and issues between sectors, and even size of buildings within sectors, such as small commercial versus large commercial. Matching the course content to the course attendee will allow for more meaningful participation in offerings
- More comprehensive and integrated across end-uses.
- Align course delivery method to expected actions so participants have appropriate opportunities for education.
- Focused on lifecycle savings to include proper building operation for commercial and residential customers to realize savings once equipment and systems have been properly designed, installed, and maintained.

¹⁰⁵ Donald Vial Center on Employment in the Green Economy, UC Berkeley, *Proposition 39: Jobs and Training for California’s Workforce* (May 2013) at 17, available at http://laborcenter.berkeley.edu/pdf/2013/prop39_jobs_training.pdf.

¹⁰⁶ 2013-2014 Statewide WE&T Program at 11.

Sample Tactics

Two major approaches are needed to implement the strategy above. The first approach is educational offerings that provide technical training, continuing education, and provide tangible signals of competency such as certifications. SDG&E's post event training class surveys indicate an overall course quality of 96 percent. Approximately 6,200 people attended training classes in 2019 and approximately 7,500 people attended training classes in 2020. Some example tactics for this effort going forward will be to:

- Provide education and training around dynamic code changes, new technologies, and skills needed to meet legislative needs (such as decarbonization, ZNE design, benchmarking for AB 802 and retrocommissioning for AB 758).
- Provide general energy efficiency education and training at no cost to the workforce
- Support certification so that market recognition of acquired skills or competency is available
- Subsidize the fees associated with Certification training courses for students who fall under the definition of disadvantaged worker¹⁰⁷
- Incorporate training opportunities for the teachers to receive the latest education regarding new technologies or changes in code and learn effective teaching methods. Incorporate energy efficiency into current offerings.

The second approach will reduce confusion for workers considering educational offerings and make it easier for potential participants to find training options in their areas. This can be achieved through the deployment of the WE&T program's monthly class digest, which allows customers to learn about the trainings offered as well as register. SDG&E will continue to:

- Target appropriate audiences to alert them about training classes.
- Offer an interactive training calendar available online to promote and list educational offerings as they become available.
- Indicate whether trainings are stand-alone, part of a series, resulting in a certification, or continuing education, and include level of difficulty (Basic, Intermediate, Advanced).

¹⁰⁷ *Id.*

Strategy: Collaborate with appropriate organizations to expand awareness and access to energy efficiency education

While many occupations work on the periphery of energy efficiency and have the ability to influence energy efficiency savings, their core workforce education and training organizations do not have efficiency as their primary focus. As a result, these organizations may not have the latest information, may offer very narrow training on single end-uses, or may not emphasize energy efficiency at all. Each organization is unique and requires a different set of solutions to meet their curriculum needs. In 2020, SDG&E achieved four collaborations, meeting the target of up to 4-5. SDG&E will continue to collaborate with relevant organizations to:

- Educate professional stakeholders to better align offerings to match the needs of the market and increase the likelihood of acquired knowledge being incorporated into jobs
- Enhance current curriculum or develop new curriculum that incorporates additional energy efficiency education
- Increase dissemination of educational offerings and support self-sustaining programs that are created using energy efficiency funds
- Support efforts with organizations that are inclusive of all incumbent and potential energy efficiency workers so that access to energy efficiency education is available

Sample Tactics

Each organization requires different solutions to meet their needs, a multi-pronged approach, which has helped the program exceed attendance goals and meet collaboration metrics will continue. Some sample tactics of this effort may include:

- Survey training providers to identify energy efficiency gaps in core curriculum.
- Train-the-trainer sessions on new technologies and codes.
- Develop and/or enhance current or new curriculum.
- Work with third parties to leverage expertise to address specific training needs.
- Provide support for building performance measurement tools.

Strategy: Educate customers on the value proposition of energy efficiency and hiring skilled workers to implement projects.

Customers and educators need to understand the value proposition of energy efficiency and the importance of hiring skilled workers to implement projects. An increase in demand for comprehensive energy efficiency projects will have a major impact on the workforce. As more projects are designed, installed and maintained, there will be a need for a trained workforce that can deliver savings. Educational offerings will inform customers that an

investment in energy efficiency results in a greater return on their investment, and that the investment includes non-energy benefits like increased comfort and productivity.

Just as customers need to understand the value proposition of energy efficiency, trade professionals must understand how to sell it. Educating and engaging trade professionals will help SDG&E realize its energy efficiency potential, increase the trade professionals' value, and continue to drive business opportunities to those actors. This education will involve not only selling but being able to bid and manage work.

Sample Tactics

The first series of sample tactics focus on educational offerings directed towards customers to demonstrate the value proposition of energy efficiency as an investment and not a cost. SDG&E's customer experience survey data shows that attendees are exiting trainings with increased knowledge gain of 89 percent.¹⁰⁸ Some example tactics include:

- Educate customers about the return on investment for energy efficiency projects, including available rebate and incentive programs.
- Educate customers about the value of hiring skilled workers to ensure that their investment is fully realized and that a project is designed, installed, or maintained properly.
- Educate customers about the additional benefits to EE projects outside of energy reduction, such as improved occupancy comfort.
- Educating contractors on how to “sell Energy Efficiency.” This will allow them to explain the value of energy efficiency including:
 - How to “sell Energy Efficiency” and how to bid for and manage customer business.
 - How to sell additional benefits of projects and not just the reduced energy savings aspect.

Strategy: Provide ease of access to the workforce to attend training.

To reach a broader range of the workforce and customers, SDG&E will make training more accessible by utilizing the right platform for the right training. In the past, SDG&E focused on an in-person platform to conduct trainings but participation has steadily increased since offering training online.

In the last year, according to SDG&E's customer experience survey, administered after trainings, 99 percent of attendees indicated that making training available on-demand is more convenient. This survey also indicated that approximately 77 percent of attendees prefer online learning.

¹⁰⁸ SDG&E, *WE&T Program, 2021 Customer Satisfaction Survey Results* (2021).

Due to this shift, different types of platforms to conduct training were explored. A virtual classroom model that included webinars and on-demand was adopted and SDG&E's customer satisfaction surveys indicate customers are satisfied with this model, with satisfaction remaining above 90 percent.

There are several factors to consider when determining the type of platform to use for a particular training, including:

- Length of training
- Popularity of training
- Learning level (beginner, intermediate, or advanced)
- Type of training

Sample Tactics

When considering the type of platform to conduct training, there are certain attributes to consider, for example:

- Determine the length of training and if it should be split into shorter sessions. Research suggests for online learning, shorter sessions are more effective.
- Determine the level of interest and engagement for a training topic. Attribute the correct learning level of a training course. For students to know if a course is right for them, classifying it as beginner, intermediate or advanced can help students make that determination.
- Identify if all components of a training course convert well to an online platform. For training that requires a necessary hands-on feature and/or for some certifications the in-person training platform may be best. In addition, longer training, for example a full day of training, is best broken up into multiple days when completed online.

b. Goal 2: Design and Deliver Workforce, Education and Training Programs that Help SDG&E's Energy Efficiency Sectors Achieve Savings Goals.

As a market support program, Workforce Education & Training will be important for SDG&E to meet its energy savings goals. Each sector will need trade professionals who have the skills to implement energy efficiency projects and customers who prioritize the value of energy efficiency.

The strategies and example tactics below highlight only a small part of the market sectors and the trade professionals and intervention that will be needed for SDG&E to realize success in the local market. Additional information for each sector is in their respective chapters.

SDG&E will continue to offer training courses and collaborate with organizations where appropriate. General focus will include major energy end-uses (such as HVAC, Building

Performance) and proper design, installation, and maintenance. The following strategies and tactics are not an exhaustive list of the approaches and offerings that SDG&E will be providing. Because a specific end-use or customer is not addressed, does not imply that offerings will not be available for that area.

Strategy: Train trade professionals to ensure that energy efficiency projects realize energy savings.

Because few jobs focus directly on energy efficiency, workers receive very little education specifically addressing it. Energy efficiency is often one component or ignored as workers develop their skillset. Trade professionals need to be aware that ongoing education is available and participate in training offerings, so they can realize energy savings. The education and training offerings will further workforce engagement to implement energy efficiency measures and will be specific for every sector and program.

Current and potential trade professionals will receive energy efficiency education when participating in core education or when participating in additional educational opportunities. Offerings will be coordinated to address the needs of the market and the requirements and goals of programs so that trade professionals can participate and deliver realized energy savings to customers. WE&T will collaborate with EE resource acquisition programs to ensure that training offerings are provided to meet any program requirements. As requirements for qualifications are adopted by programs, Workforce Education & Training will make appropriate training available to market actors.

Sample Tactics

Post event survey data shows that approximately 23 percent of trade professionals that attended have found that trainings provide further explanations on rebates and incentive programs that they can pass on to their customers and 23 percent are already taking advantage of the programs. The data also shows 77 percent of trade professionals are using these training courses as continued professional development¹⁰⁹. The tactics below are just a few examples of the skills that trade professionals within certain sectors will need to implement energy efficient projects:

- Commercial: Educational offerings will target contractors to incorporate whole building approach to address lighting, HVAC, and energy management systems
- Residential: Educational offerings will target HVAC contractors and technicians and support quality HVAC installation and maintenance
- Public: Educational offerings will be provided to building inspectors, so they understand changes to Title 24¹¹⁰
- Industrial: Educational offerings will be provided by the industrial third-party implementer with the support of WE&T

¹⁰⁹ SDG&E, *WE&T Program, 2021 Customer Satisfaction Survey Results* (2021).

¹¹⁰ See Codes and Standards section III-C of this Exhibit 2.

- Agricultural: Educational offerings will be provided by the agricultural third-party implementer with the support of WE&T
- Codes & Standards: Educational offerings will target contractors and building inspectors and provide information about code changes and compliance
- Emerging Technology: Educational offerings will target contractors and provide education around comprehensive approaches, so new projects involving emerging technologies are integrated with whole building approaches
- Financing: Educational offerings will be provided so that contractors develop skills to “sell” energy efficiency and are taught how to maximize financing programs for customer projects

Strategy: Educate customers to prioritize energy efficiency when paying for a project

In conjunction with marketing, education, and outreach efforts, customers need additional education around the value of energy efficiency and enough understanding to request a comprehensive approach and quality installation and maintenance of equipment.

Certifications are tangible credentials to signify competency to customers. SDG&E will continue to support industry-recognized certification offerings and will work with organizations to seek these opportunities.

Sample Tactics

As stated above, the post event survey results indicate that 23 percent of trade professionals that attended will use these learnings to educate their customers on current and future projects. The tactics below are just a few examples of educational offerings that will encourage customers to prioritize energy efficiency when deciding on projects:

- Commercial: Customers receive education about the value of skilled building operators to properly maintain equipment and realize energy savings
- Residential: Customers receive education about the value of skilled installers and ask for comprehensive energy saving approaches when undertaking home remodels
- Public: Customers receive education about the value of energy efficiency
- Industrial: Customers receive education about the value of energy efficiency and participate in Industrial program
- Agricultural: Customers receive education about the value of energy efficiency and participate in Agricultural program

- Codes & Standards: Customers will receive education about the upcoming changes to energy codes and how it may impact them for new construction and retrofits of existing buildings
- Emerging Technology: Customers will receive education about the value of energy efficiency and will undertake the risk of implementing a technology that is new to the market
- Financing: Customers will be educated about the long-term value of energy efficiency and the availability of financing options, so they don't over-value lowest-upfront cost projects

c. Goal 3: Deliver an Energy Efficiency Workforce Through Statewide Programs That Focus on Career Awareness and Inclusion of Disadvantaged Workers

See Statewide Administrator PG&E's Application for a full description of WE&T statewide programs.

WE&T Sector Metrics

Table 20 describes the metrics SDG&E will use to evaluate the success of proposed program strategies. The metrics are associated with goals and are designed to be 'SMART' (specific, measurable, attainable, realistic, and time- based). Success will be measured based on short, mid and long-term targets.

Table 20: WE&T Sector Metrics

Sector Metric	Baseline	Metric Source	Target
Number of collaborations by Business Plan sector to jointly develop or share training materials or resources.	Current Number of Training Partners	Program Data	Up to 6
Number of participants by sector	Average from 2018-2020 is 6,444	Program Data	7,000
Percent of participation relative to eligible target population for curriculum	Average from 2018-2020 is 4.74 percent	Numerator: The average number of unique participants between 2018 and 2020 was 2,315 (this includes customers outside	5 percent

Sector Metric	Baseline	Metric Source	Target
		<p>of our service territory). Report from class registration database.</p> <p>Denominator: SDG&E's share of 502,900 jobs is approximately 48,800 according to Advanced Energy Economy Institute (AEEI) 2020/2021 report.¹¹¹ Excluding orange county since this is split territory and census does not differentiate.</p>	
Percent of total WE&T training program participants that meet the definition of disadvantaged worker	Average from 2018-2020 is 30.61 percent	Program Data	31 percent
SW Program, Info from PG&E: Percent of incentive dollars spent on contracts with a demonstrated commitment to provide career pathways to disadvantaged workers			
SW Program, Info from PG&E: Number			

¹¹¹ Advanced Energy Works, *2021 State Employment Fact Sheets*, available at <https://www.advancedenergyworks.org/for-america/ca>.

Sector Metric	Baseline	Metric Source	Target
Career Workforce Readiness (CWR)Participants who have been employed for 12 months after receiving the training			

Table 21: Sector Problem Statements and Intervention Strategies

Problem Statement	Market Barriers	Desired Sector Outcome	Intervention Strategies
A comprehensive WE&T program requires collaborative efforts with different entities that require a unique solution and approach for each	Traditional occupation training does not focus on energy efficiency Educators must remain up to date with changes in codes and technology	Prepare California’s workforce to meet the doubling of energy efficiency savings by 2030	Collaborate with external training organizations to identify gaps in energy efficiency education and develop curriculum to share
Trade Professionals do not have the technical knowledge, skills, or abilities to meet SDG&E’s EE savings goals	Code Changes and Complexity New technologies and “upskill” training needed to stay competitive Lack of understanding in how to	Design and deliver workforce, education, and training programs that help SDG&E energy efficiency sectors achieve savings goals	Market Actors will receive training to ensure that energy efficiency projects realize energy savings

Problem Statement	Market Barriers	Desired Sector Outcome	Intervention Strategies
	participate in SDG&E programs		
Customers/Contractors do not understand the value proposition of energy efficiency	Lack of understanding or awareness of ROI Programs Unaware of business benefits beyond Utility Cost savings Program complexities diminish perceived value Contractors do not “sell value” of EE		Customers/Contractors will receive education in conjunction with marketing, education, and outreach to prioritize energy efficiency when paying for a project

2. Program and Sector Coordination

At the local level, SDG&E’s WE&T program will focus on market segments and end-uses identified as having significant potential in its service territory. WE&T will place particular emphasis on those sectors because the commercial and residential sectors make up the majority of SDG&E’s consumption and customers.

Table 22: Areas of Focus for WE&T

Sector	Target Audience	WE&T Focus
Residential	Customers, (Homeowners, Tenants, Landlords,	Educate on energy and non-energy benefits of investing in EE

Sector	Target Audience	WE&T Focus
	Property Managers)	<p>How to change behavior to achieve reduced energy use through conservation and efficiency</p> <p>What to consider in evaluating EE proposals, including the value of skilled and qualified trade professionals</p>
	Trade Professionals (Designers, Contractors, Retailers, Vocational Students)	<p>Skill enhancement around targeted end-uses and taking a comprehensive approach</p> <p>Codes/standards, inspections, and permitting process</p> <p>Selling the value of EE to customers</p>
Commercial	Customers (Building Owners, Building Operators, Tenants, Landlords, Property Managers)	<p>Educate on energy and non-energy benefits of investing in EE</p> <p>How to change behavior to achieve reduced energy use through conservation and efficiency</p> <p>What to consider in evaluating EE proposals, including the value of skilled and qualified trade professionals</p>
	Trade Professionals (Designers, Contractors, Retailers, Vocational Students)	<p>Skill enhancement around targeted end-uses and taking a comprehensive approach</p> <p>Codes/standards, inspections, and permitting processes</p> <p>Selling the value of EE to customers</p>
Public	Customers (Building Owners, Building Operators, Building Occupants,	<p>Educate on energy and non-energy benefits of investing in EE</p> <p>How to change behavior to achieve reduced energy use through conservation and efficiency</p>

Sector	Target Audience	WE&T Focus
	Facility Managers)	<p>What to consider in evaluating EE proposals, including the value of skilled and qualified trade professionals</p> <p>Best practices in EE leadership</p> <p>Preventative maintenance of equipment</p> <p>Codes/standards, inspections, and permitting process</p>
	Trade Professionals (Designers, Contractors, Retailers, Vocational Students)	<p>Skill enhancement around targeted end-uses and taking a comprehensive approach</p> <p>Codes/standards, inspections, and permitting process</p> <p>Selling the value of EE to customers</p>
Agricultural	Customers (Building Owners, Building Operators, Building Occupants, Facility Managers)	<p>Educate on energy and non-energy benefits of investing in EE, including the energy/water nexus</p> <p>How to change behavior to achieve reduced energy use through conservation and efficiency</p> <p>What to consider in evaluating EE proposals, including the value of skilled and qualified trade professionals</p> <p>Skill enhancement around targeted end-uses and taking a comprehensive approach</p>
	Trade Professionals (Designers, Contractors, Distributors,	Skill enhancement around targeted end-uses and taking a comprehensive approach, including the energy/water nexus

Sector	Target Audience	WE&T Focus
	Vocational Students)	<p>Codes/standards, inspections, and permitting process</p> <p>Selling the value of EE to customers</p>
Industrial	<p>Customers (Building Owners, Building Operators, Building Occupants, Facility Managers, Certified Energy Managers, Executives)</p>	<p>Educate on energy and non-energy benefits of investing in EE</p> <p>How to adjust behaviors to achieve deeper energy savings</p> <p>Skill enhancement around targeted end-uses and taking a comprehensive approach</p>
	<p>Trade Professionals (Designers, Contractors, Retailers, Vocational Students)</p>	<p>Skill enhancement around targeted end-uses and taking a comprehensive approach</p> <p>Codes/standards, inspections, and permitting process</p> <p>Selling the value of EE to customers</p>

3. Categorization by Segment

Resource Acquisition	Market Support	Equity
	<ul style="list-style-type: none"> • SW WE&T Career Connections* • Workforce, Education & Training Programs 	<ul style="list-style-type: none"> • SW WE&T Career & Workforce Readiness (CWR)*

**Note that SDG&E provides funding to the Lead Program Administrators as listed in in Tables 3 and 4 of D. 18-05-041. SDG&E receives the proportional benefits from the Statewide Program through the CPUC's CEDARs reporting system. Please refer to the Lead Program Administrators Application for the vision, design, development and intervention strategies for the respective Statewide Program.*

SDG&E proposes an administrative budget for Statewide programs in which SDG&E is not the Lead Program Administrator. Activities and functions that are covered under this budget are as follows:

- Program staff time related to participation in statewide meetings, responding to Lead PA requests, directing customer inquiries, marketing and cobranding approval, analytics as it relates to SDG&E's proportional share of the budget and savings
- Administration and facilitation of Co-funding Agreements for each statewide program; monthly accounting activity related to the transfer of funds
- IT overhead related to regulatory budget filings

EM&V Considerations

WE&T is unique, in that energy savings is not a direct function of the program, but largely captured within other sectors. The EM&V teams will rely heavily on process evaluation to improve programs that achieve a skilled workforce to help realize EE savings. SDG&E will work with statewide teams to develop studies to continually improve specific program offerings, while collecting additional data to drive improvements of other sectors.

The WE&T program works with evaluators on a regular basis to incorporate study findings and recommendations for program improvement. These include:

In response to a study recommendation, the IOUs are using outcome-based metrics to gauge and monitor program performance more effectively. The program performance metrics are being used by the IOUs include customer and workforce participation in training and helping to enhance/ expand energy efficiency content in other organizations' curricula.¹¹²

In response to study recommendations, the WE&T program has improved data tracking and collection efforts to have more consistency across the IOUs in support of the program theory and logic. The study recommendations included revising and enhancing the registration data collection, the WE&T course tracking databases, and the course feedback surveys. The IOUs have incorporated some of these recommendations into the WE&T program by developing a core set of questions in the student post-course survey instrument. Also, all IOUs have aligned in the demographic information that is collected if it is provided by the customer (e.g., same job classifications, same job sectors).¹¹³

¹¹² 2013-2014 Statewide WE&T Program at 2.

¹¹³ Id.

In addition to the prior study referenced above, there are two studies currently being conducted by Opinion Dynamics:

- The Installation Improvement Evaluation Study. The intent of the study is to understand WE&T trainings and the impacts they have on installation professionals in the small commercial and residential sectors.
- The Partnerships with Training Institutes Impact Evaluation. The intent of the evaluation is to understand the functioning impact of collaborations with the Third-Party organizations. The results from this study will directly impact Goal 1, Strategy 2.

These results are expected to be shared in 2022.

4. Program Details

SDG&E is not proposing to design and implement any new programs for this sector as a part of this application. New, local program offerings will be solicited through the Third-Party solicitation process. Once contracts are executed and Advice Letters are approved, Implementation Plans will be uploaded to CEDARS.

G. EMERGING TECHNOLOGIES

1. Sector-Specific Goals, Objectives and Strategies

Please refer to respective ETP chapters in SCE and SCG business plans.

2. Sector-Specific Coordination

Please refer to respective ETP chapters in SCE and SCG business plans.

3. Categorization by Segment

The SW ET Programs are characterized as Market Support programs.

4. Program Details

The following represents the activities performed by SDG&E as a funding IOU for both Statewide Gas & Electric Emerging Technologies programs.

Program-Specific Coordination

Proactive coordination between Lead and Funding program administrators (PAs) will help maximize the value of Gas and Electric Statewide Emerging Technologies Programs. For example, multiple areas of work which have similar planning horizons will benefit from the mutual reviews of respective plans which, in turn, will help identify opportunities for collaboration and alignment with respect to California policy goals and to promote learning. As the ETP is a cross-cutting program, it plays an important role in supporting all incentive programs, WE&T, market transformation, and Codes & Standards program efforts, as well as assisting Engineering in workpaper and measure development.

Operational coordination increases the value of broader portfolio efforts. Like market transformation initiatives, ET projects are expected to produce data for future regulations. They will benefit from a review at the outset of a project with respect to channeling outcomes to inform the development and implementation of EE and DR measures, and ultimately towards codes and standards. Appointing a liaison from each funding PA provides an opportunity to support Implementers' identification of technologies to investigate, customer sites for demonstration projects, regulatory accounting, and compliance. The liaison will also participate in the Emerging Technology Coordinating Council (ETCC) and other ET advisory and leadership councils. Funding PAs will also conduct technical reviews of ET work products to verify accuracy and potential claims before publication. This collaborative, statewide approach to review will strengthen the result and the relevance of the information to more climate zones and building applications within a diverse California geography.

SDG&E, as a Funding PA, assumes the following responsibilities:

Administrative Activities

- Transfer funds to Lead PAs.
- Receive and review updates on program status, activities, budgets and expenditures from Lead PAs.
- Assist Lead PAs in fulfillment of regulatory and accounting reporting and compliance requirements.
- Assist Lead PAs as needed in responding to data requests.

Direct Implementation Activities

- Participate at regular and scheduled coordination meetings with Implementers at the request of the Lead PAs.
- Provide technical review of ET project and pilot reports developed by Implementers before publishing and sharing with the public.
- Assist the Implementers in identifying appropriate SDG&E program staff and business Account Representatives who can provide feedback, articulate program needs, and to receive disseminations of ETP findings.
- Act as liaison between SDG&E business customer representatives and ETP implementer for purposes of selecting customer sites for demonstrations, showcases, trials, with the implementer making the selection.
- Act as liaison between SDG&E program staff and ETP implementers: Identify SDG&E program staff who would be solicited annually for project ideas and pilot testing needs during the TPM (Technology Priority Map) updates.

- Act as liaison during TPM updates to make sure SDG&E program staff have an opportunity to provide feedback on the updated TPM.
- Direct workpaper ideas to appropriate resource program staff on technologies for which SDG&E is SW lead.
- Direct market transformation pilot ideas to appropriate resource program staff.
- Direct ET ideas, studies and measures that could benefit C&S to appropriate resource program staff. Note the last three activities are aligned with the Commission's directive for ETP to broaden and deepen collaboration and support for C&S, work paper development, and market transformation.
- Fund and participate at ETCC and other ET advisory and leadership councils.
- Fund and participate in industry membership organizations beneficial to SDG&E beyond ETP.

H. CODES AND STANDARDS

1. Sector-Specific Goals, Objectives and Strategies

The C&S Program is an indispensable tool in the State's pursuit of multiple energy efficiency and decarbonization policy objectives. While the core aim of the Codes and Standards program is to strengthen or develop regulations to promote and support energy efficiency, the program continues to also support regulations that promote a number of other important State policy objectives (e.g., water efficiency, electrification, greenhouse gas reduction, alternative fuel vehicles, grid flexibility and sustainability, indoor air quality, and equity considerations) as they relate to EE. The SDG&E implemented Local C&S Programs, along with PG&E led Statewide C&S Advocacy Programs since 2020, has facilitated SDG&E's active participation in state, federal, and regional codes and standards efforts. These efforts will continue to enable the program to cost effectively address current, evolving, and future needs for codes and standards in California.

California's ambitious State policy goals address energy savings and greenhouse gas (GHG) emission reductions through the doubling of energy efficiency savings for electric and natural gas buildings and appliances by 2030 (CA Senate Bill 350), decarbonization goals for new and existing buildings, and long-term GHG reductions goals (i.e., CA Senate Bill 32). SDG&E's Local C&S Program supports and complements Statewide C&S Advocacy Program. Together the two will continue to achieve energy and demand savings on behalf of California ratepayers by supporting and influencing continuous improvements in energy efficiency regulations, improving compliance with adopted building codes and appliance standards and working with local jurisdictions and governments to develop reach codes that exceed statewide minimum requirements. The C&S programs will work with stakeholders to also address other energy related topic such as water efficiency, electrification, greenhouse gas reduction, alternative fuel vehicles, grid flexibility and sustainability, indoor air quality and equity related to Energy Efficiency. The C&S program advocacy, compliance improvement, reach codes and ZNE activities

extend to virtually all buildings and potentially any appliances in California. Past C&S efforts have delivered substantial cost-effective savings, and program administrators envision continuing and refining these activities to maximize energy savings.¹¹⁴

“A broad range of aggressive and continually improving minimum and higher voluntary sets of energy codes and standards will be adopted to greatly accelerate the wide-spread deployment of zero-net energy and highly efficient buildings and equipment. The effectiveness of codes and standards will be enhanced by improved code compliance as well as coordinated voluntary efficiency activities.”¹¹⁵

To help accomplish California's energy efficiency policy objectives and initiatives, SDG&E has established the following overarching goals and strategies for the three locally implemented C&S subprograms.

a. Goal 1: Technical Assistance for Local Governments to Develop and Adopt Reach Codes

This goal includes technical assistance and market education in the development and adoption of local reach codes that exceed the minimum requirements of adopted new state and federal codes and standards.

The California EE Strategic Plan defines reach codes as “codes that direct contractors to construct buildings significantly more energy efficient than required by conventional building codes.”¹¹⁶ These progressive codes are often part of a local government's climate action plan and provide crucial experience for understanding the implementation issues associated with a new code before it is rolled out on a statewide basis. While SDG&E will continue existing support such as developing cost-effectiveness studies per climate zone, drafting model ordinance templates, creating compliance support tools (e.g., carbon calculator), and assisting with the reach code application process, this strategy will be expanded in the future by raising the bar for reach code measures (e.g., CAL Green Voluntary Tiers and a ZNE reach code). Program Administrators will increase the adoption of local reach codes that support the development and adoption of statewide and national code changes.

In the short-term, SDG&E will collaborate with the Energy Commission, Building Standards Commission (BSC), and Housing & Community Development (HCD) to prepare cost effectiveness studies of Title 24, Part 6 and Part 11 CALGreen Voluntary Tiers to explore incorporating these measures into future reach code designs. SDG&E will coordinate energy efficiency program offerings with reach code measures and increase education efforts to help local governments understand the benefits and best practices of implementing reach codes in their communities.

¹¹⁴ National Resource Defense Council, *California's Golden Energy Efficiency Opportunity: Ramping up Success to Save Billions and Meet Climate Goals*, (August 2015) at 4-5, available at <https://www.nrdc.org/sites/default/files/ca-energy-efficiency-opportunity-ES-0821.pdf>

¹¹⁵ CPUC, *California Energy Efficiency Strategic Plan* (January 2011) at 62, available at <https://www.cpuc.ca.gov/-/media/cpuc-website/files/legacyfiles/c/5303-caenergyefficiencystrategicplan-jan2011.pdf>.

¹¹⁶ *Id.* at 121.

In the mid-term, SDG&E will explore opportunities to provide resources for homebuyers, tenants, landlords, appraisers, and lenders to become aware and appreciate the value of highly energy efficient homes compared to conventional homes. Opportunities may include developing tools for appraisers and lenders to facilitate the process of recognizing and valuing high performance energy efficiency features in homes. These tools may include home energy score, green multiple listing service, energy efficiency mortgages, and mandatory building energy disclosure at time-of-sale.

Ultimately, reach codes play a leading role in spurring above-code innovation that advances progress towards the State's energy efficiency, building decarbonization and ZNE goals.

“Local governments play an important role, both in the enforcement of Title 24 for building construction and renovation and in the development of local ‘reach codes’ that can serve as pilots for statewide codes. ... These important efforts serve to continually ‘raise the bar’ for California’s statewide standards.”¹¹⁷

Intervention Strategy

Barrier – Local governments lack awareness about which reach codes can help them achieve their goals, and lack the resources needed to adopt reach codes.

Example Tactics

- Develop tools in collaboration with local jurisdictions that track, quantify and report reach code energy savings and greenhouse gas reductions
- Coordinate with energy efficiency, IDER, DR, load flexibility, storage, clean transportation and solar programs
- Support coordination between local jurisdiction Climate Action Plan administrators, CEC, CARB, BSC and HCD staff to leverage Title 24, Part 11 CALGreen Mandatory publication as a primary source for reach code measures by preparing cost-effectiveness studies that support CAL Green Voluntary Tier rulemaking process.
- Support collaboration with CEC, RENs (Regional Energy Networks), public programs, regional public affairs and other stakeholders to educate elected officials and staff regarding the value of reach codes, requirements and best practices for reach code adoption. Develop tools, trainings and resources to aid implementation.
- Support local initiatives to improve energy efficiency, IDER, DR, load flexibility, storage, clean transportation and solar for existing residential, multifamily and non-residential buildings (e.g., home energy score, green multiple listing services,

¹¹⁷ *Id.* at 64.

energy efficiency mortgage, mandatory energy disclosures, building performance metrics, building benchmarking, etc.)

- Develop a comprehensive set of decarbonization and ZNE reach code measures that integrate energy efficiency, renewables, alternate fuel and electric vehicle infrastructure, energy storage, automated demand response, load flexibility, and water savings measures with prescriptive measures for each target area. These measures will also address resiliency, equity, ESJ (environmental & social justice), IAQ (indoor air quality), embodied carbon, low GWP, HFC and CFC (Chlorofluorocarbon) refrigerants, and synergies with all of the other chapters of Municipal Codes and Title 24 (e.g., Electrical Code (Part 3), Mechanical Code (Part 4), Plumbing Code (Part 5), Fire Code (Part 9), etc.).

Sectors: Residential, Commercial, Industrial, Public, WE&T, Emerging Technologies (ET), Other: Load flexibility, demand response, DERs, clean transportation, and rates

Partners:

- Code Setting Entities: CEC, CPUC, Building Standards Division (BSD), Division of State Architects (DSA), Housing & Community Development (HCD), CARB, ASHRAE, ICC, DOE;
 - Publicly Owned Utilities: SMUD, LADWP and water districts
 - Code enforcement community
 - Design, construction, energy consultant community members
 - Manufacturers, distributors, retailers and contractors
 - State and local governments (Climate Action Planning Administrators, Sustainability Departments, Building Departments, Development Services Departments, etc.)
 - Regional Energy Networks
 - Research community members
 - California higher education institutions
 - Energy and sustainability non-profits
- b. Goal 2: Compliance Improvement Activities that Strive to Raise and Maintain High Compliance Margins for California's Title 24, Part 6 Building Energy Codes and Part 11 CALGreen Code, and Title 20 and Federal Appliance Standards for Homes, Buildings and Appliances across California.**

Although rigorous and progressive code development has saved Californians a tremendous amount of energy since the mid-1970s, non-compliance remains a barrier to achieving even deeper savings. Moving forward, Program Administrators will enhance compliance improvement activities to maintain high compliance margins for whole buildings and appliances and improve compliance margins for selected, high importance C&S. Through compliance improvement efforts, critical market actors will better understand their unique role in compliance, and will be equipped with the specific knowledge, skills, and tools they need to quickly, easily, and effectively perform their compliance job tasks. Activities conducted in support of this strategy target market actors throughout the entire compliance supply chain by providing needs-based tools, training, resources and outreach.

“Compliance with California’s efficiency codes and standards varies enormously, especially with respect to building codes ... It has been estimated that at least 30 percent of the technical energy savings potential of energy codes is lost due to non-compliance—but in reality there is inadequate understanding of code compliance rates or the resulting degradation of performance.”¹¹⁸

Intervention Strategy

Barrier – Inadequate or absent compliance infrastructure and burdensome compliance processes for Title 24, Part 6 Building Energy Codes and Part 11 CALGreen Code, Reach Codes, Title 20 Appliance Standards, building decarbonization measures and ZNE design

Sample Tactics

- Develop and implement role-based training that teaches market actors how to perform their unique compliance job tasks
- Develop tools and resources that help market actors understand codes and standards, and reduce burdensome processes
- Develop training using the appropriate modalities per market actor
- Conduct outreach to increase awareness of the value of compliance with California and local jurisdictions’ energy standards and publicize the availability of tools, trainings and resources to support improved compliance
- Increase clarity and usability of codes by incorporating user-centered design in code development
- Work with state agencies to develop an electronic repository to track repeated patterns of compliance and non-compliance by market actors. This data will assist in the development of future standards.
- Utilize the electronic repository to identify common errors, understand which measures are used in practice, and inform the next versions of the standards.
- Develop tactics to incorporate ZNE designs, building decarbonization and water measures into compliance requirements

¹¹⁸ *Id.* at 66 (citation omitted).

Sectors: Residential, Commercial, Industrial, Public, WE&T, Emerging Technologies (ET), Other: Load flexibility, demand response, DERs, clean transportation, and rates

- Partners:
 - Code Setting Entities: CEC, CPUC, BSD, DSA, HCD, CARB
 - Publicly Owned Utilities: SMUD, LADWP and water districts
 - Code enforcement community
 - Design, construction, energy consultant community members
 - Energy consultant community members
 - Manufacturers, distributors, retailers and contractors
 - State and local governments
 - Regional Energy Networks
 - Code enforcement community
 - California higher education institutions
 - Energy and sustainability non-profits
 - IOU teams

c. Goal 3: The Planning & Coordination Group Will Work with CEC, CPUC, Key Market Actors, Emerging Technologies, Voluntary Programs to Create a Strategic Approach for the Development of Key Measures and Technologies in Support of Building Decarbonization, ZNE and Climate Action Goals. This Will also Contribute to Improving Code Compliance by Delivering Education, Conducting Outreach and Soliciting Additional Input on Future Code Development from Impacted Industries for Future Code Cycles.

Planning & Coordination leads strategic planning activities within the energy efficiency portfolio to identify priorities for the building and appliance code advocacy programs. This ensures that the statewide program functions collaboratively with the objectives of the other groups internal and external to the IOUs, such as incentive program managers and other organizations involved with code development. The C&S program will expand activities to include working with demand-side management incentive T&D staff to establish long-term goals for certain building types, systems, and equipment. Once a future goal/vision is established, the teams will then work backwards to develop integrated plans with clear near term, mid-term, and long-term activities. Each integrated plan will clearly connect to supporting at least one, and most likely multiple statewide policy goals. Given the increased integration efforts with other programs, Program Administrators will work towards informing new EM&V protocols that appropriately assess and incent collaboration.

Planning and Coordination efforts include:

- Maintaining and expanding the interrelationships with external as well as internal stakeholders.
- For external stakeholders, many efforts in California are neither coordinated nor integrated at the level needed to address State policy. Long-term integrated

planning is needed to develop and implement an integrated dynamic approach to achieve State policy goals and maximize energy savings.

- For internal stakeholders, such as various cross-cutting program groups within SDG&E and across all energy efficiency programs, a well-coordinated effort is necessary to prevent duplication of efforts and increase collaboration to advance mutual programmatic goals. This will lend itself to also capture DER synergies and maintain demand reliability.
- Integrated planning which envisions what the future building stock and appliance market would be in a world that achieves the State's energy, water and GHG goals and coordinates a plan that achieves these goals.

Through this planning, C&S expects to see improved alignment with internal and external stakeholders engaged in codes and standards.

Intervention Strategy:

Barriers - Lack of Coordination

Sample Tactics:

- Lead the establishment and facilitation of a communications forum with regulatory agencies and critical stakeholders to appropriately structure and phase in DERs as it relates to advancing codes and standards.
- Lead the establishment and facilitation of a communications forum with internal utility strategic planning, State agency affairs, rates, storage, clean transportation, solar, transmission and distribution system organizations, including grid operations, distribution and transmission planning, load forecasting, and line extension policies.
- Lead the continuation of existing strategic planning activities and enhance coordination across the energy efficiency portfolio and other IDER groups, by developing new tools to communicate existing standards and future code development (ex. 2025, 2028 and 2031 Title 24 Part 6 Building Energy Code and Title 24 Part 11 CALGreen Code development).
- Support development of technology trajectories that incorporate market transformation tools available to specific energy efficiency, IDER and load flexibility portfolio and programs to facilitate future adoption by State or Federal building and/or appliance standards.

Sectors: Residential, Commercial, Industrial, Public, Agriculture, Statewide IOUs Other: Load flexibility, demand response, DERs, clean transportation, and rates

- Partners:
 - Code Setting Entities: CEC, CPUC, BSD, DSA, HCD, CARB, ASHRAE, ICC, DOE

- Municipal Utilities: SMUD, LADWP and water districts
- IOU teams

2. Sector-Specific Coordination

Workforce Education & Training (WE&T)

The Compliance Improvement subprogram will coordinate C&S trainings, tools and resources implementation activities with the WE&T program to align training strategies and offerings.

Future Workforce and New Technology Training

As home and building systems integrate with new technologies to meet California's climate goals, workforce education will be at the forefront of necessary strategies to ensure that equipment and systems are being installed properly to meet GHG emission goals. Direct outreach to the existing and incoming workforce will need strategic planning to achieve the C&S metrics of number of courses offered and attendees. Outreach, instructional design, trainings, tools and resources will need to be coordinated to include the Title 24 building codes, appliance standards, reach codes and ZNE.

EM&V Considerations

The use of program implementation metrics is important in determining the effectiveness of C&S efforts for which direct energy savings information is not readily available. Compliance Improvement efforts, for example, are not easily measured by changes in program savings due to the cost of obtaining detailed compliance data. In particular, building standards compliance data is notoriously costly to obtain. Hence, program efforts are measured by a variety of non-savings implementation metrics that track the effectiveness of compliance improvement and education efforts.

Non-resource implementation metrics are also necessary to track the reach code support efforts that comprise the Reach Code subprogram. While reach codes do generate direct savings the local efforts are aimed at providing tools for local jurisdictions to develop and implement reach codes. It is up to the jurisdictions to use the tools and resources as part of their implementation and enforcement efforts.

3. Categorization by Segment

Codes & Standards Program is a self-contained segment.

4. Program Details

SDG&E as a Funding PA to the Statewide Codes & Standards (SW C&S) Advocacy Program led by PG&E, will assist the selected statewide implementers in carrying out

their responsibilities within SDG&E's service territory and help ensure that SDG&E's ratepayers' interests are well represented. This will include the following activities:¹¹⁹

- Review draft and final documents prior to docketing with the CEC, DOE, or EPA.
- Review documents that include Title 24 and Title 20 Codes and Standards Enhancement (CASE) reports, federal comment letters, and IOU comments to be docketed in response to industry feedback on C&S proposals.
- Attend necessary meetings to support CEC (Title 24 and Title 20) and Department of Energy rulemakings.
- Respond to technical data requests or requests for meetings sent by the selected implementers to the lead and non-lead IOUs, and support PG&E in responding to CPUC data requests by providing IOU-specific information available neither to PG&E nor implementors.

The Statewide coordination is structured to streamline the administration costs while maintaining the needed support for the Advocacy subprograms. The completed transition to statewide implementation of the C&S Advocacy programs has created adequate coverage and representation of SDG&E's service territories.

SDG&E will implement the following three local C&S subprograms:

SDGE3251 – SW C&S - Compliance Improvement

California's building codes "are the most advanced in the United States."¹²⁰ Yet, despite tremendous progress in developing and adopting strong building codes in California, there remains work to assure that codes are faithfully implemented. As articulated in the Existing Buildings Energy Efficiency Action Plan, "addressing the application, compliance, and enforcement of building standards in existing buildings is a high priority."¹²¹ SDG&E also considers this a high priority and plans to work locally with municipalities and market actors to improve rates of compliance. SDG&E will work with local governments to improve the adoption of Title 24 standards by creating stakeholder engagement plans. These plans will enable SDG&E to better understand customers' needs and to create clear, constructive and tailored solutions. These solutions may include needs-based tools, training, resources, and outreach to relevant groups. Ultimately, it is hoped that these solutions will be replicable across municipalities and stakeholder groups, thereby leveraging successful approaches throughout the service territory.

SDGE3252 – SW C&S – Reach Codes

Assistance to Local Governments in Developing and Passing Reach Codes

¹¹⁹ PG&E Statewide Codes & Standards Advocacy Program Implementation Plan, see PG&E's Energy Efficiency Business Plan 2018-2025, Chapter 11 at 3, available at https://www.pge.com/pge_global/common/pdfs/for-our-business-partners/energy-efficiency-solicitations/PGE-Energy-Efficiency-Business-Plan.pdf

¹²⁰ CEC, California Existing Buildings Energy Efficiency Action Plan (September 2015) at 10, available at <https://efiling.energy.ca.gov/getdocument.aspx?tn=206015>.

¹²¹ Id.

Reach codes are “codes that direct contractors to construct buildings significantly more energy efficient than required by conventional building codes.”¹²² SDG&E understands the challenges associated with conventional reach code adoption, such as lengthy approval processes and business resistance due to concerns about added costs. It is, therefore, important for SDG&E to provide options that public entities can pursue in support of long-term building decarbonization and ZNE goals. To this end, as one option, SDG&E will equip local governments with the information required to implement policies and take actions that move beyond existing code. Local governments can consider a set of scalable options that allow for varying degrees of reach code progress. For example, governments can set percentage targets above existing code, which would provide flexibility in how constituents achieve beyond-code targets or adopt code changes that relate to specific technologies.

SDGE3253 – SW C&S – Planning & Coordination

The Planning & Coordination subprogram has expanded to support portfolio planning efforts aimed at State energy policy goals on renewable gas, hydrogen, DER (Distributed Energy Resources), building decarbonization and grid integration in addition to the State’s residential, multifamily and commercial building decarbonization and ZNE goals. Particular focus will be on supporting how codes & standards will be integrated into new construction, existing, retrofits, additions, alterations and equipment change outs to address the applicable building stock to meet the State’s long-term EE, decarbonization, ZNE and climate goals.

Research, data collection, stakeholder education and market analysis will be significantly increased to include expanded opportunities to enhance the future development of mid to long term codes and standards goals.

The scope of the C&S Program will also expand to include IDERs and other emerging technologies that enable demand flexibility including controls, thermal storage, phase change materials, pre-cooling, preheating, demand response enabled appliances, grid integration, compliance software capable of modeling integrated demand of storage and renewable and other strategies for future code adoption. There are progressive opportunities for ZNE buildings to transform the capabilities of buildings to act as grid assets through grid integration and microgrids.

Evaluation indicators will be established for key industry and market transformation results (e.g., increase in code feasibility) from reach code projects, existing building programs and new construction programs.

¹²² CPUC, *California Energy Efficiency Strategic Plan* (January 2011) at 121, available at <https://www.cpuc.ca.gov/-/media/cpuc-website/files/legacyfiles/c/5303-caenergyefficiencystrategicplan-jan2011.pdf>

Existing Program Cards for the three C&S local subprograms:

- Codes & Standards - Compliance Improvement
- Reach Codes
- Planning & Coordination

Program Name: SW Codes and Standards (C&S) - Compliance Enhancement	
Program ID: SDGE3251 SW C&S – Compliance Enhancement	
New / Existing: Existing	
Link to implementation plan if existing: (see D.21-05-031): LINK https://cedars.sound-data.com/documents/download/1334/main/	
Portfolio Segment: Codes and Standards	Implementation Party: San Diego Gas & Electric Local Program
Applicable Sector: Cross-Cutting	Market Sub-Sector: Residential, Commercial, Industrial, and Public
<p>Sector Challenge:</p> <p>California has over 500 jurisdictions enforcing the energy code. This necessitates code compliance to be deployed as consistently as possible throughout the State to avoid market confusion; especially for those market actors who are active in multiple jurisdictions.</p> <p>Code compliance requires market actors to have current technical KSAs (knowledge, skills and abilities) to implement and understand code requirements.</p> <p>Code compliance needs to be implemented by market actors throughout the compliance supply chain in order to ensure all enforcement parameters are met.</p> <p>Code development sometimes occurs without addressing code implementation and enforcement needs</p>	<p>Sector Opportunity:</p> <p>Identify needs of the various market actors in the compliance supply chain and work with each actor group to identify, guide development of and test potential compliance improvement solutions.</p> <p>Robust development of tools, resources, and training class materials for continually improving compliance.</p> <p>Outreach various market actors for identifying compliance improvement needs and engage them to have a sustainable Compliance Improvement community.</p> <p>Work with market actors and code development and enforcement agencies to develop electronic repositories, forms, tools and other resources to advance the code compliance solutions.</p>

<p>Code compliance needs to be tracked using a consistent framework across PAs</p> <p>Code requirements will be changing with integration of new EE, demand response, flexible demand, solar, storage, alternative fueled vehicles and distributed energy resources measures that will be integrated in the future.</p>	
<p>Known Equity Concerns in the Selected Markets:</p> <p>Existing educational offerings and resources may not be reaching traditionally underserved market actors within the compliance supply chain. Low-income customers need to benefit from the improved energy efficiency and on bill cost savings outcomes of code-compliant buildings.</p>	<p>Proposed Solutions to Equity Concerns:</p> <p>Partner with industry organizations, local governments, and nonprofits whose membership and mission includes underserved market actors, for targeted delivery of consistent code compliance education and resources within their communities</p>
<p>Program Description:</p> <p>The Compliance Improvement Subprogram assists with improving compliance for both the Building EE and CALGreen Standards (Title 24, Part 6 and Part 11), and California’s Appliance Standards (Title 20). Compliance improvement activities complement advocacy work by enabling potential savings from C&S to be realized and persist over time. The Compliance Improvement subprogram targets market actors throughout the entire compliance supply chain by providing needs-based tools, training, resources and outreach</p>	
<p>Intervention Strategy:</p> <ul style="list-style-type: none"> • Coordinate compliance improvement strategies and deployment with the other California utilities to the extent possible to ensure the highest levels of statewide consistency. • Lead and develop a plan to improve and disseminate resources supporting compliance with building and appliance efficiency standards to help realize the full potential of adopted standards. • Design and offer classes to support various market actors in the compliance supply chain to understand their unique 	<p>Program Metrics:</p> <ul style="list-style-type: none"> • Milestones achieved in the plan to develop tools and materials • Number (#) of Codes & Standards related classes offered • Percent of submitted advocacy documents that include plan to address implementation barriers • Percent of codes using framework developed by Codes & Standards to track code updates and compliance

<p>roles and responsibilities in compliance, and equip each with the specific knowledge, skill, and tools they need to quickly, easily and effectively perform their compliance job tasks.</p> <ul style="list-style-type: none"> • Support the development of successful standards by helping CASE authors address code implementation during the code development process. • Lead monitoring and reporting using a consistent framework on compliance with building and appliance efficiency standards. 	
<p>High-level description of delivery workforce including necessary scale and its risks:</p> <p>Not applicable</p>	
<p>Market Actors necessary for success:</p> <ul style="list-style-type: none"> • Code-setting entities: CEC, HCD, BSC, ASHRAE, International Living Future Institute (ILFI), Passive House institute United States (PHIUS) • Other State agencies: Other State agencies, such as the California Air Resources Board (CARB), the Division of the State Architect (DSA), and the Department of General Services (DGS) to support compliance improvement efforts for State funded buildings not subject to local building department permitting processes • Investor Owner Utilities: Investor-Owned Utilities (IOU), Statewide C&S Team, Programs: WE&T, DR, Public Sector • Utilities: Public Owned Utilities (POUs) and water districts • Code enforcement community • Design, construction, energy consultant community members • Manufacturing community representatives • State and local governments • Regional Energy Networks (RENs) • Research community members • California’s higher education institutions • Energy and sustainability non-profit organizations 	
<p>Solicitation Strategy:</p> <p>Not applicable</p>	<p>Transition Plan:</p> <p>Not applicable</p>
<p>Expected Program Life:</p> <p>2022 - On going</p>	<p>Short Term Plan</p> <p>Update 2022 Title 24 and Title 20 tools, resources, and class training materials</p>

<p>Cost Effectiveness</p> <p>TRC: Not applicable (Compliance Improvement saves energy, but the savings are not tracked separately and are imbedded in the advocacy energy savings)</p>	<p>Long Term Outlook</p> <p>Continually update tools, resources, and class training materials for Title 24, Title 20, and reach out to various market actors for improving code compliance.</p>
<p>Proposed Annual Budgets for 2024-2027:</p> <p>2024: \$973,744</p> <p>2025: \$989,044</p> <p>2026: \$1,004,402</p> <p>2027: \$1,021,758</p>	<p>Anticipated directional and scale changes in budget for years 2028-2031:</p> <p>Moderately increasing (i.e., less than 15 percent)</p>
<p>Implementation Plan: https://cedars.sound-data.com/programs/SDGE3251/details/</p>	

Program Name: SW Codes and Standards (C&S) – Reach Codes	
Program ID: SDGE3252 SW C&S – Reach Codes	
New / Existing: Existing	
Link to implementation plan if existing: (see D.21-05-031): LINK https://cedars.sound-data.com/documents/download/1334/main/	
Portfolio Segment: Codes and Standards	Implementation Party: San Diego Gas & Electric Local Program
Applicable Sector: Cross-Cutting	Market Sub-Sector: Residential, Commercial, Industrial, and Public
<p>Sector Challenge:</p> <p>Local governments lack awareness about which reach codes can help them achieve their goals, and lack the resources needed to adopt reach codes.</p> <p>Technical assistance and cost-effectiveness studies to develop reach codes are often challenging to implement for individual jurisdictions</p> <p>Reach codes requires market actors to have current technical KSAs (knowledge, skills and abilities) to implement and understand code requirements.</p> <p>Climate action plan measures are developed as strategies that are often challenging to convert into reach codes at jurisdictions due to lack of support</p> <p>Reach code compliance needs to be implemented by market actors throughout the compliance supply chain in order to ensure all enforcement parameters are met.</p>	<p>Sector Opportunity:</p> <p>Technical assistance and cost effectiveness development at a statewide level so that they can be implemented at a local jurisdiction level</p> <p>Develop cost effectiveness studies that function regionally by working with jurisdictions to select measures that can be used across multiple jurisdictions</p> <p>Development of model code language that can be used regionally or by multiple jurisdictions</p> <p>Identify needs of the various market actors in the reach code compliance supply chain and work with each actor group to identify, guide development of and test potential reach code compliance solutions.</p> <p>Robust development of tools, resources, and training class materials for continually improving compliance.</p> <p>Outreach various market actors to identify compliance improvement needs and engage</p>

<p>Reach code development sometimes occurs without addressing code implementation and enforcement needs</p> <p>Reach code compliance needs to be tracked using a consistent framework across PAs</p> <p>Reach code requirements will be changing with integration of new EE, demand response, flexible demand, solar, storage, alternative fueled vehicles and distributed energy resources measures that will be integrated in the future.</p>	<p>them to have a sustainable Compliance Improvement community.</p>
<p>Known Equity Concerns in the Selected Markets:</p> <p>Existing educational offerings and resources may not be reaching traditionally underserved market actors within the compliance supply chain. Low-income customers need to benefit from the improved energy efficiency and on bill cost savings outcomes of code-compliant buildings.</p>	<p>Proposed Solutions to Equity Concerns:</p> <p>Partner with industry organizations, local governments, and nonprofits whose membership and mission includes underserved market actors, for targeted delivery of consistent code compliance education and resources within their communities</p>
<p>Program Description:</p> <p>The C&S Reach Codes subprogram advocates for the development and implementation of “reach codes” that exceed minimum State code requirements and may be adopted by local jurisdictions or agencies.</p>	
<p>Intervention Strategy:</p> <ul style="list-style-type: none"> • Coordinate reach code compliance improvement strategies and deployment with the other California utilities to the extent possible to ensure the highest levels of statewide consistency. • Coordinate technical support to jurisdictions to assist departments and market actors to design reach codes design and implementation strategies. • Design and offer resources, tools and trainings to support various market 	<p>Program Metrics:</p> <ul style="list-style-type: none"> • Number of local government reach codes implement

<p>actors in the compliance supply chain to understand their unique roles and responsibilities in compliance, and equip each with the specific knowledge, skill, and tools they need to quickly, easily and effectively perform their compliance job tasks.</p> <ul style="list-style-type: none"> • Develop cost effectiveness studies for requested measures and regional measure strategies to align jurisdictions with measure packages that will limit market actor confusion across jurisdictional boundaries. • Develop model code language that can be used regionally or across California for implementation by multiple jurisdictions 	
<p>High-level description of delivery workforce including necessary scale and its risks:</p> <p>Not applicable</p>	
<p>Market Actors necessary for success:</p> <ul style="list-style-type: none"> • Code-setting entities: CEC, HCD, BSC, Local Jurisdictions (Sustainability Departments and Climate Action Plan Administrators) • Other State agencies: Other State agencies, such as CARB, DSA, and DGS. • Investor Owner Utilities: Investor-Owned Utilities (IOUs), Statewide C&S Team, Programs: Workforce, Education & Training (WE&T), Demand Response (DR), Public programs • Utilities: Public Owned Utilities (POUs) and water districts • Code enforcement community including local jurisdiction plans examiners, building officials, plan reviewers and building inspectors • Design, construction, energy consultant community members • Manufacturing community representatives • State and local governments • Regional Energy Networks (RENs) • Research community members • California’s higher education institutions • Energy and sustainability non-profit organizations 	
<p>Solicitation Strategy:</p> <p>Not applicable</p>	<p>Transition Plan:</p> <p>Not applicable</p>

<p>Expected Program Life:</p> <p>2022 - On going</p>	<p>Short Term Plan</p> <p>Update 2025 Title 24 reach code cost effectiveness studies, tools, resources, and class training materials</p> <p>Develop model code language for upcoming regional needs of local jurisdictions</p>
<p>Cost Effectiveness</p> <p>TRC: Not applicable (Reach Codes do not claim energy savings)</p>	<p>Long Term Outlook</p> <p>Continually update cost effectiveness studies, model code language, tools, resources, and class training materials for designed and implemented local reach codes taking into account 2025, 2028 and 2031 Title 24 Building Energy Code cycle measures development and reach out to various market actors for improving code compliance.</p>
<p>Proposed Annual Budgets for 2024-2027:</p> <p>2024: \$507,699</p> <p>2025: \$521,756</p> <p>2026: \$526,625</p> <p>2027: \$534,999</p>	<p>Anticipated directional and scale changes in budget for years 2028-2031:</p> <p>Moderately increasing (i.e., less than 15 percent)</p>
<p>Implementation Plan: https://cedars.sound-data.com/programs/SDGE3252/details/</p>	

Program Name: SW Codes and Standards (C&S) – Planning & Coordination	
Program ID: SDGE3253 SW C&S – Planning & Coordination	
New / Existing: Existing	
Link to implementation plan if existing: (see D.21-05-031): LINK https://cedars.sound-data.com/documents/download/1334/main/	
Portfolio Segment: Codes and Standards	Implementation Party: San Diego Gas & Electric Local Program
Applicable Sector: Cross-Cutting	Market Sub-Sector: Residential, Commercial, Industrial, and Public
<p>Sector Challenge:</p> <p>Coordination with multiple incentive programs and other non-resource programs across the EE portfolio, other rulemakings and proceedings involved in code development activities needs structure and organization.</p> <p>Integrated plans with clear near-term, mid-term and long-term activities are challenging to coordinate across multiple statewide policy goals.</p> <p>Long-term integrated planning is needed to develop and implement an integrated dynamic approach to achieve state policy goals and maximize energy savings.</p> <p>Planning & coordination requirements will be changing with integration of new EE, demand response, flexible demand, solar, storage, alternative fueled vehicles and distributed energy resources measures that will be integrated in the future.</p> <p>Integrated planning which envisions what the future building stock and appliance market would be in a world that achieves the State’s energy, water and GHG goals and</p>	<p>Sector Opportunity:</p> <p>Coordination with new construction and retrofit programs that will advance technologies for future code cycles</p> <p>Create a trajectory for meeting ZNE goals and State policy initiatives.</p> <p>Strategic planning with code and standards collaborative and code readiness.</p> <p>Coordination and communications with multiple internal and external stakeholders to create strategies to meet energy savings and climate goals through future standards.</p> <p>Improve coordination of energy codes and standards with utility programs.</p>

<p>coordinates a plan that achieves these goals.</p>	
<p>Known Equity Concerns in the Selected Markets:</p> <p>Existing strategies for long term building and appliance code planning may not be reaching traditionally underserved market actors. Low-income customers need to benefit from the improved energy efficiency and on bill cost savings outcomes of code-compliant buildings.</p>	<p>Proposed Solutions to Equity Concerns:</p> <p>Partner with industry organizations, local governments, and nonprofits whose membership and mission include underserved market actors, for targeted delivery of consistent development that will increase the energy benefits within their communities.</p>
<p>Program Description:</p> <p>The Planning and Coordination Subprogram supports planning activities that improve alignment across the IOU energy efficiency portfolio with respect to future C&S program activities. This subprogram supports efforts to prepare the market for future code adoption (i.e., improve code readiness), to ensure higher code compliance rates and advance the State’s decarbonization and ZNE goals.</p>	
<p>Intervention Strategy:</p> <ul style="list-style-type: none"> • The C&S team will coordinate with both internal and external entities to establish a dynamic and integrated planning and implementation process to accelerate the movement of successful, cost-effective measures methodically and purposefully from the ET program through voluntary offerings and ultimately to adoption into standards. • Lead the establishment and facilitation of a communications forum with regulatory agencies and critical stakeholders to appropriately structure and phase in DERs as it relates to advancing codes and standards. • Lead the establishment and facilitation of a communications forum with internal utility strategic planning, State agency affairs, rates, storage, clean transportation, solar, transmission and distribution system organizations, including grid operations, distribution 	<ul style="list-style-type: none"> • Program Metrics: N/A

<p>and transmission planning, load forecasting, and line extension policies.</p> <ul style="list-style-type: none"> • Lead the continuation of existing strategic planning activities and enhance coordination across the energy efficiency portfolio and other IDER groups, by developing new tools to communication existing standards and future code development (ex. 2025, 2028 and 2031 Title 24 Par 6 Building Energy Code and Title 24 Part 11 CALGreen Code development). • Support development of technology trajectories that incorporate market transformation tools available to specific energy efficiency, IDER and load flexibility portfolio and programs to facilitate future adoption by State or Federal building and/or appliance standards. 	
<p>High-level description of delivery workforce including necessary scale and its risks:</p> <p>Not applicable</p>	
<p>Market Actors necessary for success:</p> <ul style="list-style-type: none"> • Code-setting entities: CEC, HCD, BSC, Local Jurisdictions (Sustainability Departments and Climate Action Plan Administrators) • Other State agencies: Other State agencies, such as CARB, the DSA, and DGS • Investor Owner Utilities: Investor-Owned Utilities (IOU), Statewide C&S Team, Programs: WE&T, DR, Public programs • Utilities: POUs and water districts • Code enforcement community including local jurisdiction plans examiners, building officials, plan reviewers and building inspectors • Design, construction, energy consultant community members • Manufacturing community representatives • State and local governments • Regional Energy Networks (RENs) • Research community members • California’s higher education institutions • Energy and sustainability non-profit organizations 	
<p>Solicitation Strategy:</p> <p>Not applicable</p>	<p>Transition Plan:</p> <p>Not applicable</p>

<p>Expected Program Life:</p> <p>2022 - On going</p>	<p>Short Term Plan</p> <p>Develop strategic roadmap, initiatives and future measure development involving planning, coordination and communications with internal and external stakeholders to meet C&S goals for future building codes (2028 Title 24 (Part 6 and Part 11) Building Codes), Title 20 State Appliance Standards and Federal Appliance Standards.</p>
<p>Cost Effectiveness</p> <p>TRC: Not applicable (Planning & Coordination subprogram dose not claim energy savings)</p>	<p>Long Term Outlook</p> <p>Continually update strategic roadmap, initiatives and future measure development to meet evolving energy and climate goals by collaborating with internal and external stakeholders to meet C&S goals for future building codes (2031 Title 24 (Part 6 and Part 11) Building Codes), Title 20 State Appliance Standards and Federal Appliance Standards.</p>
<p>Proposed Annual Budgets for 2024-2027:</p> <p>2024: \$367,855</p> <p>2025: \$378,282</p> <p>2026: \$384,118</p> <p>2027: \$390,261</p>	<p>Anticipated directional and scale changes in budget for years 2028-2031:</p> <p>Moderately increasing (i.e., less than 15 percent)</p>
<p>Implementation Plan: https://cedars.sound-data.com/programs/SDGE3253/details/</p>	

I. ON BILL FINANCING AND STATEWIDE FINANCING PILOTS

Overview

The Statewide Finance Program consists of a portfolio of financing options to be implemented consistently on a statewide basis, including continuation of the On-Bill Financing (OBF) program and the CHEEF financing pilot programs for single family and multifamily residential customers as well as commercial customers.

SDG&E will both support implementation of the statewide financing pilots and locally implement the On-Bill Financing (“OBF”) subprogram. OBF offers interest-free, unsecured, on utility-bill loans that work in conjunction with utility energy efficiency programs. It is designed primarily to facilitate the purchase and installation of qualified energy efficiency measures by non-residential customers who may lack up-front capital to invest in real and sustainable long-term energy cost reductions.

California Alternative Energy and Advanced Transportation Financing Authority (or CAEATFA) is an arm of the California State Treasurer’s Office, who was appointed by the CPUC to administer the SW finance pilot programs while working with public and private partners to provide innovative and effective financing solutions for California’s industries. CAEATFA also serves as the manager of the California Hub for Energy Efficiency Financing (CHEEF). CHEEF provides a simple and streamlined structure through which energy users, financial institutions, energy efficiency providers and IOUs can participate in an open market that facilitates EE financing in California, therefore encouraging customers to consider an EE project and apply for a loan. The CHEEF manages flow of funds and data, and provides a streamlined structure through which energy users, financial institutions, energy efficiency providers and IOUs can participate in a standardized “open market” that facilitates EE financing in California.

1. Sector-Specific Goals, Objectives and Strategies

The Statewide Finance Program is designed to support the Commission’s goals to help achieve the following potential major benefits:

- Encouraging customers to invest in projects that will achieve deeper energy savings
- Overcoming the “first cost” barrier of energy efficiency upgrades
- Leveraging ratepayer funds by bringing in private capital
- Increasing sales of energy efficient products and services; and
- Reaching a broader set of customers and market segments

OBF goals:

- Reduce or eliminate customer first-cost hurdles

- Enabling qualified customers to complete energy-efficiency projects with no up-front costs, OBF eliminates one of the major barriers to participation in energy efficiency

Interest-free loans

- Reduces customer cost

Bill-neutrality

- This program design feature has proven to be an effective tool for vendors, distributors, utility account executives, and other marketing agents to encourage customers to finance necessary upgrades while reducing customer bill impacts.

CHEEF goals:

- Assist with the reduction of greenhouse gas emissions by facilitating EE retrofits of existing buildings
 - Energy efficiency measures are some of most important tools for addressing greenhouse gas emissions, therefore the State has invested in energy efficiency, demand-side resources, renewable resources and clean conventional electricity supply. Lowering the barriers to energy efficiency retrofits and financing, especially in underserved sectors, allows expanded reach to accomplish the State's goals of reduced energy consumption.
- Provide innovative financing options and expand access to customers
 - Laying a foundation through EE financing pilot programs, including an on-bill repayment feature, tests the value of these incentives to financial institutions and utility customers.
- Broaden market eligibility and participation by providing credit enhancements
 - Credit Enhancements cover a range of mechanisms that set aside ratepayer or other funds to support repayment of EE financing products in case of customer default or delayed repayment. This is an important incentive for financial institutions that expands access to their financial products and improves finance product terms for targeted markets.¹²³
- Encourage customers to undertake more in-depth Energy Efficiency projects

¹²³ The Commission authorized the IOUs to contract with CAEATFA to specify the flow of EE financing pilot funds allocated for the implementation of the pilots with credit enhancements. AB 14 (c. 9 Statutes of 2011) requires CAEATFA to administer a Clean Energy Upgrade Program using up to \$50 million from the Renewable Resource Trust Fund. This legislation allows CAEATFA to provide financial assistance in the form of loan loss reserves or other credit enhancements as approved by the Board.

- CHEEF (California Hub for Energy Efficiency Financing) provides a simple and streamlined structure through which energy users, financial institutions, energy efficiency providers and IOUs can participate in an open market that facilitates EE financing in California, therefore encouraging customers to consider an EE project and apply for a loan.
- Test if On-Bill Repayment mechanism will improve debt service performance
 - Adding loan installments to the utility bill will test whether this feature increases debt service performance across market sectors.
- Develop programs that are scalable and leverage private capital
 - Leveraging private capital with ratepayer funds expands access to EE financing and allows to develop scalable and leveraged financing products which will lead consumers to engage in a deeper, more comprehensive EE projects rather than previously achieved through traditional program approaches (e.g., audits, rebates, etc.).

Objectives:

OBF:

Statewide On-Bill Financing offers interest-free, unsecured energy efficiency loans to qualified non-residential customers with qualified projects. OBF allows customers to achieve energy savings through the purchase and installation of efficient equipment. Customer loans are repaid through a fixed monthly installment on their utility bills. On-Bill Financing is designed to facilitate the adoption of energy efficiency by removing one of the major barriers to participation – up-front costs. By allowing customers to finance upgrades, OBF promotes greater customer participation in programs.

CHEEF:

SDG&E has requested the budget amount of \$500,000 annually throughout each year of the approved 5-year program cycle, which the Commission authorized in D.21-08-006. Resolution E-5072 as well as D.21-08-006 correctly identified that the supporting role that SDG&E provides to the CHEEF programs comes with internal labor, marketing, and systems costs, which need to be recovered. The full amount is to support the potential uptake in customer participation due to the new Third-Party programs that are already operational. The \$500,000 annual budget will cover program administrative tasks, IT support and expanded marketing campaign(s). Currently, SDG&E provides program support to CHEEF by verifying customers, ensuring appropriate posting onto bills, reporting financing information within the California Energy Data and Reporting System (CEDARS), reporting metrics, etc. SDG&E also performs all local marketing of the CHEEF programs and provides IT support through the required “On Bill Repayment” portions of CHEEF.

Strategies

Statewide Finance Program:

- Connect customers to financing options at point of sale
- Outreach strategy for financing programs focused on contractors and 3rd party Implementers to inform them of financing opportunities
- Continue to review protocol to ensure that the correct policies are in place while allowing the maximum number of qualified customers to participate

Market Subsectors

Commercial, Industrial, Agricultural and Residential

Gaps & Barriers

OBF:

- The lack of up-front capital for customers to invest in real and sustainable long-term energy cost reductions
- Loan minimum and maximum caps per meter
- Loan payback term

CHEEF:

- High administrative cost of low-value lending
- Lack of credit for small business and agricultural
- Difficulty in accessing affordable capital for residential customers with poor credit history

Statewide Finance Program Trends

- Lenders and customers lack confidence in energy efficiency savings: While potential lenders are willing to invest in energy efficiency in principle, lenders generally identified “energy savings not materializing”¹²⁴ as their greatest risk and welcomed more data to consider during underwriting.
- Customers lack interest in financing offerings: Many energy efficiency financing programs have failed to generate significant customer project volume, often because the primary barrier to energy efficiency adoption is low customer demand, not access to attractive capital.

¹²⁴ PG&E’s Energy Efficiency Business Plan 2018-2025, Chapter 10 at 6, available at https://www.pge.com/pge_global/common/pdfs/for-our-business-partners/energy-efficiency-solicitations/PGE-Energy-Efficiency-Business-Plan.pdf.

- Capital allocation procedures in non-residential and multifamily sectors are difficult. This can manifest itself in the public sector with restrictions on processes for taking on new debt, and in the commercial sector where competing priorities often make obtaining internal sources of funding challenging.
- Building capital structures are complicated across multiple sectors: Many lending agreements require consent of the existing lenders before new debt can be taken on.
- Primary lenders will rarely allow new financing since they cannot be certain that the new debt will not undermine payment of their loans. Even if lenders are open to additional financing, it can be time-consuming and costly to obtain the agreements. Additionally, while lenders may be open to projects, small equity holders may not. Securing agreements from numerous parties drives up costs of transactions and makes deals unprofitable and unpopular for all involved. Split incentives in tenanted properties (commercial and residential multifamily) present a challenge: The split incentive manifests itself when tenants pay the utility bills (directly or indirectly) but have no control over capital investments that affect energy consumption. Those few investments that a tenant might make that could impact their utility bill tend not to be completed, as the tenant will be unable to take the improvement with them when they move.
- Funding is not available for low value projects: Lending for low-cost projects is challenging as lenders need to cover the underwriting and administration of loans, resulting in relatively high financing costs. As such, market solutions have focused on larger cost projects.
- Small business credit is an issue: The small commercial market faces high levels of debt, repayment concerns among lenders, elevated transaction costs, and risk-averse owners.

Market Potential (OBF)

Since the launch of SDG&E's On-Bill Financing option in 2006 (first loans issued in 2007), more than \$69.8 million has been disbursed for 1,649 projects through December 31, 2021. SDG&E's default rate is below 1 percent. Building on this foundation, SDG&E will continue to promote and evolve the financing options for customers in San Diego while supporting the efforts for statewide financing. Following the CPUC's direction per D.16-08-019¹²⁵, program administrators (PAs) will administer on a statewide basis all upstream and midstream programs and those with market transformation objectives. SoCalGas is the Finance program statewide program administrator.

Legislative Drivers

- D.13-09-044 – Implementing Energy Efficiency Financing Pilot Programs¹²⁶

¹²⁵ D.16-08-019 at 58.

¹²⁶ D.12-11-015.

- Authorized initial \$75.2 million for financing pilot development
- Financing Authority (CAEATFA) to conduct lender and contractor outreach
- Establishment of California Hub for Energy Efficiency Financing (CHEEF)
- CAEATFA assumes CHEEF functions
- Designed to leverage private capital funding
- D.17-03-026 – Modifying Energy Efficiency Financing Pilots
 - Continued ratepayer support for CHEEF programs with CAEATFA
 - SoCalGas continue as the lead IOU
- Resolution E-4900
 - Provided metrics for energy efficiency pilots
 - Financing is leveraged by private capital
 - Programs reaching underserved communities
 - Programs produce energy savings

OBF Financing Metrics

Metrics that will be collected as part of the locally implemented OBF program include:

- Total projects completed/measures installed and dollar value of consolidated projects
- Differential cost defrayed from customers (e.g., difference between comparable market rate products and program products)
- Assist with the reduction of greenhouse gas emissions by facilitating EE retrofits of existing buildings
- Provide innovative financing options and expand access to customers
- Broaden market eligibility and participation by providing credit enhancements
- Encourage customers to undertake more in-depth Energy Efficiency projects
- Test if On-Bill Repayment mechanism will improve debt service performance
- Develop programs that are scalable and leverage private capital

2. Sector-Specific Coordination

On-Bill Financing (OBF) works in conjunction with rebate and incentive programs, therefore coordination with the statewide and local resource acquisition programs to provide accurate information on OBF terms and conditions will be critical.

SDG&E will continue to collaborate CAEATFA, the State agency that the CPUC designated as the administrator of California’s financing pilots. SGD&E will partner with CAEATFA to assist with regulatory compliance, Marketing Vendor, IT and billing system upgrades, and to conduct local marketing activities to promote programs to external partners.

3. Categorization by Segment

On-Bill Financing is classified as a Market Support program.

4. Program Details

Program Name: SDGE3262 - Financing	
Program ID: SDGE3262 On-Bill Financing (OBF) New / Existing: Existing Link to implementation plan if existing (see CEDARS)	
Portfolio Segment: Cross-Cutting	Implementation Party: Utility; California Alternative Energy and Advanced Transportation Financing Authority (CAEATFA)
Applicable Sector: For OBF: Non-Residential For CAEAFTA: Residential and Commercial	Market Sub-Sector: For OBF: Commercial, Industrial and Agricultural For CAEAFTA: Residential (Single Family), Small Business and Affordable Multifamily
Sector Challenge: For OBF: <ul style="list-style-type: none"> • Customers lack confidence in energy savings • Customers lack interest in financing offerings and are not familiar with energy efficiency financing programs • Project payback and eligibility requirements for business projects to 	Sector Opportunity: For OBF: <ul style="list-style-type: none"> • Connect customers to financing options at point of sale • Outreach strategy for financing programs focused on contractors and 3rd party Implementers to inform them of financing opportunities

<p>qualify continue to be a challenge for some customers. The payback tends to be much longer than the 15-year maximum required for business projects to qualify</p> <p>For CAEAFTA:</p> <ul style="list-style-type: none"> • High administrative cost of low-value lending • Lack of credit for small business and agricultural • Difficulty in accessing affordable capital for residential customers with poor credit history 	<ul style="list-style-type: none"> • Continue to review protocol to ensure that the correct policies are in place while allowing the maximum number of qualified customers to participate <p>For CAEAFTA:</p> <ul style="list-style-type: none"> • Connect customers to financing options at point of sale • Outreach strategy for financing programs focused on contractors and 3rd party Implementers to inform them of financing opportunities • Continue to review protocol to ensure that the correct policies are in place while allowing the maximum number of qualified customers to participate
<p>Known Equity Concerns in the Selected Markets:</p> <ul style="list-style-type: none"> • Capital for improvements • Program information • Lack of awareness • Lack of technical expertise 	<p>Proposed Solutions to Equity Concerns:</p> <ul style="list-style-type: none"> • Promotion of financing options • Education • Offer program support resources throughout the customer’s energy efficiency journey
<p>Program Description:</p> <p>The On-Bill Financing (OBF) Program is SDG&E’s interest-free, unsecured finance offering designed to facilitate the purchase and installation of comprehensive qualified energy efficiency and demand response measures for non-residential customers, including multifamily property owners or management companies, who might not otherwise install EE measures, primarily due to capital constraints. Approved customers who install qualified equipment are eligible to receive a full rebate or incentive by participating in SDG&E programs and financing for the project cost balance. Customer loans are repaid through a fixed monthly installment through the customer’s utility bill.</p> <p>The Statewide Finance Program consists of a portfolio of financing options to be implemented consistently on a statewide basis for the CHEEF financing pilot programs for single family and multifamily residential customers as well as commercial customers.</p>	
<p>Intervention Strategy:</p> <p>Deemed and Custom: Incentive, financing, technical support while</p>	<p>Program Metrics:</p> <ul style="list-style-type: none"> • Total projects completed/measures installed and dollar value of consolidated projects

<p>targeting local contractors and 3rd Party Implementers</p>	<ul style="list-style-type: none"> • Differential cost defrayed from customers (e.g., difference between comparable market rate products and program products) • Assist with the reduction of greenhouse gas emissions by facilitating EE retrofits of existing buildings • Provide innovative financing options and expand access to customers • Broaden market eligibility and participation by providing credit enhancements • Encourage customers to undertake more in-depth Energy Efficiency projects • Test if On-Bill Repayment mechanism will improve debt service performance • Develop programs that are scalable and leverage private capital
<p>High-level description of delivery workforce including necessary scale and its risks:</p> <p>Program coordinates with Assigned Account executives, partnership programs and third-party programs to support financing of approved measures and projects. Staff works closely with assigned customer accounts by providing outreach and participating in seminars, tradeshow, periodic meetings, and special projects. The OBF trainings offer a two-way open communication channel between trade professionals and SDG&E's OBF Program staff.</p> <p>CAEAFTA program coordination with Marketing Vendor for local financing campaigns</p>	
<p>Market Actors necessary for success:</p> <p>Marketing, education, and outreach on local and statewide level – can increase program adoption. Vendors and contractors also play an important role and face-to-face contacts with customers play an important role in “selling” energy efficiency financing programs.</p>	
<p>Solicitation Strategy: Not applicable</p>	<p>Transition Plan: Not applicable</p>
<p>Expected Program Life: Ongoing</p>	<p>Short Term Plan</p> <p>On-Bill Financing option continues to be a practical and efficient means for customers to install energy efficiency</p>

	<p>measures they may not otherwise be able to afford</p> <p>Statewide Finance Program continues to be a practical and efficient means for customers to install energy efficiency measures they may not otherwise be able to afford</p>
<p>Cost Effectiveness</p> <p>Savings are not claimed in OBF – savings are claimed through resource acquisition programs</p> <p>Savings are not claimed in CHEEF – savings are claimed through resource acquisition programs</p>	<p>Long Term Outlook</p> <ul style="list-style-type: none"> • Assist with the reduction of greenhouse gas emissions by facilitating EE retrofits of existing buildings • Continue to provide local financing option and expand access to customers • Encourage customers to undertake more in-depth Energy Efficiency projects
<p>Proposed Annual Budgets for 2024-2027:</p> <p>2024: \$693,575</p> <p>2025: \$535,775</p> <p>2026: \$529,030</p> <p>2027: \$583,633</p>	<p>Anticipated directional and scale changes in budget for years 2028-2031:</p> <p>OBF funding is outside of EE portfolio</p> <p>CAEATFA is to be determined</p>
<p>Implementation Plan: {LINK}</p>	

J. INDUSTRIAL SECTOR

OVERVIEW OF INDUSTRIAL SECTOR

Market Characterization

San Diego is home to more than 3,000 manufacturing companies, which support more than 96,000 jobs. San Diego's manufacturers range from defense and aerospace to computer electronics and solar panels, to biotechnology. While a variety of manufacturing establishments make San Diego their home, San Diego is not considered a "manufacturing boomtown." The company's Industrial sector provides electric and gas services to approximately 17,000 accounts, and, although this sector is relatively small, it includes some of the company's largest consuming individual customers. Many of the customers in this sector are in the small to medium range, with 96 percent of accounts having electric demand under 200 kW and 74 percent under 20 kW.

Energy consumption by industrial users in the United States, primarily manufacturing-related, receives significant scrutiny because of its large scale and impact on the economy. Though quite diverse, SDG&E's Industrial sector has significantly smaller consumption than the industrial customers of other utilities, even within California. In addition, as noted above, most local industrial accounts are "small-sized", with almost three-quarters of accounts registering 20 kW of demand or less. SDG&E's Industrial sector comprises roughly 8 percent of the service territory electricity consumption.

Market Subsectors

Utilizing the NAICS designations, SDG&E has categorized its industrial accounts by industry type, grouped them by similar energy usage patterns, and found that the majority fall into the following five main segments:

- Sand, Gravel & Contractors — Industry contractors and construction (plumbing, electrical, heating, A/C, special trades, roofing, etc.), natural gas extractions, landscape, and masonry.
- General Manufacturing — Commercial bakeries and breweries, machine shops, fabrication, textile, and woodworking manufacturing.
- Large Manufacturing — Aircraft, engine, bicycle, turbine, A/C, and commercial refrigeration manufacturing.
- Electronics/Telecommunications — Manufacturers of communications, audio/visual, TV/Radio, computer and circuit assembly, and other forms of electronic equipment.
- Biotech, Laboratories, and Research — Pharmaceutical, biological, medicinal, and botanical manufacturing

Within the Industrial sector, there is a market segment comprised of industrial customers operating inside the entrusted 34 miles of the San Diego Bay and waterfront lands currently being managed by the Port of San Diego. The objective for this market segment is to implement innovative Third-Party EE programs ("Third-Party programs") that reliably capture, and document cost-effective energy savings (kWh, kW and/or Therm) applicable to SDG&E's Local Industrial Port Tenants customer facilities and provide the Industrial

sector a solution addressing the highly complex systems, which exist within its heterogeneous customer segments.

Gaps & Barriers

SDG&E's market analysis and stakeholders have identified several consistent barriers for this sector to install EE measures. SDG&E has analyzed these barriers to determine the goals needed to establish a unified, achievable framework that will yield concrete results in support of the mission and visions of the Industrial sector. SDG&E's mission for the Industrial sector is to educate and enable customers on their path to increased sustainability by providing targeted energy tools and solutions as well as continuous improvement offerings.

It is important to note that the Industrial sector has been historically underrepresented in the EE arena for several reasons. For one, Industrial sector customers tend to have highly specialized, sometimes proprietary systems, which necessitate a customized approach to EE, but can inhibit cost effectiveness. Furthermore, if a process is considered proprietary, customers may be more reluctant to change or allow scrutiny of a patented process.

Additionally, competing priorities for capital seems to be more prevalent in industry than merely just access to capital. The Industrial sector is highly regulated in areas such as environment, waste, and safety, creating a heightened sense of competition for time and resources when comparing it to other sectors within SDG&E's EE portfolio. For customers who have access to capital, significant competition exists for those resources and customers are looking for low risk opportunities to assign this capital.

In summary, the barriers for this sector can be characterized by these three statements:

- Diverse, highly complex systems mean that no one approach will meet all needs.
- Industrial organizations assess opportunities based on several considerations, EE being one of many areas competing for priority of resources and funding.
- Even if capital is available for projects, some customers may be unwilling to participate due to other factors such as risk aversion, internal processes, and/or difficulty or unwillingness to comply with increasing regulations.

Trends

In looking at the consumption trends, the overall consumption for the Industrial sector consumption is relatively flat. As a result, increases in energy efficiency savings will not be achieved through sector growth alone. Rather, SDG&E will implement new and creative methods to reach a higher percentage of its industrial customers.

One major trend benefiting this sector is the focus on promoting sustainability as well as economic development of ports within California. This trend was formalized by the passage of California Assembly Bill (AB) 628 which calls for assessment and

implementation of energy efficiency.¹²⁷ Since industrial customers are large energy users at the ports, SDG&E will focus particular attention of these customers at the Port of San Diego.

In addition to addressing some of the challenges facing the Industrial sector and Industrial Port Tenants sub-sectors as discussed in the following section, there is a need for innovative solutions that also deliver cost-effective energy savings. Cost effectiveness is a principal element of all programs in California IOU portfolios. SDG&E will continue focusing on partnering with all its Industrial Sector market stakeholders to ensure this crucial element is integrated throughout all the sector's portfolio goals and metrics.

SDG&E will also be looking for water-energy savings opportunities and Integrated Demand Side Management (IDSM)-related program elements and how these elements are consistent with the CPUC's IDSM policies.¹²⁸ Specifically, SDG&E will seek ways to meet one or more of the CPUC's policy principles described in Decision 18-05-041¹²⁹ by testing strategies and technologies for integrating demand response ("DR") capability with existing EE activities.

Market Potential

SDG&E's Industrial sector includes a diverse group of customers characterized by having complex and sometimes proprietary systems that necessitate a customized approach to energy efficiency implementation. As such, the industrial market has been relatively untapped, leaving the potential for significant energy savings for this market sector. To reach the sector's savings potentials, SDG&E will implement new and creative methods to reach a higher percentage of its industrial customers.

SDG&E's current industrial offerings consist of programs: EE Business Rebates and Incentives, Business Energy Solutions, and Comprehensive Audits available to all non-residential customers, as well as an Industrial Strategic Energy Management (SEM) program. Decision 16-08-019 directs the California utilities to adopt a robust SEM resource acquisition program using a statewide-consistent design. As noted in this Decision:

Strategic energy management is a holistic, whole-facility approach that uses [Normalized Metered Energy Consumption] NMEC and a dynamic baseline model to determine savings from all program activities at the facility, including capital projects, maintenance and operations and retrocommissioning, [C]ustomer engagement [enabled and sustained via the SEM program] is long term. Because a well-designed strategic energy management approach provides for project tracking by the customer and the program administrator, these programs will

¹²⁷ California Assembly Bill No. 628, Chapter 741, an act to add Chapter 13 (commencing with Section 25990) to Division 15 of the Public Resources Code, relating to energy.

¹²⁸ Integrated Demand Side Management (IDSM): is identified in the Strategic Plan as an overarching strategy to promote customer-side energy management, including achievement of zero net energy goals. See D.18-05-041 which addresses limited EE+DR in Section 2.4.2 and OP 10 at 184.

¹²⁹ D.18-05-041 at 36-38.

*facilitate identification of project influence and allow a default net-to-gross value of 1.0 to apply to custom projects when program influence is evident.*¹³⁰

SDG&E’s current SEM offering is specifically for the Industrial sector customer. Although newer to the California EE community, SEM has proven to be a successful approach to significantly reducing energy consumption in California’s Industrial sector. Because establishing SEM in a facility requires a broad set of skills and a significant commitment of staff time, external training and technical assistance is often critical to adoption. EE programs across the US have demonstrated that these factors are determinant in SEM implementation.¹³¹ Building the knowledge, ability and willingness of management and staff to integrate strategic energy decisions into their work processes has and will continue to provide the foundation for significant, sustained, and cost-effective energy savings within SDG&E’s Industrial sector.

To further support the Industrial sector, the following market support statewide programs are available:

- Statewide New Construction Non-Residential – Industrial – All Electric*
- Statewide New Construction Non-Residential – Industrial – Mixed Fuel*

**Note that SDG&E provides funding to the Lead Program Administrators as listed in in Tables 3 and 4 of D.18-05-041. SDG&E receives the proportional benefits from the Statewide Program through the CPUC’s CEDARs reporting system. Please refer to the Lead Program Administrators Application for the vision, design, development and intervention strategies for the respective Statewide Program.*

Legislative Drivers

The CPUC has provided initial guidance implanting the directives that were adopted by legislation. SDG&E and its stakeholders will continue to work with the CPUC to determine the most efficient means of complying with the legislative mandates applicable to the Industrial sector. The following table summarizes these drivers and how SDG&E is responding to them.

Table 23: Policy Drivers for the Industrial Sector

Policy Driver	Specific Requirement / Guidance	Application Response
SB 350 – Clean Energy and Pollution Act of 2015	Achieve a cumulative doubling of savings in electricity and gas retail customers’ end uses by 1/1/2030 The CEC shall adopt a responsible contractor policy to ensure ratepayer-funded EE	Double sector’s participation by working with 3 rd Parties to design offerings that leverage audits/benchmarking, financing, innovative incentives, and Strategic Energy Management

¹³⁰ D.16-08-019 at 41.

¹³¹ CEE, *Industrial Strategic Energy Management Initiative*. (February 11, 2014) available at <https://library.cee1.org/content/cee-industrial-strategic-energy-management-initiative/>.

Policy Driver	Specific Requirement / Guidance	Application Response
	retrofits meet high-quality performance standards and reduce energy savings lost or foregone due to poor-quality workmanship	WE&T programs will facilitate training on responsible contractor policies and ensure that any requirements applicable to SDG&E EE programs are incorporated as necessary
AB 802 – Benchmarking and Changes to Energy Efficiency Baselines	<p>For multi-unit buildings, utilities must provide aggregated energy usage data to its owner, its agent, or the building operator. Commission will set requirements for public disclosure of information for benchmarking purposes.</p> <p>Baselines – Authorizes utilities to provide incentives to customers for EE projects based on NMEC as a measure of energy savings</p>	<p>Leverage Third-Party community knowledge and expertise to design programs that provide customer assistance in benchmarking their facilities and using this information to develop actionable energy management plans</p> <p>Expand opportunities for customers to utilize pay-for-performance incentives based on NMEC.</p>
AB 628 – Energy Management Plans for Harbor and Port Districts	CPUC shall encourage utilities to work with ports to develop, implement and administer management plans.	Will work actively with the Port of San Diego to help the Port assess opportunities and to implement EE projects.

1. Sector-Specific Goals, Objectives and Strategies

The recent 2021 Potential & Goals Study found that even with the additional opportunities for savings identified by the new Industrial and Agriculture Market Study, there is still a high probability, due to market saturation of high savings potential EE measures, the overall sector’s incremental savings will decrease over time.¹³² SDG&E plans to implement Resource Acquisition program(s) designed and proposed by a Third-Party Implementer(s) to achieve its overarching goal, by implementing the strategies described below, in accordance with D.16-08-19 and D.18-01-004. The metrics used to evaluate the success of these programs are further summarized in the tables that speak to the qualitative and quantitative values under the Metrics heading below.

a. Industrial Sector Goal 1: Double the Energy Efficiency Participation by SDG&E’s Industrial Sector.

To reach this goal, SDG&E has developed several strategies and sample tactics, as illustrated further on in this chapter. Because different industries within the Industrial Sector often require very specialized skills, SDG&E intends to increase its use of third-

¹³² 2021 EE Potential & Goals Study at 82.

party contractors with industrial experience. As with other sectors, SDG&E will provide customers with longer-term, more comprehensive solutions. One key element of this migration is the SEM program SDG&E currently offers, which encourage customers to take a long-term approach to energy efficiency and sustainability. The Industrial SEM Program is a multi-year approach (2-year commitment period with the potential for additional 2-year cycle renewals), whole facility program that addresses all types of resource (electric and gas) reduction opportunities in a comprehensive manner within industrial facilities. This approach will continue to be jointly administered by SDG&E and selected third-party implementer(s). As discussed throughout this chapter, SEM is well suited to the Industrial sector and will become a key component of SDG&E's industrial strategy.

SDG&E has developed the strategies and sample tactics described in this plan to complement the existing offerings and move customers towards a more comprehensive and sustained approach to such implementation.

Strategy: Add value by bringing external industry expertise that will drive customer participation in programs and encourage customers on continued path towards deeper savings.

The standardized approach SDG&E previously deployed has been more effective in other sectors than in the Industrial Sector. For example, when evaluating the savings for this sector, the end-uses mirrored those of the Commercial sector. This would suggest similarities between the sectors; however, we know that the Industrial sector is far more diverse. Therefore, we must look to other reasons why the Industrial sector does not exhibit the diversity of its functionalities. To bring more diversity to the sector, SDG&E has launched solicitations to identify industry experts to provide tailored offerings to increase participation in the Industrial sector and prepare customers for SEM.

Sample Tactic

While the specific tactics used for implementation will be designed by the selected Third-Party Implementer(s), the following are tactics likely to be used:

- Audits and benchmarking, as appropriate
- Energy management plans
- Financing
- Incentives.

Strategy: Unlock deeper savings through Strategic Energy Management offering.

A strategic energy management approach has the potential to yield far-reaching benefits. As mentioned above, the 2021 EE Potential & Goals Study, as well as others, show that the largest Industrial Sector opportunities are in the operations and maintenance of HVAC and machine drives/motors. To tap into this potential, customers will need assistance from SEM to institutionalize practices which will sustain long-term savings. As noted in

D. 16-08-019, SEM can motivate customers to make capital improvements and embed long-term energy management practices within companies.¹³³

Tactic

While the specific tactics used for implementation will be designed by the selected Third-Party Implementer(s), the following are tactics likely to be used:

- Continue the transformation of the old Continuous Energy Improvement program into the Strategic Energy Management offering by leveraging the statewide downstream SEM model; and
- Educate and train industrial customers identifying process savings and how to achieve deeper savings through SEM.

Strategy: Target Customers at The Port of San Diego per AB 628

This strategy provides ports in California and their utilities the opportunity to collaborate on an energy management plan designed to provide energy cost certainty, promote sustainability, and promote economic development. As part of this effort, SDG&E intends to contract with one or more third-party entities to focus on the specific needs of the Port of San Diego and the customers within the Port. Many of the largest energy users at the Port are industrial customers. Thus, this specific strategy may have a meaningful impact on the overall sector's success. As with the first strategy listed above, the primary focus of this strategy will be to provide a comprehensive and customized solution to each industrial customer.

Tactic

While the specific tactics used for implementation will be designed by the selected Third-Party Implementer(s) the following is an example of tactics likely to be used:

- Enlist the assistance of a third-party implementer to design, develop, and implement an EE program offering specific to the Port of San Diego and customers therein.

Industrial Sector Metrics

Sector level metrics can be found in Attachment A Tab 17.

Outcomes

Senate Bill (SB) 350 and Assembly Bills (AB) 793, 758 and 802 help shape SDG&E's sector approaches to its goals and the outcomes thereof. SB 350 calls for a doubling of energy efficiency savings during the term of this filing. The CPUC has provided guidance implementing these directives and SDG&E and the other PAs will continue to work with the CPUC to determine the most efficient means of complying with the legislative mandates. Generally, industrial goals and strategies have been developed to capture additional savings beyond those that existing program design could capture. Of note, SDG&E is working with third parties who specifically design and leverage

¹³³ D.16-08-019 at 38.

audits/benchmarking, financing, innovative incentives, and SEM. Per Strategy 2.2.5 of the Existing Buildings Energy Efficiency Action Plan (AB 758),¹³⁴ SDG&E will help train and educate industrial customers on ways to identify process improvements through SEM that save energy and water.

AB 802's provisions relating to use of an existing conditions baseline will enable SDG&E to partner with third-party providers and customers to create programs and identify projects that can benefit from this approach. This effort will include expanding ways SDG&E can implement pay-for-performance incentives for savings based on normalized-metered energy consumption (NMEC). Authorizes utilities to provide incentives to customers for EE projects based on NMEC as a measure of energy savings

Further, AB 628 directly impacts SDG&E's approach to Industrial customers located within the Port of San Diego by directing SDG&E and the Port to support EE and energy management efforts for industrial customers as well as the Port itself as part of an Energy Management Plan. SDG&E is working actively with the Port to implement many of the design elements in their Energy Management Plan proposal by means of the Port District Specialized Energy Efficiency Pilot as approved by Advice Letter 3527-E. In accordance with Decision 18-08-004 SDG&E has also solicited the Third-Party Implementer market to design and propose a program that will specifically serve our Industrial customers that find themselves operating inside the entrusted 34 miles of San Diego's bay and waterfront lands currently being managed by The Port of San Diego. The objective of the solicitation is to select innovative third-party EE programs ("third-party programs") that reliably capture, and document cost-effective energy savings (kWh, kW and/or Therm) applicable to SDG&E's Local Industrial Port Tenants customer facilities and provide the Industrial Sector a solution addressing the highly complex systems which exist within its heterogeneous customer segments. In addition to addressing some of the challenges facing Industrial Port Tenants segment, there is a need for innovative solutions that also deliver cost-effective energy savings. Cost effectiveness is an important element of all programs in the California IOU portfolios. The proposed Program will contribute to a cost-effective portfolio and support the Company in achieving related CPUC-adopted portfolio goals and sector metrics.

SDG&E will create the foundation for an innovative, connected, and sustainable energy future in collaboration with all its key stakeholders. With a long history of servicing the region and a deep understanding of local concerns and business drivers, SDG&E is uniquely positioned to work with local industrial customers of all sizes and the third-party entities that serve them to continue achieving California's significant energy reduction goals. This application identifies goals, strategies, tactics and outcomes that will help customers move to the next level of EE implementation.

2. Sector-Specific Coordination

SDG&E developed the goals, strategies, and sample tactics described in this business plan to complement, and not replace, the current financial incentives, financing, outreach and education, technical assistance, and other program level interventions proven

¹³⁴ CEC, *California Existing Buildings Energy Efficiency Action Plan* (September 2015) at 71, available at <https://efiling.energy.ca.gov/getdocument.aspx?tn=206015>.

successful in assisting customers with their facility upgrades and energy savings ventures. SDG&E will continue to build on its existing relationships with both formal partners and informal partners and strive to form new ones to allow for cost effective and comprehensive energy efficiency projects for its industrial customers. SDG&E has a formal partnership with the Port of San Diego and intends to work closely with the Port to operationalize their Energy Management Plan. SDG&E and the Port of San Diego will work together to implement several programs, including EE targeted at industrial port tenants and commercial customers. The Port of San Diego is one of SDG&E's primary locations for industrial customers. As part of the Port's Climate Action Plan, the Port has instituted a local energy benchmarking and use reporting ordinance. SDG&E will collaborate with the Port and its customers within the Port's boundary to leverage these local ordinances to save energy for the benefit of customers and the Port overall.

Workforce Education & Training (WE&T) Coordination

Implementation of EE for all industrial customers will be dependent upon both selected third-party implementers and trade professionals working through core SDG&E EE programs. SDG&E will build on its existing third-party portfolio and Trade Pro Alliance to help maintain and build EE offerings for its industrial customers.

Workforce Education and Training (WE&T) is critical to building customer demand by highlighting the value of EE, promoting market acceptance by educating trade professionals on how to maximize sales through the value proposition, and ensuring that a skilled and trained workforce properly installs and maintains equipment, leading to greater savings. SDG&E's WE&T program has and will continue to focus on the following areas to engage with industrial customers. Looking ahead, the WE&T program will continue to support the following areas and will expand or contract based on market and potential data forecasts:

- Building Design & Construction
- Building Performance
- Codes & Standards
- HVAC

In addition to the statewide electric and gas emerging technology programs referenced throughout this Application, SDG&E has and may continue to propose specific emerging technology pilots under the Port of San Diego's Energy Management Plan should new technologies specific to the Port be identified. SDG&E will take similar approaches to identifying new technologies for a more energy efficient Industrial sector within its territory. As more EE measures become code, SDG&E can continue to provide customers with unique and exciting ways to save energy.

Financing Opportunities

Traditional financing programs, such as SDG&E's On-Bill Financing program, are helpful tools to encourage participation in IDER programs. Although most customers qualify, trade professionals often must front the project costs for customers until a project is

completed, at the risk of the customer being disqualified from financing if the project scope changes. Therefore, SDG&E will be working with the Third-Party Implementer market to provide more financing opportunities and make financing programs easier to use.

EM&V Considerations

The Industrial sector has historically been difficult to analyze due to the large consumption that makes energy efficiency savings appear as “noise” in the data, and due to multiple concurrent processes taking place at industrial sites, complicating the evaluator’s ability to isolate the effects of EE interventions. SDG&E will continue to work with statewide EM&V teams to identify research to address the gap between current methodology, which relies heavily on simulation and engineering, and NMEC. Potential areas of study are:

- How to resolve the gap between the ex-ante and ex-post evaluation results
- How to implement and maintain a feedback loop from the ex-post evaluation to ex-ante assumption

SDG&E will work with the EM&V team to develop studies, data collection protocols, and address gaps to understand customers more fully. This approach to EM&V will ultimately lead to more successful evaluations and in turn, lead to SDG&E achieving its goal for this sector.

3. Categorization by Segment

Resource Acquisition	Market Support	Equity
<ul style="list-style-type: none"> • Industrial • Industrial Port Tenants 	<ul style="list-style-type: none"> • Statewide Non-Residential Construction – Industrial – Mixed Fuel* • Statewide Non-Residential Construction – Industrial – All Electric* 	

The Industrial sector will be served by the new Third-Party Implemented program that will be categorized as Resource Acquisition. Energy savings will be the primary driver for the sector. However, within the selected program, there may be Market Support activity to drive program participation. For example, training may be offered to customers to educate them on the benefits of implementing energy efficiency and water saving projects. There may also be financing options available to assist customers with access to capital to install energy efficiency upgrades.

To support the overall Industrial sector further, the following market support statewide programs are available to this sector.

- Statewide New Construction New Construction – Industrial – Mixed Fuel*

- Statewide New Construction New Construction – Industrial – All Electric*

**Note that SDG&E provides funding to the Lead Program Administrators as listed in in Tables 3 and 4 of D.18-05-041. SDG&E receives the proportional benefits from the Statewide Program through the CPUC’s CEDARs reporting system. Please refer to the Lead Program Administrators Application for the vision, design, development and intervention strategies for the respective Statewide Program.*

SDG&E proposes administrative budget for Statewide programs in which SDG&E is not the Lead Program Administrator. Activities and functions that are covered under this budget are as follows:

- Program staff time related to participation in statewide meetings, responding to Lead PA requests, directing customer inquiries, marketing and cobranding approval, analytics as it relates to SDG&E’s proportional share of the budget and savings
- Administration and facilitation of Cofunding Agreements for each statewide program; monthly accounting activity related to the transfer of funds
- IT overhead related to regulatory budget filings

4. Program Details

SDG&E is not proposing any new programs for this sector as a part of this Application. The markets outlined above are being solicited through the Third-Party solicitation process. Once contracts are executed and Advice Letters are approved, Implementation Plans will be uploaded to CEDARS.

K. PUBLIC SECTOR

OVERVIEW OF THE PUBLIC SECTOR

Market Characterization

SDG&E provides electricity and gas service to over 14,000 public sector accounts in San Diego and southern Orange Counties, including customers in the federal, state, local government, and public education segments. The public sector is defined as the group of customers that are taxpayer funded, have political mandates, and that must go through a public budgeting and decision-making process. From 2018 to 2020 this sector accounted for 15 percent of SDG&E’s system electric consumption, 12 percent of portfolio electric energy efficiency spending, and 4 percent of SDG&E’s portfolio electric savings. For the same period, the public sector represented approximately 9 percent of total gas consumption and 2 percent of gas energy savings. Despite this relatively small percentage of direct electric consumption and electric savings, the public sector influences and informs and therefore contributes to both residential and non-residential markets, making it important to all sectors.

SDG&E's public sector is made up of many small accounts, which SDG&E defines as having an annual peak demand of less than 20 kW. Approximately 77 percent of public sector accounts in SDG&E's territory have peak demand of less than 20 kW.

Market Subsectors

In addition to the unique characteristics of the public sector market, it is important to define and understand the market segments that makeup the public sector to best meet their needs and achieve statewide goals. Market segmentation provides additional insights that can inform targeting, strategy, and program design. Utilizing the North American Industry Classification System (NAICS) designations, SDG&E has identified its public sector customers and has categorized them into four segments:

- Local Government:
 - City
 - County
 - Special District
 - Solid Waste Facilities
 - Hospitals
 - Water/Wastewater
 - Correctional facilities (Juvenile Hall, County Jail)
- State:
 - State Buildings
 - State Park Facilities
 - Hospitals
 - Correctional Facilities
- Federal:
 - Federal Buildings
 - US Postal Service
 - Hospitals
 - Ports
 - Military Bases
 - Tribal Nations
- Education
 - K-12 Schools
 - Schools
 - Admin Buildings
 - Higher Education
 - UC/CSU
 - Community Colleges
 - Hospitals

These segments show the diversity of SDG&E’s public sector energy consumption, with the military, government and water/sewage entities representing approximately three quarters of the public sector’s electricity consumption.

SDG&E’s public sector customers include entities across local government, state, federal, and education realms. Because this sector has never been broken out separately before, it is important to understand how unique it is from other sectors.

Some of the key characteristics of the public sector, and how they compare to commercial sector customers are illustrated in the table below.

Table 24: Characteristics of Public Sector

Public Sector Customer	Commercial Sector Customer
For public good	For profit
Risk averse	Calculated risk
Investments based on benefits to the public and available funds	Investment based on ROI and growth opportunities
Long approval process, often requiring council and/or board approvals	Approval typically granted when business case is proven
Complex funding mechanisms	Financial tools are easier to access
Reactive maintenance	Replace on business case
Taxpayer funded	Sales-based revenue generation
Subject to political support	Insulated from political changes
Influence customer behavior across sectors	Influence is typically limited to behavior within the customer's industry
Responsible for developing and enforcing code, policies, and mandates	Responsible for complying with code

Analysis of usage consumption reveals that government agencies tend to have a large number of accounts for their level of consumption, in contrast with the military's small number of accounts and higher consumption. This may indicate that government facilities are small (< 20 kW) and individually metered. The military's limited number of accounts suggests its facilities and campuses are master-metered. Patterns of electric and gas usage for colleges, healthcare, schools and libraries can be skewed at times due to cogeneration's large contribution at these facilities and generation on site.

Local Government and School customers rely primarily on deemed measures, while College/University and Healthcare customers rely most heavily on custom measures. This is indicative of the complexity of typical systems in each customer's buildings and informs program design moving forward in that there is no "one size fits all" delivery mechanism for public sector customers.

As a trusted energy advisor to our public sector customers, SDG&E offers extensive local knowledge of our grid and our customers' energy consumption patterns. SDG&E can provide its various stakeholders and public sector programs valuable support to continue to achieve California's significant energy reduction goals.

Gaps & Barriers

The public sector is a critical component of the overall SDG&E business plan. However, based on SDG&E's assessment, this sector experiences distinct barriers. Historically, public sector customers have been classified as commercial, which has presented challenges in meeting the needs of public customers. It is important to understand these gaps as we partner with key public sector players to achieve energy efficiency goals. Typical barriers include:

- Limited staff bandwidth
- Lack of technical expertise
- No universal acceptance of value propositions
- Current process and tools are not intuitive
- Timelines are not aligned
- Public sector can set rules for private sector

Trends

In examining the public sector environment, some key trends have emerged to guide our strategic planning efforts over the next several years.

Program offerings will continue to evolve. Code changes will increase efficiency standards, which may impact incentive levels across all sectors. Equipped with the knowledge that code changes are imminent, PAs can seize this opportunity to adapt and customize program offerings to better fit public sector needs.

Collaborative relationships will be critical to EE effectiveness. In an environment where resource constraints will remain and savings expectations will continue to climb, collaborative relationships are crucial to maximizing energy efficiency program performance. Through the creation of revolving funds and collaborative marketing and outreach efforts, public entities can leverage available public program offerings through the K-12 Energy Efficiency Program (KEEP) or the Federal Energy Program (FEP) to combine resources and implement more projects. By working together to develop the optimal level of collaboration for each program, SDG&E and the program implementers KEEP and FEP can mitigate many of the risks public entities face.

The whole building approach will be a key component in the public sector program design.¹³⁵ AB 802 authorizes the use of normalized metered energy consumption (NMEC) to determine energy savings. Integrating Normalized Meter Energy Consumption (NMEC) into program design will provide a means of capturing stranded, to-code energy savings by incentivizing building owners to bring their buildings up to and beyond code efficiency. As identified in the 2016 through 2020 California Public Utility Commission (CPUC) Metrics Filing Template Annual Filing – PY 2020, the average penetration rate of building benchmarked is at just over 5 percent, so there is a tremendous whole building savings potential and individual metering will be a key component of this approach.

As previously stated in the SDG&E 2018 EE Business Plan, the California Climate Action Plans (CAPs) and Energy Action Plans (EAPs) will continue to play a role in public sector decision making. Based on guidance at both the state and local levels, public entities are placing a larger emphasis on the importance of energy efficiency efforts. Because energy efficiency and sustainability practices are making their way into the core missions for these organizations, this shift in thinking presents an opportunity to advocate for increased progress in the energy efficiency realm. As CAPs and EAPs continue to provide guidance on energy efficiency policy and encourage the public sector to demonstrate leadership in energy efficiency and sustainability, the case for change will continue to grow stronger and opportunities to implement energy efficiency projects should increase.

Market Potential

The 2021 EE Potential & Goals Study provided data on energy efficiency market potential by utility, sector, and end-use. Although the public sector is not specifically called out in the study, the public sector in SDG&E's service territory represents 27 percent of the total market potential for the commercial sector and varies from 5.6 to 9.7 GWh from 2024 to 2032.¹³⁶ Through 2032, in SDG&E's service territory, Retrocommissioning, and Operational (BRO) measures make up the largest potential in the public sector, followed by Whole Building offerings.

In contrast, the total gas potential for public sector is less than 300,000 therms annually between 2024-2032. BRO measures and Retrocommissioning are again the largest contributor, followed by HVAC, Food Service and Water Heating. With potential gas

¹³⁵ CEC, California Commercial End-Use Survey (March 2006), available at <https://planning.lacity.org/eir/CrossroadsHwd/deir/files/references/C19.pdf>.

¹³⁶ 2021 EE Potential & Goals Study.

savings so small, the focus will be on electric savings, with bundled gas measures included where appropriate in whole building approaches.

Legislative Drivers

In pursuit of higher levels of energy savings from the public sector, SDG&E will work with customers and third-party implementers to create programs tailored to the sector’s unique needs and align with legislative efforts as described below that can help shape customer climate action or energy plans. SDG&E will also assist public customers with their code compliance and reach code initiatives, both of which provide actionable ways for the sector to generate energy savings.

Public sector action plans will also enable customers to benefit from the benchmarking and existing conditions baselines provisions of AB 802. The action plans can be designed to meet individual customer needs and bundle the benefits from benchmarking, financing, and GHG inventories, to unlock projects that were not possible without an existing conditions baseline.

Table 25: Public Sector Legislative Drivers

Policy Driver	Specific Requirement/Guidance	Response
<p>SB 350 - Clean Energy and Pollution Reduction Act of 2015</p>	<p>Achieve a cumulative doubling of savings in electricity and gas retail customers' final end-uses by 1/1/30.</p> <p>The CEC shall adopt a responsible contractor policy to ensure that ratepayer-funded EE retrofits meet high-quality performance standards and reduce energy savings lost or foregone due to poor-quality workmanship.</p>	<p>SDG&E will develop and manage a collaboration platform that covers all public sector customers</p> <p>Partners to provide the EE support that best matches the self-sufficiency level of each public entity</p> <p>Create one-stop shop for Public customers</p> <p>Increased incentives for high-performing customers</p> <p>Assist municipalities with code compliance and provide tools to enable reach codes</p> <p>WE&T programs will facilitate training on responsible contractor policies and ensure that any requirements applicable to SDG&E EE programs are incorporated as necessary.</p>

Policy Driver	Specific Requirement/Guidance	Response
SB 32 - amendments to the California Global Warming Solutions Act of 2006	Amends law to extend the carbon emission reduction goal to 40 percent below 1990 level by 2030 with local governments responsible for expanding the GHG emission reduction plans in their climate action plans	Will develop public sector customer action plans, tailored to the needs of individual customers - to include a concierge approach that bundles, among other services, benchmarking, financing, and GHG inventories and related services.
SB 1414	Bill directs the CEC to develop a system to track central heating and air-cooling equipment sales and installations to verify compliance with permitting and other requirements	SDG&E will work with the CEC and other regulatory bodies to determine the best ways to support implementation of these provisions of law.
SB 1477	Authorizes funding for decarbonization pilots, the Building Initiative for Low-Emissions Development (BUILD Program) program and the Technology and Equipment for Clean Heating (TECH Initiative) initiative	SDG&E will coordinate its EE programs with these pilots to leverage additional funding for EE measures, particularly fuel substitution measures.
AB 758 - Existing Buildings Energy Efficiency Action Plan	<p>Strategy 3.4.1 - Look for opportunities in specific building sectors where there is evidence of ZNE technical potential, current ZNE guidance, and available financing.</p> <p>Strategy 3.4.3 - Make financing widely available for ZNE retrofits.</p>	<p>SDG&E will work with the public customers to encourage participation in EE service offerings and programs and to facilitate progress towards ZNE in their facilities, consistent with Executive Order B-18-12.</p> <p>SDG&E will provide more financing opportunities and make financing programs easier to use. This will complement efforts to provide tools that facilitate pursuit of reach codes that assist with ZNE.</p>

Policy Driver	Specific Requirement/Guidance	Response
<p>AB 802 - Benchmarking and Changes to Energy Efficiency Baselines</p>	<p>For multi-unit buildings, utilities must provide aggregated energy usage data to its owner, its agent or the building operator. Commission will set requirements for public disclosure of information for benchmarking purposes.</p> <p>Baselines - Authorizes utilities to provide incentives to customers for energy efficiency projects based on normalized metered energy consumption as a measure of energy savings.</p>	<p>Develop public sector customer action plans tailored to the needs of individual customers - to include a concierge approach that bundles, among other services, benchmarking, financing, and GHG inventories and related services.</p> <p>Leveraging opportunities afforded by AB802, SDG&E will work with customers to unlock savings from inactive projects in existing buildings.</p>
<p>AB 628 - Energy Management Plans for Harbor and Port Districts</p>	<p>PUC shall encourage utilities to work with ports to develop, implement and administer energy management plans.</p>	<p>Work actively with the Port of San Diego to help the Port assess opportunities for and implement energy efficiency projects.</p>

1. Sector-Specific Goals, Objectives & Strategies

SDG&E's mission for the public sector is to support public customers with the knowledge and resources required to champion energy efficiency within their own facilities and communities.

SDG&E developed its public sector goals to directly address the needs of the large majority of our public customers consisting of federal, state, local government, and educational entities. This customer composition poses unique challenges for SDG&E as these entities are expected to lead by example in their own facilities, as well as create and enforce mandates, many of which are unfunded.

The public sector is a critical component of the overall SDG&E business plan. Based on SDG&E's assessment and feedback from the various stakeholders within the public segment, it is clear there are still consistent barriers that hinder customers from engaging in more energy efficiency efforts and behavior. SDG&E has developed public sector goals that directly mitigate those barriers and address the needs of the large majority of the public customers, consisting of federal, state, local government, and educational entities.

These goals, as well as core components from the multiple public sector programs will be utilized to aid customers in retrofitting and upgrading facilities to achieve their energy savings goals.

In its role encouraging progress within the energy efficiency realm, SDG&E aims to provide effective and actionable EE support to its customers, and specifically to its public customers, through the goals, strategies and tactics identified below. SDG&E has developed strategies to support these goals and will help governments and other public entities meet or exceed their environmental and sustainability objectives through interventions such as financing and climate action plan support.

a. Public Goal 1: Empower Leaders by Equipping Them with Knowledge and Tools to Make Informed EE Decisions

A critical component of building an innovative, connected, and sustainable energy future is the ability to identify the best way forward, implement initiatives that demonstrate success, share knowledge to empower key players, and collaborate with stakeholders to pursue effective energy efficiency solutions. The key driver for this goal is the need to demonstrate the value that energy efficiency offers to public entities and their stakeholders. By establishing a clear and consistent flow of information with key decision makers across the public sector, SDG&E aims to boost overall energy efficiency program participation and shift the culture across the public sector to support key energy efficiency goals. In the past, the public sector was supported through commercial program efforts and did not have programs that specifically targeted public sector customers. With the establishment of the public sector as a stand-alone segment, new programs are needed. In support of this effort, three new public sector programs are being established: The K-12 Energy Efficiency Program (KEEP), the Federal Energy Program (FEP) and a future program to service the Local Government market, all of which will be Resource Acquisition programs.

Strategy: Equip leaders with knowledge and tools to make informed decisions

Public entities are in a unique position to influence constituent behavior across all sectors. Public organizations can serve as trail blazers that demonstrate how to make substantive progress in the energy efficiency realm, and some can establish regulatory requirements and policies that call constituents to action and incentivize behaviors that contribute to energy efficiency goals. Such attributes place public customers in a position to both lead and influence the energy efficiency environment across multiple sectors. SDG&E will use this rich set of communication channels and the experience of its public sector staff to demonstrate the value of energy efficiency to key decision makers at public organizations.

By helping public sector leaders to understand which energy efficiency program options are available to them and how to go about implementing those options, SDG&E can equip these leaders to make informed decisions that maximize energy efficiency savings and facilitate progress toward energy efficiency goals.

For instance, a tailored marketing approach that educates decision makers of a school district through KEEP or a tribal nation through FEP, of all the energy efficiency technologies, financial benefits, lower environmental impacts, and potential demand response opportunities will inform them of the benefits of proactive maintenance and equipment replacement and will help to transform the current culture and challenges associated with reactive maintenance. This knowledge sharing strategy is key during building audits because it helps shape and influence implementation decisions made by public sector leaders. As audits serve to identify the best-fit approach for an organization to realize energy efficiency savings, the outputs from audits translate into strategic actions that offer the most value to that organization. Tracking and managing public sector stakeholders' responses to the audit directly ties EE knowledge sharing to results.

Additionally, benchmarking services equip SDG&E, the program implementers and public sector leaders with the information necessary to prioritize facilities in need of energy efficiency retrofits and allows for ongoing management of building performance. There is an abundance of benchmarking opportunities within the public sector as the 2016-2020 Annual Report indicates a yearly average of only 5.18 percent of public sector buildings benchmarked.

Tactics

While details of the public sector program offering(s) will be designed and implemented by Third-Parties, SDG&E will look for these implementers to consider the following tactics as part of their program offerings:

- Develop and manage collaboration platforms that cover all public sector customers
- Develop stakeholder engagement plans to better understand those customers' needs and establish concrete actions to maintain strong relationships with them.
- Implementers continue the practice of SDG&E by providing and enhancing periodic energy fact sheets as part of their stakeholder engagement effort to highlight the energy efficiency progress made within a leader's jurisdiction.

Strategy: Collaborate and share best practices with key players

Best practices are actions that stakeholders can take to maximize their EE savings and/or incentives; such best practices are usually tied to available technology and those actions that are widely accepted as most effective by industry standards. KEEP and FEP facilitate this best practice-sharing approach through their tailored and concierge engagement of the public sector. Working with the customer to understand specific requirements not only puts the customer at ease but provides them with a true sense of the best implementation approach from measure adoption to financing.

By putting forward recommendations that are aligned to accepted best practices (such as whole building approach), public sector projects can present a stronger case for implementing these measures and enhance any available opportunity to receive energy efficiency funding to complete these projects. Additionally, collaboration and information sharing serve to further customer and community understanding of the energy efficiency value proposition, thus engaging the right individuals to garner support for energy efficiency and achieve substantive change.

Tactics

While details of the public sector program offering(s) will be designed and implemented by Third-Parties, SDG&E will look for these implementers to consider the following tactics as part of their program offerings:

- Through participation in best practice events and conferences, implementers can better and more effectively connect public sector leaders to best practice experts, information, and tools.
- Foster public sector collaborations through:
 - San Diego Green Business Council
 - San Diego Association of Governments' (SANDAG) Energy Working Group
 - Participation in any sub-regional energy collaboratives
 - CPUC Energy Division, California Energy Commission
 - Southern California Tribal Chairmen's Association, K-12 Schools Sustainability Strategy Collaborative

b. Public Goal 2: Eliminate Barriers to Public Sector Participation by Developing Tailored Solutions and Financing Options

This goal focuses on how public sector programs will work with customers to encourage participation in energy efficiency service offerings and programs—and to facilitate progress towards building decarbonization. These strategies are designed to alleviate the burden on our public customers and to maximize the benefits and support of stakeholders across the public sector facilities. These strategies are designed to alleviate the burden on our public customers—and to maximize the benefits and support to stakeholders across the public sector.

Strategy: Tailor offerings to meet the unique needs of public customers

As discussed, the public sector has unique customers with their own programmatic requirements. Both KEEP and FEP look to provide end-to-end program implementation services including marketing, outreach, engineering, operations, customer service, data management and reporting. In addition, DACs are in need of equal program consideration and public customers are starting to include certain percentages of projects in disadvantaged communities as part of their overall energy strategy plans. As part of the public sector program approach, CalEnviroScreen 4.0 is a tool that is utilized to identify potential customer opportunities within DAC communities. Future program provisions will be added, requiring a certain percentage of projects to be completed in DAC identified communities. The KEEP Program, although not specifically a Hard To Reach/Climate Action Plan program, is fully prepared to serve schools located within designated DAC areas and those that qualify as HTR. KEEP is designed to deliver a comprehensive suite of energy efficiency measures and to serve as an “on-ramp” to other IDSM strategies and technologies. The FEP program will target tribal communities that fall into the DACs designation as well as utilize the CalEnviroScreen Tool to target additional facilities in communities that qualify in the service territory. Each program will develop individual plans specific to customer needs that address any specialized approaches required.

In tailoring public sector programs, it is critical to develop offerings that align with the timing of public sector projects. Timelines for public sector projects are typically longer than projects in other sectors because of approval gates, extended governance requirements, and releases of incremental funding throughout the project. Therefore, it is crucial to build flexibility around timing into public sector program offerings. To help minimize this, KEEP and FEP will offer alternative financing options, since funding is usually the major obstacle in the customer decision chain.

Given the unique requirements of this sector, the following resource acquisition statewide programs are available to public sector customers to increase participation in energy efficiency programs.

- Statewide Institutional Partnerships – State of California & Department of Corrections*
- Statewide Institutional Partnerships – University of California, California State University, & California Community College*
- Statewide Water/Wastewater Pumping*

**Note that SDG&E provides funding to the Lead Program Administrators as listed in in Tables 3 and 4 of D.18-05-041. SDG&E receives the proportional benefits from the Statewide Program through the CPUC’s CEDARs reporting system. Please refer to the Lead Program Administrators Application for the vision, design, development and intervention strategies for the respective Statewide Program.*

To further support the public sector, the following market support statewide programs are available.

- Statewide New Construction Non-Residential – Public – All Electric*
- Statewide New Construction Non-Residential – Public – Mixed Fuel*

**Note that SDG&E provides funding to the Lead Program Administrators as listed in in Tables 3 and 4 of D.18-05-041. SDG&E receives the proportional benefits from the Statewide Program through the CPUC’s CEDARs reporting system. Please refer to the Lead Program Administrators Application for the vision, design, development and intervention strategies for the respective Statewide Program.*

Tactics

While details of the public sector program offering(s) will be designed and implemented by Third-Parties, SDG&E will look for these implementers to consider the following tactics as part of their program offerings:

- Develop and create a set of unique effective useful life (EUL) values for public sector buildings. Feedback from SDG&E customers across various public sector sub-segments indicates that current Database for Energy Efficiency Resources (DEER) EUL values are not representative of real-world public sector equipment lives.

Strategy: Develop a public sector customer action plan to facilitate participation

Implementers must recognize that the public customer focus goes beyond just energy efficiency, and that it is necessary to understand the customer’s complete set of priorities to help them integrate energy efficiency as a core component. Thus, it is critical for implementers to employ a tailored approach for each public customer type—and to determine the appropriate degree of customization for an approach based on the public customer’s readiness and level of involvement.

To achieve the State’s carbon reduction goals, program offerings must incorporate energy efficiency as a key component of a public sector customer’s strategic direction. This “concierge approach” bundles all the relevant energy components, including the following:

- Benchmarking;
- Rates and usage;
- Integrated Demand Side Management (IDSM)
- Behavioral;
- GHG inventories and related services;
- Rebates/incentives;
- Financing; and
- Implementation

Both KEEP and FEP will implement this “concierge approach” to their respective public sector customers. Each program will provide an approach that develops a plan of energy efficiency to meet the specific needs of each customer. The FEP will be addressing federal customers who are not reached through traditional marketing and outreach methods, and therefore will utilize direct contact with the end use customers. The primary entry point will leverage existing relationships with various entities within the federal sector and identify, develop and implement comprehensive efficiency projects aligning with customer goals. KEEP’s approach is a single point of contact. Historically, a K-12 customer may have needed to navigate at least three distinct programs if they wanted to plan HVAC, lighting, and pool upgrades, for example. As a streamlined, turnkey offering, KEEP simplifies the customer experience and provides a ‘one-stop shop’ for comprehensive EE projects targeting any end-use in the customer’s portfolio.

Tactics

While details of the public sector program offering(s) will be designed and implemented by Third-Parties, SDG&E will look for these implementers to consider the following tactics as part of their program offerings:

- Expand program support beyond traditional public sector approach (Local Government) and include qualifying public entities (Institutions, rural and disadvantaged communities, special districts, water districts, tribal nations, federal agencies, etc.).
- Whole building meter-based approach so no measure is left behind.

Strategy: Equip public customers with the tools they need to succeed in Climate Action Planning

A key distinction of public agencies is that these organizations have been charged with developing Climate Action Plans and Energy Action Plans. These plans will continue to play a greater role in public sector decision making as pressure to meet EE goals increases. Public sector entities have made great strides over the past few years in developing Climate Action Plans and energy roadmaps to meet the growing challenge of keeping pace with energy efficiency goals and greenhouse gas emission reduction legislation. With more opportunities to engage and support, the public sector programs will work with public entities to assist them in establishing, tracking, and achieving their EE climate and energy goals.

Along with the public sector programs, SDG&E will continue to support public sector customers as they work to develop and implement the energy efficiency portions of their climate action plans, through various internal teams like Clean Transportation, Advanced Technology, Electric & Fuel Procurement, and Vegetation Management.

Tactics

While details of the public sector program offering(s) will be designed and implemented by Third-Parties, SDG&E will look for these implementers to consider the following tactics as part of their program offerings:

- Explore increased incentives for high performers. Unlock higher Incentives for public sector projects that exceed performance expectations.
- Develop guidance for stakeholders that establish clear criteria for high performance (Projects that are cost effective, high impact, comprehensive, or exceed expectations for energy savings).
- Provide Climate Action Plan support through data collection and tracking of GHG emission inventories.

Strategy: Enable EE projects through financial solutions

To mitigate some of the funding and procurement challenges described in the Market Characterization section, programs like FEP will offer SDG&E On-Bill Financing (OBF), Utility Energy Service Contracts, Energy Savings Performance Contracts (ESPC) and federal agency grant and assisting programs to public sector entities, among other financing tools. These financial solutions will be designed to address the major challenges that public customers face, and to facilitate the completion of energy efficiency projects across public entities.

Tactics

While details of the public sector program offering(s) will be designed and implemented by Third-Parties, SDG&E will look for these implementers to consider the following tactics as part of their program offerings:

- Leverage the available On-Bill Financing Program (OBF)
- Design ready-to-use options for public entities to create their own revolving funding source for energy efficiency projects. Establishing a revolving energy efficiency fund ensures cost savings of one energy efficiency project can be rolled into the next and removes barrier of general funding support/competition for funding for future project implementation.
- Educate customers on all available alternative project financing solutions

c. Public Goal 3: Influence Private Sector EE Activities Through Reach Codes and Engagement

SDG&E recognizes that local governments and agencies make decisions that impact customers across all sectors. Not only do they offer information and guidance to their customers, but also hold the authority to mandate activities in support of energy efficiency progress. Most notably local governments and agencies support the statewide decarbonization and ZNE goals of all residential new construction and the progress toward all commercial new construction by 2030. Such mandates can have broad reach and will influence the progress that private sector customers make toward energy efficiency goals. This unique perspective opens the opportunity for the public sector to drive awareness and reach wide-ranging audiences to demonstrate the value of energy efficiency. Because public entities serve as trusted sources of information for their

constituents and have robust communication channels in place, they can use these channels to drive substantive and necessary change. Additionally (and unlike organizations in other sectors), public entities can offer valuable incentives to encourage a shift in constituent behavior.

To achieve these ambitious goals in the near term, SDG&E will utilize the recently launched (Q3 2021) Public Sector third-party programs, KEEP and the FEP, with the Local Government Solicitation to be completed by Q1 2022. Each program will help address the stated goals in the business plan and serve the needs of public sector customers across the service territory. In the mid to long-term, SDG&E will work with their third-party implementers to establish comprehensive energy plans for each of their customers through individual design and drive deeper energy savings across the segment to achieve program goals as well as customer energy goals. The strategies and tactics outlined in this business plan will support and build upon each goal and guide customers toward a more comprehensive and sustainable energy efficiency plan approach.

Strategy: Demonstrate EE value through enhanced Marketing, Education & Outreach

The public sector plays a significant role in influencing energy attitudes and actions across customer classes in SDG&E's territory. Through collaboration with its public sector customers, the FEP and KEEP Programs can quickly and effectively reach a large audience to inform stakeholders about the value that energy efficiency offers to them, their organizations, and their communities. Each program is aided by unique customer marketing, education and outreach support approaches that will work closely with each type of public customer to develop and manage the best stakeholder engagement ME&O approach.

Tactic

While details of the public sector program offering(s) will be designed and implemented by Third-Parties, SDG&E will look for these implementers to consider the following tactics as part of their program offerings:

- Develop stakeholder engagement plans for each type of public entity

Strategy: Collaborative engagement of Program Implementers and public sector customers.

Since many of the climate and energy goals are tied to reach codes, SDG&E will work collaboratively with public sector programs and customers in developing tailored approaches to meet or exceed these codes over time. Specifically, SDG&E will continue to provide technical support to public entities and will work with its public sector customers to identify and pursue other resources to further their progress toward CAP and EAP EE goals.

Tactic

While details of the public sector program offering(s) will be designed and implemented by Third Parties, SDG&E will look for these implementers to consider the following tactics as part of their program offerings:

- Collaborate with SDG&E Reach Code Group to establish guidance on how to empower public customers to improve code compliance, improve communication channels across stakeholder groups and develop clear and consistent value proposition for reach codes, backed by concrete data from technical studies.
- Leverage SDG&E Reach Code Group to perform cost-effectiveness evaluation to assess viability of public sector programs pursuing reach codes for specific measures.

Public Sector Metrics

Sector level metrics can be found in Attachment A Tab 17

2. Sector-Specific Coordination

Workforce Education & Training

As a cross-cutting program, WE&T is critical to the success of public sector goals by (1) highlighting the value of EE, (2) promoting market acceptance by educating both internal public stakeholders and external constituents on how to enable EE projects and improve compliance, and (3) ensuring that a skilled and trained workforce properly installs and maintains equipment leading to greater EE savings. SDG&E's WE&T program has and will continue to focus on the following areas to engage with both public customers and the constituents within their territories. Looking ahead, the WE&T program will continue to support the following areas and will expand, or contract based on market and potential data forecasts:

- Building Design & Construction
- Building Performance
- Codes & Standards
- Food Service
- Home Performance / Whole House
- HVAC
- Lighting
- Marketing / Finance / Sales / Real Estate
- Renewable Energy
- Sustainability
- SDG&E's Rebate & Incentive Programs

Codes and Standards

Public sector customers play a key role in Codes & Standards implementation, particularly as it relates to enforcement and adoption of reach codes. SDG&E will work with public sector customers in efforts to integrate their activities, where applicable, with the Codes & Standards program. This includes providing assistance for code enforcement and offering resources for communities that wish to pursue reach codes.

Financing Opportunities

SDG&E will provide more financing opportunities and make financing programs easier to use. Traditional financing programs – such as SDG&E’s On-Bill Financing – are ideal starting points and can be modified to better meet public sector needs. Although public customers easily qualify for these services, obtaining approval for and setting aside up-front funding for projects continues to be a challenge. The public sector programs KEEP and FEP will look to not only leverage On-Bill Financing but also explore flex incentives combined with financing options, Utility Energy Service Contracts (UESC), Energy Savings Performance Contracts (ESPC) and federal agency grant and assistance programs. SDG&E understands this environment and has incorporated options within the Financial Solutions strategy for public customers to mitigate such challenges and secure the required funding for EE projects. Financing options are discussed in further detail under Goal 3, which focuses on improving public customers’ access to assistance.

EM&V Considerations

Because the public sector is a newly defined component of the energy efficiency realm, the information that specifically covers this group of customers is limited. Given the lack of past focus on this grouping, the following information gathering efforts which may include data calls, formal studies, and various other techniques for obtaining information would be valuable in enhancing overall knowledge of the public sector needs, as well as in more accurately assessing the expected effectiveness of SDG&E’s energy efficiency goals and strategies.

The introduction of Net-Metered Energy Consumption (NMEC) to capture customer savings through the new public sector programs is an innovative approach that compliments the existing deemed and calculated savings methods but is not without challenges. Obtaining accurate consumption variables on a consistent basis is just the start and SDG&E will work with the statewide EM&V team, to understand the various issues related to NMEC and work to eliminate knowledge gaps identified in this section. SDG&E EM&V Team will work to establish proper protocols based on statewide EM&V guidance when analyzing NMEC data collection and results. As a support mechanism for the newly established public sector programs, SDG&E plans to initially enlist a third-party engineering firm with a proven track record of NMEC results to verify any NMEC program results.

SDG&E will participate in the statewide deployment of the Energy Atlas/CATALENA with the accompanying budget as directed by D.18-05-041, OP 32. SDG&E has included the expansion of Energy Atlas known as CATALENA budget in its Public Sector programs. This project is administered by Southern California Edison Company.

3. Categorization by Segment

Table 26: Public Programs and Solicitations by Segment

Resource Acquisition	Market Support	Equity
<ul style="list-style-type: none"> Federal K-12 Local Government SW Institutional Partnerships: DGS & DoC* SW Higher Education* SW Water/Wastewater Pumping* 	<ul style="list-style-type: none"> Statewide Non-Residential New Construction – Public – Mixed Fuel* Statewide Non-Residential New Construction – Public – All Electric* 	

**Note that SDG&E provides funding to the Lead Program Administrators as listed in in Tables 3 and 4 of D.18-05-041. SDG&E receives the proportional benefits from the Statewide Program through the CPUC’s CEDARs reporting system. Please refer to the Lead Program Administrators Application for the vision, design, development and intervention strategies for the respective Statewide Program.*

SDG&E proposes administrative budget for Statewide programs in which SDG&E is not the Lead Program Administrator. Activities and functions that are covered under this budget are as follows:

- Program staff time related to participation in statewide meetings, responding to Lead PA requests, directing customer inquiries, marketing and cobranding approval, analytics as it relates to SDG&E’s proportional share of the budget and savings
- Administration and facilitation of Cofunding Agreements for each statewide program; monthly accounting activity related to the transfer of funds
- IT overhead related to regulatory budget filings

a. Public Sector Resource Acquisition

The Public Sector will be comprised of three new third-party programs (listed above), all of which will be run by a third-party implementer. All the programs will be categorized as

Resource Acquisition: K-12 Energy Efficiency Program, Federal Energy Efficiency Program and a program to service the Local Government market.

b. Public Sector Market Support

The primary driver for this sector will be energy savings. However, within these programs, there may be Market Support activity that will be implemented to drive program participation. For example, training maybe be offered to customers to educate them on the benefits of implementing energy efficiency projects, as well as informing them of financing options available to assist with access to capital to install energy efficiency upgrades.

4. Program Details

Program Name: Public Sector Program	
Program ID: SDG&E - 4011- K-12 Energy Efficiency Program New / Existing: Existing https://cedars.sound-data.com/programs/SDGE4011/details/	
Portfolio Segment: Resource Acquisition	Implementation Party: Third-Party Implementer
Applicable Sector: Public Sector	Market Sub-Sector: Education (Part of Non-residential customer segment with 77 percent of accounts with a peak demand of less than 20kW)
Sector Challenge: Engagement of the public sector customers is difficult <ul style="list-style-type: none"> • Limited staff bandwidth • Lack of technical expertise • No universal acceptance of value proposition • Current process and tools are not intuitive • Timelines are not aligned • Public sector can set rules for private sector 	Sector Opportunity: Increased participation in EE program and adoption of EE measures <ul style="list-style-type: none"> • On-Bill Financing • Concierge program support service • Normalized metered energy consumption (NMEC) • Customized outreach and technical support • System monitoring controls
Known Equity Concerns in the Selected Markets:	Proposed Solutions to Equity Concerns:

<p>Segments of the public sector lack:</p> <ul style="list-style-type: none"> • Capital for improvements • Information • Disadvantaged worker opportunities • Training 	<ul style="list-style-type: none"> • Financing options provided for project improvements • Education • Training for disadvantaged workers • Collaboration with community-based partners to ensure “job creation” and entry into career job tracks for people with disadvantaged backgrounds • Analyze benchmarking output, identifying energy efficiency opportunities, and assisting with program applications and project development to improve the customer’s access to energy offerings and eliminate confusion • Periodic surveys of participating Trade Professionals to self-report of disadvantaged workers participation on specific projects. Advise and encourage job openings in zip codes with high unemployment per CalEnviroScreen Tool.
<p>Program Description:</p> <p>The KEEP Program will serve the public K-12 sector by deploying a series of tactics specifically designed to address the barriers customers face in their adoption of EE.. Measure mix includes HVAC, lighting, pool pumps, commercial refrigeration and controllable thermostats and savings captured through Population NMEC.</p>	
<p>Intervention Strategy:</p> <p>Downstream: Audit, Deemed, Custom & NMEC measures, Incentive, Finance, Technical assistance</p>	<p>Program Metrics:</p> <p>TSB: \$2,429,046</p> <p>kWh: 3,350,339</p> <p>Therms: 24,495</p> <p>Program Performance</p> <ul style="list-style-type: none"> • Savings to Goal (kWh, kW, therms) • Passed inspections Financials/Savings • Savings Claimed • Budget Expenditure

	<ul style="list-style-type: none"> • Savings/Budget Alignment Compliance • Customer Satisfaction • Reporting Accuracy • Workforce Standards
<p>High-level description of delivery workforce including necessary scale and its risks:</p> <p>Workforce requirements include contractors, equipment manufacturers, distributors, etc. There are high quantities of these workers in place. A closure or suspension of regular services of one or more major school districts could pose a risk to program effectiveness.</p>	
<p>Market Actors necessary for success:</p> <ul style="list-style-type: none"> • Third Party Implementer • Subcontractors • Trade Professionals • Equipment Manufacturers • Distributor 	
<p>Solicitation Strategy:</p> <p>Third Party Solicited</p>	<p>Transition Plan:</p> <p>Not applicable</p>
<p>Expected Program Life:</p> <p>2021 - 2024</p>	<p>Short Term Plan</p> <p>Engage and educate customer that pairing OBF and NMEC along with no/low cost, high-ROI measures with high-cost, low-ROI capital retrofits will unlock full potential of OBF and move KEEP Program beyond capturing “low hanging fruit” savings and move closer to zero net energy.</p>
<p>Cost Effectiveness</p> <p>TRC: 0.75</p>	<p>Long Term Outlook</p> <p>Program target of at least 10 percent savings from each school, which can be tracked monthly.</p>
<p>Proposed Annual Budgets for 2024-2027:</p> <p>2024: \$3,301,851</p>	<p>Anticipated directional and scale changes in budget for years 2028-2031:</p> <p>Market will be competitively bid through the Third-Party solicitation process and budget will be determined at that time</p>

Implementation Plan: <https://cedars.sound-data.com/programs/SDGE4011/details/>

Program Name: Public Sector Program	
Program ID: SDG&E – 4012 Federal Energy Program New / Existing: New Link to implementation plan if existing (see D. 21-05-031)	
Portfolio Segment: Resource Acquisition	Implementation Party: Third-Party Implementer
Applicable Sector: Public Sector	Market Sub-Sector: Education (Part of Non-residential customer segment with 77 percent of accounts with a peak demand of less than 20kW)
Sector Challenge: Engagement of the public sector customers is difficult <ul style="list-style-type: none"> • Limited staff bandwidth • Lack of technical expertise • No universal acceptance of value proposition • Current process and tools are not intuitive • Timelines are not aligned • Public sector can set rules for private sector 	Sector Opportunity: Increased participation in EE program and adoption of EE measures <ul style="list-style-type: none"> • Suite of Finance Options • Concierge program support service • Normalized metered energy consumption (NMEC) • Customized outreach and technical support • Web Portal Site
Known Equity Concerns in the Selected Markets: Segments of the public sector lack: <ul style="list-style-type: none"> • Capital for improvements • Program information • Disadvantaged worker opportunities • Technical support 	Proposed Solutions to Equity Concerns: <ul style="list-style-type: none"> • Financing options provided for project improvements • Education • Analyze benchmarking output, identifying energy efficiency opportunities, and assisting with program applications and project development to improve the customer's access to energy offerings and eliminate confusion

	<ul style="list-style-type: none"> • Periodic surveys of participating Trade Professionals to self-report of disadvantaged workers participation on specific projects. Advise and encourage job openings in zip codes with high unemployment per CalEnviroScreen Tool.
<p>Program Description:</p> <p>The Federal Energy Program (FEP) provides end-to-end program implementation services, including marketing, outreach, engineering, operations, customer service, and data management and reporting, to Federal Buildings (including hospitals owned and/or operated by the Federal Government), US Postal Service, Military Bases, and Tribal Nations electric and gas customers on qualifying rates schedules.</p>	
<p>Intervention Strategy:</p> <p>Downstream: Audit, Direct Install, Incentive, Finance, Technical Assistance</p>	<p>Program Metrics:</p> <p>TSB: \$5,522,977</p> <p>kWh: 7,336,281</p> <p>Therms: 69,415</p> <p>Program Performance</p> <ul style="list-style-type: none"> • Savings to Goal (kWh, kW, therms) • TRC Ration • Passed inspections <p>Financials/Savings</p> <ul style="list-style-type: none"> • Savings Claimed • Budget Expenditure • Savings/Budget Alignment <p>Compliance</p> <ul style="list-style-type: none"> • Reporting Accuracy Innovation • Unique Market Personas • Measures Graduated
<p>High-level description of delivery workforce including necessary scale and its risks:</p> <p>Workforce requirements include contractors, equipment manufacturers, distributors, etc. There are high quantities of these workers in place. A closure or suspension of regular</p>	

services of one or more of the Federal categories of customers could pose a risk to program effectiveness.

Market Actors necessary for success:

- Third Party Implementer
- Subcontractors
- Trade Professionals
- Equipment Manufacturers
- Distributor

Solicitation Strategy:

Third Party Solicited

Transition Plan:

Not applicable

Expected Program Life:

2021 - 2024

Short Term Plan

Align program incentives with tenants, facility owners and managers, installation teams and energy manager motivations to secure customer engagement.

Cost Effectiveness

TRC: 1.11

Long Term Outlook

Offer continued program support resources throughout each step of the customers' energy efficiency journey to ensure targeted savings and sustainability goals/energy plans are achieved.

Proposed Annual Budgets for 2024-2027:

2024: \$4,442,909

Anticipated directional and scale changes in budget for years 2028-2031:

Implementation Plan: <https://cedars.sound-data.com/programs/SDGE4012/details/>

L. RESIDENTIAL SECTOR

OVERVIEW OF THE RESIDENTIAL SECTOR

Market Characterization

The primary focus for SDG&E's residential sector is to develop a common pathway that meets customers where they are on their journey and encourages them towards reducing their carbon footprint, while providing a more seamless customer experience. Customers increasingly value energy cost savings, conservation, and home improvements that are simple and easy to understand. Much of the approach discussed below is geared towards reaching the objectives of the Residential Zero Net Energy Action Plan.¹³⁷ The customer journey will include participation in behavioral programs that will leverage data to provide customized solutions and assistance.

Market Subsectors

As one of the most recognized brands in San Diego and with a reputation for reliability and service, SDG&E serves its single family and multifamily residential customers as a trusted energy advisor to continue to achieve California's significant energy reduction goals. The residential sector is SDG&E's largest customer group with 1.49M accounts. Residential customers consume over a third of all electricity and over half of all-natural gas in San Diego County. Residential customers consume 34 percent of total electric consumption and account for 13 percent of the electric EE savings. More specifically, the single-family homeowner segment consumes the most electricity and gas, while multifamily owners consume the least and thus are a critical component in SDG&E's plans to meet Senate Bill 350's objective of doubling energy efficiency savings.

Through an analysis of customer data, SDG&E has categorized its residential accounts by number of units and ownership status, which yields four customer segments: single family owners, single family renters, multifamily owners, and multifamily renters. The majority of SDG&E's residential customers are single family owners (46 percent), and multifamily renters (28 percent).

Gaps & Barriers

Traditionally, financial constraints are the largest reasons customers cite for not being able to incorporate the most energy efficient measures into their homes.¹³⁸ While SDG&E offered many rebates and services to its customers, there was not a clear path for the customers to advance towards decarbonization and ZNE.

SDG&E has identified several consistent barriers for this sector. SDG&E has analyzed these barriers and considered the direction set to determine the goals needed to establish

¹³⁷ New Residential Zero Net Energy Action Plan 2015-2020, (June 2015) available at https://www.cpuc.ca.gov/-/media/cpuc-website/files/uploadedfiles/cpuc_public_website/content/utilities_and_industries/energy/energy_programs/demand_side_management/ee_and_energy_savings_assist/zneresactionplan-final-060815.pdf.

¹³⁸ CPUC, *Whole House Impact Evaluation – Evaluation of Energy Upgrade California Programs* (September 9, 2014) at 75, available at <http://www.calmac.org/abstract.asp?id=3079>.

a unified, achievable framework that will yield concrete results in support of the mission and vision of the residential sector.

In a survey of multifamily properties, more than 70 percent stated that there are multiple decision makers.¹³⁹ This presents challenges when promoting energy efficiency programs and encouraging participation. In addition, property owners and managers anecdotally report that while energy efficiency is relevant to their tenants, other factors such as property amenities, floor types, counter types, appliance design, etc., are viewed as more important.

In summary, the barriers for this sector can be characterized by:

- Efficient products can be more expensive and may offer a low return on investment (ROI), which leads to a low adoption rate of high efficiency products. Study has shown that a lower utility bill is a key driver of consumer interest in Energy Efficient appliances.¹⁴⁰ Educating customers on the economic value associated with investing in energy efficient products will be a key component to increased customer participation.
- SDG&E believes that some customers are confused by the number of programs and entry points, which may be a cause of low overall customer participation. Moving forward, creating a simple pathway and integration of programs will become a key component for SDG&E.

Increasing efficiency levels required by codes and standards leads to a smaller pool of cost-effective measures. It is important to explore other opportunities through avenues such as the ideation process, engineering data, technology improvements, market innovation, and behavioral interventions.

Trends

One trend emerging in this sector is the growth in behavioral engagement. This trend moves the customer away from a transactional relationship with energy efficiency to one that is more interactive, integrated, and enduring. Analysis and stakeholder feedback supports simplifying participation, creating awareness, and encouraging engagement.

Market Potential

The 2021 EE Potential & Goals Study provided data on energy efficiency market potential by utility, sector, and end-use.¹⁴¹ While the total market potential for the residential sector fluctuates between approximately 72 and 97 GWh from 2024 to 2032, the individual end-uses also show significant variation from previous studies. For instance, plug-load and

¹³⁹ The Cadmus Group, *2010-2012 PG&E & SCE Multifamily Property Owners & Managers General Population Survey*, (April 15, 2013) at 21-22, available at http://www.calmac.org/publications/Multifamily_Property_Owners_and_Managers_GEN_PO_P_FINAL_130415.pdf.

¹⁴⁰ Morning Consult, *The Greater Appeal of Energy Efficient Appliances Is a Reduction in Energy Costs, Not in Emissions* (February 11, 2021), available at <https://morningconsult.com/2021/02/11/energy-efficiency-consumer-appliances/>.

¹⁴¹ 2021 EE Potential & Goals Study.

appliances were a large percentage of the residential sector market potential previously, but it diminishes by 2024. Through 2032, in SDG&E's service territory, Behavioral, Retro-commissioning, and Operational (BRO) measures make up the largest potential in the residential sector, followed by Whole Building offerings. In fact, BRO measures constitute around more than half of the market potential from 2024-2032.

In contrast, the total gas potential for the residential sector is less than two million therms annually between 2024-2032. BRO measures are again the largest contributor, followed by water heater offerings. Since the potential for gas savings is relatively small, a greater emphasis will be placed on the electric side, while bundling gas measures as appropriate with whole building approaches and comprehensive programs. Due to this, SDG&E is going to take this opportunity to strengthen the residential portfolio to move towards electrification. For example, SDG&E plans to solicit and implement a local residential fuel substitution program where customers will be encouraged to replace their gas appliances with electric appliances. For further information please see Market Support section.

Table 28 - Residential Sector Legislative Drivers

Policy Driver	Specific Requirement/Guidance	Response
AB 758 — Existing Buildings Energy Efficiency Action Plan ¹⁴²	<p>Strategy 4.1.2 — Develop and compile information on building life cycle and/or building occupant tenure cost reductions for energy and water efficiency measures.</p> <p>Strategy 3.4.2 — Identify building/business types well-suited for ZNE retrofits but where current ZNE guidance is scarce.</p>	<p>Increase engagement in the real estate market.</p> <p>Promote increased value of buildings generated by energy efficiency and ZNE to property owners and tenants.</p>

¹⁴² CEC, *California Existing Buildings Energy Efficiency Action Plan* (September 2015) at 82, available at <https://efiling.energy.ca.gov/getdocument.aspx?tn=206015..>

Policy Driver	Specific Requirement/Guidance	Response
SB 350 – Clean Energy and Pollution Reduction Act of 2015	Achieve a cumulative doubling of savings in electricity and gas retail customers’ final end uses by 1/1/2030	<p>Dramatically increase savings through an improved customer experience by providing engaging self-service tools and data driven insights.</p> <p>Developed a single sign-on self-service online energy management tool to support customers on their path to increased efficiency.</p>
AB 793 – Energy Management Technology Incentive Offering	Must develop programs that provide incentives to help residential and small/medium business customers acquire energy management technology and educate them about these programs.	<p>Online energy management tool will provide customers improved opportunities to access program offerings and control their energy use by utilizing AMI data.</p> <p>Home management systems (such as smart thermostats) will continue to play a key role in empowering customers to make informed decisions on their energy usage.</p>
AB 802 – Benchmarking and Changes to energy Efficiency Baselines	<p>Benchmarking — For multi-unit buildings, utilities must provide aggregated energy usage data to its owner, its agent or the building operator. Commission will set requirements for public disclosure of information for benchmarking purposes.</p> <p>Baselines — Authorizes</p>	<p>Develop pilots and trials to explore alternative incentive structure based on benchmarking of portfolios of properties — create energy use index.</p> <p>Will introduce opportunities to enable contractors and third parties to achieve deeper savings through</p>

Policy Driver	Specific Requirement/Guidance	Response
	utilities to provide incentives to customers for energy efficiency projects based on normalized metered energy consumption as a measure of energy savings.	pay-for-performance model.
SB 1414	<p>Bill directs the CEC to develop a system to track central heating and air-cooling equipment sales and installations to verify compliance with permitting and other requirements.</p> <p>Prohibits Investor-Owned Utilities (IOUs) from paying incentives unless the recipient proves compliance with State building standards.</p>	SDG&E will work with the CEC and other regulatory bodies to determine the best ways to support implementation of these provisions of law.
SB 535 Disadvantaged Community (DAC)	— DAC overlay maps on mobile devices identify the greatest HTR opportunities and intelligent direct outreach to the identified areas with SDG&E program collateral ensures a high program participation rate in HTR zones.	

1. Sector-Specific Goals, Objectives, and Strategies

Program analysis supports simplifying participation, creating awareness, and encouraging engagement. As a result, SDG&E intends for its program offerings to be more widely adopted by customers while elevating and simplifying the customer experience.

SDG&E plans to further encourage customers to continue on the path towards decarbonization and ZNE, as well as provide dynamic solutions to customers on time-of-use (TOU) rates.

SDG&E's vision for the residential sector is to create the foundation for an innovative, integrated, and sustainable energy future for customers. SDG&E's mission for the residential sector is to empower customers by providing the tools, program offerings, and access to assistance needed on their path to decarbonization and ZNE. To accomplish this mission, the delivery approaches will move from a primarily rebate driven programs to single comprehensive programs to help meet the established goals.

SDG&E seeks to:

- Facilitate, sustain, and transform the long-term delivery and adoption of energy efficient products and services for single and multifamily dwellings;
- Cultivate, promote, and sustain lasting energy efficient behavioral changes by residential customers; and
- Meet customers' energy efficiency adoption preferences through offerings that range from single-measure incentives to more comprehensive approaches.

a. Residential Goal 1: Increase Energy Efficiency Savings in the Residential Sector Through an Improved Customer Experience

SDG&E intends for its program offerings to be more widely adopted by customers while elevating and simplifying the customer experience utilizing the following strategies:

Strategy #1: Make Energy Efficiency Information and Services More Accessible

SDG&E intends to support programs that serve a common pathway to support customers on their journey to decarbonization and ZNE. To make energy efficiency more accessible, SDG&E has various resource acquisition and market support residential programs and on-going solicitations. Below are descriptions of these programs.

Existing Programs

To increase energy efficiency savings in the residential sector, the following programs will continue as they allow for diverse program offerings while enriching the customer experience.

Resource Acquisition Programs:

Statewide Heating, Ventilation, & Air Conditioning:

The Statewide Heating, Ventilation & Air Conditioning Program is an upstream/midstream program that offers a variety of HVAC products that serves both the commercial and residential sectors. The Program engages HVAC distributors, manufacturers, and retailers to offer incentives for energy efficient heating and air conditioning equipment that delivers cost-effective and reliable energy savings for California residents and businesses. The Program also offers training and marketing support to participating distributors and their contractors and offers education and training materials to end use customers. In the residential sector, the program seeks to have more direct end-user contact to provide opportunities for education. Lastly, the Program aims to actively target residential customers that reside in a disadvantaged community or are considered hard-to-reach to increase high-efficiency HVAC equipment in these markets.

Market Support Programs:

- Statewide New Construction Residential – All Electric*
- Statewide New Construction Residential – Mixed Fuel*
- Statewide New Construction Non-Residential – Residential – All Electric*
- Statewide New Construction Non-Residential – Residential – Mixed Fuel*

**Note that SDG&E provides funding to the Lead Program Administrators as listed in in Tables 3 and 4 of D. 18-05-041. SDG&E receives the proportional benefits from the Statewide Program through the CPUC’s CEDARs reporting system. Please refer to the Lead Program Administrators Application for the vision, design, development and intervention strategies for the respective Statewide Program.*

Modified Programs

The existing local Behavioral and Residential Single-Family programs will be modified to incorporate a variety of program aspects needed to fulfil the needs of this sector. These needs are outlined in the summaries provided below.

Resource Acquisition Programs:

Residential Single-Family:

SDG&E is currently soliciting for a program to address the Residential Single-Family segment that provides a direct installation solution to customers and cost-effective energy savings. This solution directly addresses the needs of most Residential Single-Family customers who either own or rent a single-family dwelling. In addition to providing a path to decarbonization and ZNE¹⁴³ for these customers, SDG&E plans to provide a comprehensive approach that may include home energy audits and evaluations, bill-neutral Energy Efficiency financing, training and education regarding energy efficient appliances, and Integrated Demand Side Management (IDSM).

Local Behavioral:

SDG&E is currently soliciting for a program that encourages customers to modify usage based and equipment-based behaviors in ways that reduce energy use. The program also encourages demand shifting and peak conservation. The mechanisms for changing these behaviors are increasing customer awareness and understanding of their energy use while providing relevant tips and program offerings. Additionally, the program will seek to have 80 percent adoption in the residential sector and an increase in adoption by 5 percent by 2027 and 10 percent by 2031.

In 2010, when D.10-04-029¹⁴⁴ was released, behavioral programs used Randomized Control Trials (RCT) as the only eligible methodology. Since then, the advancement of

¹⁴³ Zero Net Energy (“ZNE”) is a general term applied to a building with a net energy consumption of zero over a typical year. See, Appendix D, Definitions.

¹⁴⁴ D.10-04-029 at 3.

metering technologies and the availability of AMI data has become more prominent. SDG&E will seek to include other methodologies as possible program design. The expansion of allowable methodologies other than experimental design, such as Population-Normalized Metered Energy Consumption (NMEC), in behavior-based energy efficiency programs is needed.

New Programs

To further support the residential sector with diverse offerings that are consistent across California, the Statewide Plug-Load and Appliance and the Statewide Quality Installations and Quality Maintenance programs will be offered.

Resource Acquisition Program:

Statewide Plug-Load & Appliance:

On January 28, 2022, SDG&E filed AL 3942-E providing the CPUC with the contract for a program that seeks to offer a comprehensive, innovative, and cost-effective turn-key energy efficiency resource program for residential applications. The Statewide Plug-Load and Appliance program intends to offer incentives to key market actors and end-user customers. Additionally, the Program will seek to educate these key market actors along with end-user customers on various energy efficiency opportunities.

Market Support Program:

Statewide Quality Installations & Quality Maintenance:

SDG&E is currently soliciting for a program that seeks to promote interventions that increase customer adoption to pursue quality installations and value quality maintenance activities for their residential HVAC systems. In addition, the Program will support the training and education of HVAC industry actors to pursue standards that are considered acceptable for HVAC equipment installation and maintenance by the American National Standards Institute (ANSI). The Program will look to include a flexible delivery approach that targets customers based on specific criteria such as climate zones or other unique characteristics (e.g., Public Safety Power Shutoff zones, customers in disadvantaged communities, hard-to-reach customers etc.).

b. Residential Goal 2: Increase Energy Efficiency Participation in the Multifamily Sector

Through the implementation of its existing and new innovative approaches, SDG&E plans to drive its multifamily sector closer to decarbonization and ZNE.

Strategy: Promote increased value of asset to property owners.

To increase multifamily building participation in energy efficiency programs, it is necessary to engage building owners and property managers. This may also include public housing properties, based on account characteristics. One way to accomplish this is to sell building owners on the value proposition that energy efficiency increases the value of the asset.

Sample Tactics

- Identify multifamily properties that have recently performed energy efficiency building improvements to use those savings as an example for future projects;
- Utilize renter feedback/endorsement for building improvements, resulting in greater comfort, health, and financial/energy savings benefits; and
- Hold seminars to educate building owners about the value of energy efficiency and the ROI that investments may deliver to owners.

Strategy: Promote the benefits of renting in an energy efficient building to tenants.

Direct consumers to decarbonization alternatives and a path to ZNE. The path begins with direct install measures that pique the tenant's interest in energy efficiency. The customer may receive a complimentary ASHRAE Level 1 audit and sales consultation for advanced energy efficiency solutions and technologies.

It is important to create demand for energy efficient units and support unconventional marketing approaches. The first step in this process is to benchmark a portfolio of properties to identify properties with the highest energy use index. Next, a percentage of buildings will receive a comprehensive audit to identify Integrated Demand Side Management (IDSMS) opportunities that could be included as part of a whole building package.

Sample Tactics

- Partner with property owners to communicate potential energy savings, health, and comfort of more efficient properties.
- Develop pilots and trials to explore property owner incentive structure. Address split incentive barrier that currently prohibits property owners/managers from making comprehensive energy efficiency improvements.
- Track improvements through an online platform that will be available to property owners, property managers and other designees.
- Coordinate energy efficiency and low-income proceedings.
 - SDG&E will coordinate with the Energy Savings Assistance (ESA) program to ensure that all units in a building are upgraded at once and, in the case of master-metered areas, that efficiency upgrades benefit all tenants.
 - SDG&E will work with the ESA Southern California Multifamily Whole Building implementer to qualify multifamily properties at the building level, as well as qualifying individual tenants, for the Energy Savings Assistance program. This "80-20 Rule" depends upon reaching an 80 percent threshold of qualified tenants to qualify an entire multifamily building for

service. The reverse would be applicable for the tenants when looking at the whole building.¹⁴⁵

- Provide owners and property managers with the ability to aggregate single buildings into a portfolio of assets. Work with third-party to bundle offerings.
- Hold seminars to educate building owners about the value of energy efficiency to sell to potential renters.
- Market the Program to the decision makers by arranging virtual and in-person meetings with multifamily owners and operators.
- Stay current with emerging technologies and collaborating with CalTF, industry retailers, and product manufacturers; may lead to new cost-effective ways to double energy savings.
- Convert direct installation visits into No Cost Zero Net Energy consultations.
- Skilled and trained energy advisors that are BPI certified, attend Synergy University ZNE Trainings, and outside sales courses, transition the program direct install participant to the ZNE path and advanced EE sales consultation.
- Focus on hard-to-reach (HTR) customers so that at least 60 percent of all program participants are HTR.
- SB 535 disadvantaged community (DAC) overlay maps on mobile devices identify the greatest HTR opportunities in SDG&E's service territory and intelligent direct outreach to the identified areas with SDG&E program collateral ensures a high program participation rate in HTR zones.
- Promote inclusion of benchmark scores and tenant cost benefit of energy efficient units through channels such as "For Rent" ads, lobbies, elevators, stairwells.

In addition, SDG&E will continue to provide multifamily owners/managers with a Single Point of Contact (SPOC). SDG&E has found that the SPOC concept offers improved outreach, education and better program experiences for participants.

SDG&E's efforts toward a multifamily SPOC assists property owners in the completion of benchmarking and the audit and simplify the process for those owners.

¹⁴⁵ CPUC, *Statewide Energy Savings Assistance Program 2017-2020 Cycle Policy and Procedures Manual*, Section 2.2.5, Qualifying Multifamily Complexes at 16-17, available at https://www.cpuc.ca.gov/-/media/cpuc-website/divisions/energy-division/documents/energy-efficiency/iqap/2019_statewide_esa_pp_manual_ver-1.pdf.

c. Residential Goal 3: Continue to Innovate by Executing New Approaches to the Market

Existing programs alone do not address the universe of customer needs nor recent changes prompted by legislation. The energy efficiency industry has the potential to see significant change in the next decade providing an opportunity for innovation. This influx of innovation should not be limited solely to technologies, but also different approaches to programs and procurement which may include outsourcing opportunities. SDG&E will use a test and learn approach to maximize both savings and efficiency.

Strategy: Identify influential stakeholders that will allow the expansion of market opportunities efficiencies

SDG&E will engage various stakeholders that have a strong influence and direct connections with customers to convey the benefits of incorporating energy efficiency into their lives. SDG&E will also explore new approaches that will allow for a greater reach, deeper savings.

Sample Tactics

SDG&E proposes the following tactics to engage stakeholders and increase energy efficiency savings from the residential sector:

- Utilize new approaches for contractors to achieve deeper savings, such as pay for performance.
- Hold efficiency solicitations that incorporate not only EE opportunities but other distributed energy resources as well.
- Offer a training roadmap that displays all of the home-performance-related courses offered to provide guidance for contractors in selecting appropriate trainings to attend.
- Provide direct install with a co-pay for customers of moderate to higher income. Depending on customers' income and number of people in the home will determine which direct install offering will be presented to the customer. Potential integration of demand response offerings in the midterm to ensure the solutions are comprehensive.
- Connect customers to financing opportunities. One of the barriers for customers to adopt a whole home approach can be cost. One study described: "Financial constraints are the largest reason for not being able to take action."¹⁴⁶ In order to assist with that barrier, SDG&E will connect customers to financial assistance.
- Provide training to real estate professionals. To promote the value and benefits of energy efficiency, SDG&E intends to offer training through Workforce Education

¹⁴⁶ CPUC, *Whole House Impact Evaluation – Evaluation of Energy Upgrade California Programs* (September 9, 2014) at 75, available at <http://www.calmac.org/abstract.asp?id=3079>.

and Training to real estate professionals, including appraisers. This would include not only a comprehensive program for home efficiency characteristics, but also various financing opportunities available. Engage home appraisers to include energy efficiency characteristics as part of a home's value.

- Partner with previously untapped manufacturers and retailers to promote new efficiency channels

Strategy: Improve residential HVAC installation and maintenance

The rapid growth of air conditioning in California homes made it one of the State's largest energy consuming end-uses and the single largest contributor to peak demand, which makes AC a leading opportunity to improve energy efficiency and reduce peak power demand. HVAC strategies will focus on compliance, quality installation, quality maintenance, whole building integration, and advanced technologies to improve the HVAC energy efficiency performance. The quality installation and maintenance of HVAC equipment provides many customer benefits, including increased energy savings, increased customer comfort, improved air quality, reduced operating costs, extended equipment life span, and improved code compliance.

Looking to the future, the marketplace is adding devices, such as smart thermostats, that allow customers to control their HVAC (especially at peak times) using a smart phone from anywhere.

Additionally, these devices will support timely HVAC maintenance by signaling the customer with specific details when any performance issues arise.

Sample Tactics

In the Statewide Quality Installations & Quality Maintenance program solicitation, SDG&E will employ a number of tactics to achieve this strategy, including:

- Incorporate smart thermostats or similar functionality into quality installations.
- Educate customers about:
 - The benefits of quality services, including a customer interview, HVAC assessment, recommended improvement checklist, measure installation, and quality control processes. Learning about HVAC services will serve as an entry point to sell the customer on other EE and DR portfolio program offerings to optimize the performance of their homes.
 - Their HVAC energy usage through AMI data analytics and measured HVAC performance using integrated smart device communication to influence energy efficient behavior. As the customer becomes educated with their HVAC energy use, they will be well prepared to address time-of-use rates by reducing energy use and costs at peak.
 - The availability of financing to address the high cost of HVAC systems, quality installation, and maintenance.

- Develop HVAC WE&T curriculum to increase energy efficiency knowledge, skills, and abilities throughout the HVAC value chain upstream, midstream, and downstream to ensure code compliance and a quality customer experience.
- Promote HVAC efficiency to the real estate market. SDG&E will be building approaches and strategies to integrate the valuation of HVAC quality maintenance and installation with advanced technologies into the necessary channels to influence customer behavior.
- Use data driven targeted marketing based on building vintage, climate zone, cooling and heating demands to recruit customers. This program will lead the HVAC market towards sustained profitability for trade allies as the business model for installing and maintaining heating and cooling systems changes from a commodity-based to a value-added service business.

Residential Sector Metrics

Sector level metrics can be found in Attachment A Tab 17

2. Sector-Specific Coordination

Solicitations:

To aid in achieving SDG&E’s goal of 60 percent of all Customer Programs being implemented by Third Parties, the Residential sector will have all programs run by Third Parties by 2023. Table 1 shows the list of all Residential programs and the status of their solicitation.

More details on the solicitation schedule are outlined in the Portfolio Management chapter.

Statewide and Local Programs:

SDG&E will coordinate with the other California Investor-Owned Utilities to support all Residential sector programs. Some of the programs will be considered “Statewide (SW)” and will have a lead utility that is coordinating the program. The local programs will continue to be led by each utility.

SDG&E list of Residential programs are listed in Table 29 below as either statewide or local programs:

Table 27: Program Category

Program Name	Statewide (SW) or Local	Third-Party Solicitation status
Plug Load Appliance (PLA)	Statewide	Complete by 2022
Residential Single-Family	Local	Complete by 2022
Residential Multi-Family	Local	Under contract
Residential New Construction	Statewide	Under contract
Residential Behavioral	Local	Complete by 2023

Quality Installation and Quality Maintenance (QIQM)	Statewide	Complete by 2023
Heating, Ventilation & Air Conditioning	Statewide	Under contract

Workforce, Education and Training (WE&T) Coordination

As a cross-cutting program, WE&T is critical to building customer demand by highlighting the value of EE, promoting market acceptance by educating trade professionals on how to maximize sales through the value proposition, and ensuring that a skilled and trained workforce properly installs and maintains equipment leading to greater EE savings. SDG&E's WE&T program has and will continue to focus on the following areas to engage with both residential customers and the trade professionals who support them. Looking ahead, the WE&T program will continue to support the following areas and will expand or contract based on market and potential data forecasts:

- Building Design & Construction
- Building Performance
- Codes & Standards
- Home Performance
- HVAC
- Lighting
- Marketing, Finance and Sales
- Real Estate
- Renewable Energy
- Sustainability
- SDG&E's Rates, Rebate & Incentive Programs
- Zero Net Energy

More details on these efforts are provided in the WE&T chapter.

Financing Opportunities

Some of the programs will provide customers with financing options to assist customers in completing their energy efficiency upgrades. These options will be made available to customers within each program and could vary depending on the opportunities provided by the third-party implementer.

EM&V Considerations

SDG&E will continue to work with statewide EM&V teams to identify research to address the gap between current methodology.

3. Categorization by Segment

Table 28: Residential Programs and Solicitations by Segment

Resource Acquisition	Market Support	Equity
<ul style="list-style-type: none"> Statewide HVAC Statewide Plug-Load & Appliance Residential Single-Family Program Local Behavioral Program 	<ul style="list-style-type: none"> Statewide New Construction – All Residential Electric* Statewide New Construction – Mixed Residential Fuel* Statewide New Construction Non-Residential – All Residential Electric* Statewide New Construction Non-Residential – Mixed Residential Fuel* Statewide Quality Installations & Quality Maintenance Local Fuel Substitution Program 	<ul style="list-style-type: none"> Residential Multi-Family Equity Program Residential Single Family Equity Program

**Note that SDG&E provides funding to the Lead Program Administrators as listed in in Tables 3 and 4 of D.18-05-041. SDG&E receives the proportional benefits from the Statewide Program through the CPUC’s CEDARs reporting system. Please refer to the Lead Program Administrators Application for the vision, design, development and intervention strategies for the respective Statewide Program.*

SDG&E proposes administrative budget for Statewide programs in which SDG&E is not the Lead Program Administrator. Activities and functions that are covered under this budget are as follows:

- Program staff time related to participation in statewide meetings, responding to Lead PA requests, directing customer inquiries, marketing and cobranding approval, analytics as it relates to SDG&E's proportional share of the budget and savings
- Administration and facilitation of Cofunding Agreements for each statewide program; monthly accounting activity related to the transfer of funds
- IT overhead related to regulatory budget filings

a. Resource Acquisition

The Residential sector will be comprised of the programs listed above, all of which will be run by a third-party implementer. Of these seven programs, the following will be categorized as Resource Acquisition: PLA, Residential Single-Family, Residential Multi-Family and Behavioral. However, the primary driver for this sector will be energy savings, but there will be Market Support and Equity activities that will also be implemented to drive program participation. SDG&E will continue to provide customers with training to educate them on the benefits of implementing energy efficiency and water saving projects.

b. Market Support

The Statewide Residential New Construction, HVAC and QIQM programs will be primarily Market Support; however, they will support Resource Acquisition as they will garner savings. SDG&E plans to solicit a new Market Support program targeting Single Family customers that are focused on transitioning from an all-gas appliance household to an all-electric appliance household. The focus of the new Residential Fuel-Substitution program will be to provide education and awareness around the benefits of fuel substitution appliances. The Program will aim to be delivered in a downstream mechanism offering incentives directly to end-use customers to offset the high cost of the transition from gas to electric appliances. Additionally, this program will help to understand the magnitude of the barriers faced by customers when transitioning from gas to electric appliances. The lessons learned and data collected from the program will help inform future program designs around fuel-substitution. This program aims to align with and further the State's policies and goals surrounding decarbonization.

a. Equity

Residential Multifamily

SDG&E plans to solicit a new Equity program targeting Multifamily customers that meet the Family Electric Rate Assistance (FERA) income guidelines. The focus of the new Equity program will be to provide customized outreach and education to navigate the utility's portfolio of rate options, bill management, load management, and energy savings programs. Multifamily customers that qualify for the FERA discount are considered to be

middle income and can be classified as hard-to-reach. An equity-based approach program is proposed to further engage these customers with their energy efficiency needs.

Program tactics to better serve these customers may include:

- Direct, customized outreach and education - Energy Ambassador to walk the customer through available online tools
- Energy audits - Perform an on-site energy assessment to identify further opportunities for energy savings

Residential Single Family

SDG&E plans to solicit a new Equity program targeting Single Family customers that meet the Family Electric Rate Assistance (FERA) income guidelines. The focus of the new Equity program will be to provide customized outreach and education to navigate the utility’s portfolio of rate options, bill management, load management, and energy savings programs. Single Family customers that qualify for the FERA discount are considered to be middle income and can be classified as hard-to-reach. An equity-based approach program is proposed to further engage these customers with their energy efficiency needs.

Program tactics to better serve these customers may include:

- Direct, customized outreach and education - Energy Ambassador to walk the customer through available online tools
- Energy audits - Perform an on-site energy assessment to identify further opportunities for energy savings

4. Program Details

Program Name: Comfortably California Program (Comfortably CA)	
Statewide Program ID: SW_HVAC_Up_Res New / Existing: Existing Link to implementation plan if existing (see D. 21-05-031): https://cedars.sound-data.com/programs/SDGE_SW_HVAC_Up/details/	
Portfolio Segment: Resource	Implementation Party: Third-Party Implementer
Applicable Sector: Residential	Market Sub-Sector: Not Applicable

<p>Sector Challenge:</p> <p>Increase distributor equipment stocking practices for highly efficient HVAC equipment and contractor understanding of the benefits for selling more efficient HVAC equipment.</p>	<p>Sector Opportunity:</p> <p>Manufactures optimize equipment to meet demand for highly efficient HVAC systems.</p>
<p>Known Equity Concerns in the Selected Markets:</p> <p>Not Applicable</p>	<p>Proposed Solutions to Equity Concerns:</p> <p>Not Applicable</p>
<p>Program Description:</p> <p>The Statewide HVAC program, named Comfortably CA is an upstream and midstream program that will offer HVAC measures including residential air conditioners, residential heat pumps, residential gas furnaces and residential gravity wall furnaces. The program will engage HVAC distributors, manufacturers, or retailers and offers incentives for the energy efficient heating and air conditioning equipment that will deliver cost-effective and reliable energy savings for California residents and businesses.</p>	
<p>Intervention Strategy:</p> <p>Upstream & Midstream delivery targeting HVAC distributors, retailers, or manufacturers.</p>	<p>Program Metrics:</p> <ul style="list-style-type: none"> • Program Performance <ul style="list-style-type: none"> ○ Savings to Goal (kWh, kW, Therms) <ul style="list-style-type: none"> ○ TRC Ratio • Financials/Savings <ul style="list-style-type: none"> ○ Savings Claimed ○ Budget Spent ○ Savings/Budget Alignment • Distributor & Customer Satisfaction <ul style="list-style-type: none"> ○ Customer Satisfaction Survey Scores ○ Complaints Received ○ Enrollment of Distributors • Compliance <ul style="list-style-type: none"> ○ Reporting Accuracy ○ HTR/DAC Penetration ○ DBE spending
<p>High-level description of delivery workforce including necessary scale and its risks:</p> <p>Workforce requirements include distributors, retailers, equipment manufacturers and installation contractors. There are high quantities of these workers and businesses in place.</p>	

A closure or suspension of regular services of one or more major equipment manufacturers could pose a risk to program effectiveness.

Market Actors necessary for success:

- Third Party Implementer
- Subcontractors
- Partners (defined as Distributors, Manufactures, or Retailer organizations).
- Trade Professionals

Solicitation Strategy:

Third Party Solicited

Transition Plan:

Not applicable

Expected Program Life:

2021-2024

Short Term Plan

- Increase Distributor recruitment
- Increase customer demand for high-efficiency (HE) products via Contractor recommendation
- Reduce customer and distributor market barriers for increase participation rates

Cost Effectiveness

TRC: 1.69

Long Term Outlook

- Distributor stock more HE equipment
- Manufactures optimize equipment available to California market
- Support State building compliance (SB 1414).

Proposed Annual Budgets for 2024-2027:

2024: \$3,697,140

Anticipated directional and scale changes in budget for years 2028-2031:

SDG&E plans to continue to pursue future SW HVAC solicitations in support of 2021 EE Potential & Goals Study Results for HVAC end use potential.

Implementation Plan: https://cedars.sound-data.com/programs/SDGE_SW_HVAC_Up/details/

Program Name: RZNET	
Program ID: SDGE4002: Multi Family Program New / Existing Link to implementation plan if existing (see CEDARS)	
Portfolio Segment: Resource Acquisition	Implementation Party: Third-Party Implementer
Applicable Sector: Residential	Market Sub-Sector: Multifamily and Manufactured Housing
Sector Challenge: <ul style="list-style-type: none"> • Split incentives between multifamily owners and tenants to achieve zero net energy. • Lack of cost-effective direct install HVAC measures for multifamily in-units. 	<ul style="list-style-type: none"> ○ Sector Opportunity: <ul style="list-style-type: none"> • Abundant cost-effective direct install water heating measures for multifamily and manufactured homes exist. • The HVAC duct seal direct install measure received favorable updates to the effective useful life, installation rate, and net to gross values providing plentiful duct seal opportunities for manufactured housing in climate zones 7 and 10. • The modified lighting calculator (MLC) opens doors for multifamily common area lighting opportunities. The program implementer is exploring micro-MLC lighting projects to test the feasibility of applying the MLC for projects < \$100. • The SDG&E low-income program is leveraged with RZNET. The two programs complement each other for finding new customers. They also are delivered together resulting in unmatched comprehensiveness and customer satisfaction when compared to being delivered separately.

	<ul style="list-style-type: none"> The water energy nexus with San Diego County Water Authority brings the installation of high efficiency toilets with the electric and gas savings delivery all installed by the implementer in one seamless customer visit.
<ul style="list-style-type: none"> Known Equity Concerns in the Selected Markets: <ul style="list-style-type: none"> Manufactured housing residents with appliances that do not qualify for repair or replacement under the SDG&E low-income program need an affordable solution. 	<p>Proposed Solutions to Equity Concerns:</p> <ul style="list-style-type: none"> The program provides long-term financing with lenient credit score requirements through Greensky or REEL that allows for low-income and moderate-income customers to afford appliance replacement.
<p>Program Description:</p> <p>The Residential Zero Net Energy Transformation (RZNET) program is an innovative way of serving multifamily and manufactured homes. The RZNET program design is a turnkey cost effective zero net energy end-to-end solution that transforms multifamily and manufactured home community owners, operators, and residents into knowledgeable stewards of water, electricity, and natural gas. In compliance with SB 350 – Clean Energy and Pollution Reduction Act of 2015, RZNET program participants are put on the path to zero net energy, beginning with direct install measures, a complimentary ASHRAE Level 1 audits, sales consultations acting as catalysts for advanced energy efficiency, solar PV installations, and battery storage opportunities for multifamily and manufactured housing properties.</p>	
<p>Intervention Strategy:</p> <p>The program directs participants to the zero net energy path when they otherwise would not likely find it. The path begins with direct install measures that pique the customer’s interest in energy efficiency. It is in that moment of interest, that the customer is invited to receive a complimentary ASHRAE Level 1 audits and sales consultation for advanced energy efficiency and zero-net energy technologies.</p>	<p>Program Metrics:</p> <p>TSB: \$5,556,649</p> <p>kWh: 3,035,173</p> <p>Therms: 445,515</p>
<p>High-level description of delivery workforce including necessary scale and its risks:</p> <p>The implementer and its subcontractors require a contractor’s license with certifications in B-general contracting, C2-insulation, C10–electrical, C20-HVAC,</p>	

C36-plumbing, and C-46 solar to perform the scope of the program. Program positions include sales/marketing, installers of energy efficiency technologies in the areas of HVAC, water heating, advanced lighting, plumbing, solar panels, and storage. Program positions also entail office staff including job order processing, scheduling, customer service, invoicing, and reporting. It is recommended to have an in-house IT director and a partnership with an energy efficiency engineering firm.

Market Actors Necessary for Success:

A program liaison market actor is necessary to promote the energy efficiency program to multifamily and manufactured housing community owners and operators to acquire authorization to perform energy efficiency services. The owners and operators are also necessary market actors because they authorize all services in multifamily and manufactured housing communities. The individual residents of manufactured housing communities are another market actor that must be convinced to receive services even if the park owner and operator has agreed to allow the energy efficiency program in the manufactured housing community. Program outreach specialists are deployed to educate manufactured housing residents on the program and enroll them in program services. Zero-net energy projects require financing and financiers are another necessary market actor for program success.

<p>Solicitation Strategy: Third Party Solicited</p>	<p>Transition Plan: Not applicable</p>
<p>Expected Program Life: 2021 - 2024</p>	<p>Short Term Plan: The program was launched in 2021 and is currently active in the Multifamily sector</p>
<p>Cost Effectiveness TRC: 1.16</p>	<p>Long Term Outlook: Increase conversion of direct-install energy efficiency appointments into advanced energy efficiency and zero-net energy technology installations.</p>
<p>Proposed Annual Budgets for 2024-2027: 2024: \$4,991,253</p>	<p>Anticipated directional and scale changes in budget for years 2028-2031: will be re-solicited in 2025</p>
<p>Implementation Plan: https://cedars.sound-data.com/programs/SDGE4002/details/</p>	

V. PORTFOLIO MANAGEMENT

OVERVIEW

As the Portfolio Administrator (PA) of the local and statewide EE programs in its service territory, SDG&E takes a proactive, dynamic and comprehensive approach to portfolio optimization and risk management. Partnering with its contracted Third-Party implementers, and working closely with the CPUC, California IOU and Non-IOU PAs is central to SDG&E's portfolio planning and optimization efforts. The Company's primary goal is to serve its customers and move toward achieving the State's goal of GHG reductions and grid decarbonization.

SDG&E monitors and manages the performance of its portfolio through a continuous review of individual local and statewide programs' performance by tracking and oversight of its Third-Party implementers. Through monthly, quarterly and annual reviews, SDG&E uses a combination of budget to actual variance analyses, key performance indicators, pay-for-performance compensation design and other contract provisions to gather insight into its Third-Party program performance. These mechanisms reward the Third-Party Implementer performance and address any issues in a timely manner, including underperformance and non-performance to manage program and portfolio risks.

SDG&E is committed to outsourcing the majority of its program implementation to Third-Party Implementers. Should SDG&E choose to or need to implement any portion of its portfolio, it will seek Commission approval in accordance with regulatory requirements.¹⁴⁷ SDG&E discusses its approach to solicitation for these Third-Party programs and makes recommendations to improve the solicitation process in the section on Third-Party program below.

SDG&E, as part of the Statewide C&S programs, works closely with the California Energy Commission (CEC) and Environmental Protection Agency (EPA) in the continuous development of building and appliance standards. In addition, SDG&E supports and coordinates its EE programs with the CEC's EE programs and grants. In addition, SDG&E supports California Alternative Energy and Advanced Transportation Financing Authority (CAETFA), the statewide Financing Pilot PA.

SDG&E also coordinates with the other PAs, both IOU and Non-IOU PAs, in the development of programs and policies to provide consistent services to all California customers and to support the Lead PAs in the administration of various statewide programs.

A. STRATEGIES TO OPTIMIZE PORTFOLIO AND MANAGE RISK

1. Approach to Use of Goals and Metrics for Portfolio Optimization

SDG&E engages in a process of constant portfolio optimization to streamline processes and identify areas for improvement. This helps ensure compliance with CPUC requirements while working with our Third-Party implementers to "make it easy" for our customers to participate in our programs.

¹⁴⁷ D.18-01-004 at 31.

SDG&E's approach to portfolio planning and optimization is based on three primary pillars:

- The biennial Potential and Goals (P&G) Study, conducted and adopted by the CPUC;
- Historical EE portfolio and program performance; and
- Unique customer and economic characteristics of SDG&E's service territory

Beginning in 2024, D.21-05-031 adopted a new metric for setting EE goals. Total system benefits (TSB) are defined as "the sum of the benefit that a measure provides to the electric and natural gas systems."¹⁴⁸ TSB reflects the lifecycle energy, capacity, and greenhouse gas benefits of a measure in dollar terms, in contrast to the separate energy and peak demand (i.e., kilowatt-hour, kilowatt, and therm) goals traditionally adopted.¹⁴⁹ TSB is calculated as follows:

- $\text{Total System Benefit} = \text{NTG Ratio} \times (\text{Sum of All Benefits} - \text{Sum of All Increased Supply Costs})$ ¹⁵⁰
- SDG&E will monitor its TSB performance and continue to report its energy savings and demand reductions.¹⁵¹

Over the program cycle and within each year of implementation there are changes to several variables, including avoided cost, EE potential, economic and market conditions and maturity of EE measures and/or market transformation achieved. These changes impact measure cost-effectiveness and customer and measure eligibility criteria. These updates require recalibration of incentives offered to customers, impacting customer adoption and portfolio performance. In the past, this has led to large variances in savings, spend and cost-effectiveness of programs and the portfolio between the forecast and actual performance. SDG&E evaluates its portfolio and works with its Third-Party Implementers to be able to adapt and course correct in order to effectively meet program and portfolio goals.

SDG&E employs a systematic approach to portfolio planning, program year tracking and intervention, and reporting. Annual portfolio planning and budgeting is conducted roughly 6-9 months prior to launch of the actual program year. Inputs to the planning process include the most current EE Potential & Goals Study; annual DEER resolutions that provide measure updates and schedules; available EM&V study results and IOU response to recommendations (RTRs); historical market sector achievements; feedback from SDG&E's Third-Party Implementers; and availability of EE measures.

¹⁴⁸ D.21-09-037, Finding of Fact (FOF) 7 at 27.

¹⁴⁹ D.21-05-031 at 9.

¹⁵⁰ CPUC, *Total System Benefit Technical Guidance Version 1.2* (October 25, 2021) at 7, available at <https://pda.energydataweb.com/api/downloads/2560/FINAL%20TSB%20Tech%20Guidance%20102521.pdf>.

¹⁵¹ D.21-05-031 at 2.

At the start of each program year, SDG&E re-examines the approved annual budget and savings for the current year and recalibrates the plan as appropriate to reflect the portfolio performance of the previous year, changes to measures, changes in customer preferences and current market conditions observed in the actual performance of the portfolio in the latter half of the previous year. This is used as the basis to track Third-Party programs and contracts and overall portfolio performance to ensure goals and metrics are achieved.

On a monthly basis, SDG&E reviews performance in the previous month and updates the forecasted portfolio performance for the year to develop an updated program and portfolio outlook. This update is based on actual Third-Party performance, market conditions and customer behavior during the previous months. This also incorporates changes in measures and general market and economic conditions. All Third-Party Implementers are evaluated on the progress they are making towards their individual key performance indicators (KPI) and Metrics as specified in the contract and to verify viability of achieving program year goals and overall targets needed for the portfolio.

2. Plans and Procedures SDG&E Will Follow to Stay “On-Target” to Meet Savings, Total System Benefits /TSB Goals and Cost-Effectiveness Targets

SDG&E will continue to implement its robust procedures to monitor and assess the performance of its Third-Party local and statewide programs towards meeting goals and targets. The following processes will continue to be used to evaluate and assess the Third-Party Implementers’ progress towards meeting target for the year.

- All Third-Party Implementer contracts have Key Performance Indicators (KPIs) and Metrics that are outlined to be met and evaluated monthly. Some of the critical KPIs and Metrics that SDG&E tracks are:
 - Savings Actual to Forecasted variances
 - Spend Actual to Forecasted variances
 - Quality Assurance and Inspection statistics and accuracy
 - Marketing statistics and efficacy
 - Cost Effectiveness
 - Customer Satisfaction (Surveys and Complaints)
 - Reporting Accuracy
 - HTR/DAC Penetration (if applicable)
- SDG&E reviews all KPIs and Metrics monthly to ensure and evaluate progress of the Third-Party’s program.
- SDG&E works with the implementers to adjust and identify any potential areas of improvement to maintain progress towards goals.
- SDG&E also evaluates the portfolio forecast on a monthly basis to determine any areas where improvement towards goals can be achieved and any additional work or resources that need to be investigated to help obtain stated goals and targets.

- A formal evaluation and score for the program is performed on a quarterly basis for each of the Third-Party Implementers to review the effectiveness of the program and the achievement of contractual goals.

Should the program be underperforming, SDG&E will work with the Third-Party implementer to identify and implement corrective actions to improve performance. This evaluation is done and conducted using the procedures outlined below.

❖ Program “Under Review” Status

A Program shall be deemed “Under Review” if Corrective Actions taken are not successful at bringing the Program back on track. This is not intended to be a punitive step; rather placing the program under review provides a clear means to help ensure that the Program is able to meet expectations as described in the contract’s scope of work. As part of the review process, the Third-Party implementer and SDG&E shall implement Corrective Actions designed to bring the program back on track within a specified time frame (recommended no more than four months). If after the specified time frame, the Program is not back on track, the Program shall proceed to the next step, “Subject to Modification.”

❖ Program “Subject to Modification” Status

The Program shall be “Subject to Modification” in the event Corrective Actions are not successful in bringing the Program back on track within the specified time frame. It is generally assumed that the implementer and SDG&E can mutually develop modifications to the program to improve program performance and enable the program to succeed. As part of this step, the implementer and SDG&E will perform an assessment of the reasonableness of program targets and assigned budgets. Such modifications might include revisions to goals, budgets, installations, or types of customers targeted, among other possibilities. These modifications should be given a reasonable opportunity to work with a timeframe of no less than four months. SDG&E may request additional information in order to make an informed decision regarding the need for additional resources, needed revisions in the manner in which the Program is running, or terminating the Program before the end of its contract cycle. If Program Modifications are not successful at bringing the Program back on track within the specified time frame, the PA Representative in consultation with Contractor shall determine if there are reasons to extend the timeframe for bringing the Program back on track or if there are other reasons to keep the Program running. Other reasons might include a decision by PA to, for strategic reasons, continue serving a segment targeted by the Program or offering a technology that the Program promotes. This outcome is considered very unlikely.

It is possible, that SDG&E may deem that no modifications will be successful in bringing the Program back on track that the Program and therefore it would be more prudent to move the program to a “Close Program” status.

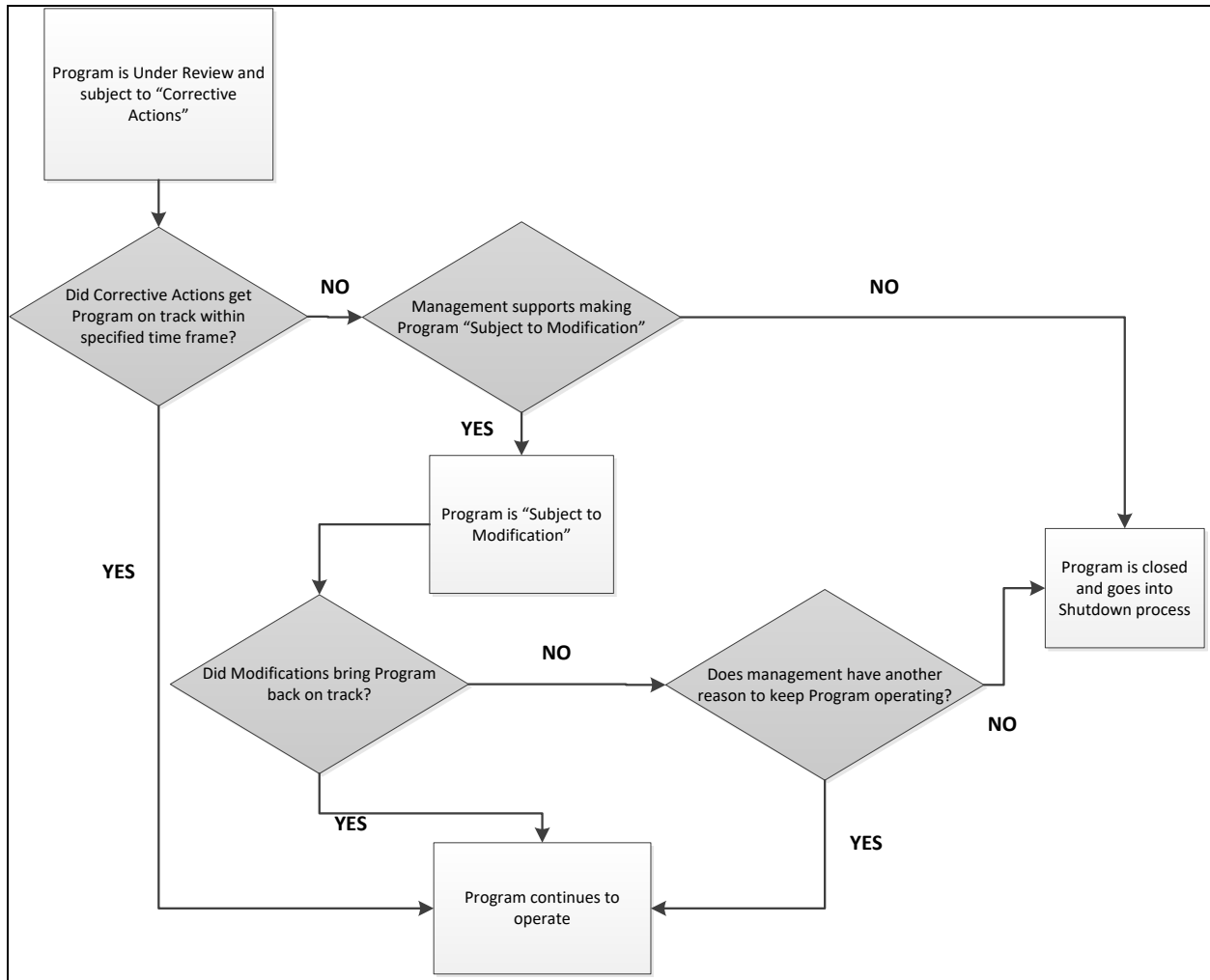
❖ Program “Close” Status

If SDG&E deems the Program unable to perform per the terms of its contract to meet its targets, then in accordance with the terms of the agreement, the implementer will initiate closing the program. During this process, SDG&E will ensure that customers with

outstanding projects are not left stranded. SDG&E may use its own resources to handle these commitments or transition the customers to another implementer.

Figure 2 illustrates the process established that define steps to be taken when a program is underperforming:

Figure 4: Steps to Determine Status and Action for Underperforming Programs



SDG&E also recognizes the possibility for the need to implement new or additional programs in cases where the current contracted programs are not achieving targets and goals. In this case, SDG&E will exercise its authority to fund shift to other programs from under-performing programs to ensure portfolio targets are being met. SDG&E may also issue solicitations to address the issue.

3. Approach to Risk Management

Risk management is essential to a successful portfolio; therefore, it is necessary to have controls and monitoring systems in place to minimize identified risks. The consequences of a poor risk management system can be significant. The State depends on these EE programs as part of the State’s greater GHG reduction goals through reductions in energy

consumption, fuel substitution and other EE decarbonization efforts. EE savings also contribute to customer bill savings and rate reductions. EE programs will be expected to provide relief to CA's constrained grid through reliability programs.¹⁵² Therefore, to advance the State's goals, support customers, provide value to ratepayers and contribute to system grid management, and as a responsible PA, SDG&E has a risk management process integrated into its portfolio administration activities.

In addition to a robust solicitations process and developing a strong scope of work for contracts in Third-Party implemented programs, a significant component of managing risk is the monitoring of program performance, including timely remedial actions for underperforming programs. This is described in detail in the section above on SDG&E procedures for ensuring its programs and portfolio are on target. This risk management component supports meeting the State's GHG goals, system reliability and customer bill savings.

Another component of SDG&E Risk Management is the implementation of a Pay-for-Performance compensation structure in all its Third-Party program contracts. This Pay-for-Performance compensation provides ratepayer protection as the compensation is based on meeting savings targets and KPIs. To ensure payment is based on performance, SDG&E has incorporated the following in its contract oversight procedures and the contract scope of work: (i) Quality Assurance Plans, (ii) Technical Oversight requirements, (iii) Pay for Performance payment structure, (iv) monitoring of KPIs and metrics.

SDG&E implements an end-to-end Quality Assurance process which involves SDG&E teams and its Third-Party Implementers throughout the customer project life cycle, in validating and verifying all aspects of the project from customer eligibility to measure installation and measurement and verification procedures. This process ensures that projects are viable and deliver the energy and bill savings that benefit both local and statewide customers.

SDG&E's Risk Management includes contingency planning for responding to unforeseen or unpredictable events. SDG&E embraces a culture of preparedness, as many risks exist, SDG&E must immediately respond for protection of customers and the environment. SDG&E applies this approach to its EE administration obligations. An example is SDG&E's immediate response to modify its new construction programs to provide increased incentives for fire victims in the 2014 wildfires.¹⁵³ More recently, this planning was informed by identifying lessons learned in the ongoing COVID-19 pandemic, which has had broad health and economic impacts to customers and the market, and impacted program participation, labor shortages, and product availability, as reflected in program performance. Going forward, SDG&E can be even more nimble in responding to unexpected events by:

- Monitoring the local, state, national and global economic indicators. This is critical as these indicators provide insight on potential impacts on programs. Examples of these indicators are supply chain, product availability and labor. SDG&E

¹⁵² See generally, D.21-12-011.

¹⁵³ Advice Letter 2636-E approved on August 26, 2014.

reviews local economic reports, e.g., regional economic updates from SANDAG,¹⁵⁴ to assess local trends that may impact its programs.

- The 2021 EE Potential & Goals Study developed a sensitivity analysis for the scenarios using specific adjustments to address the impacts of the COVID-19 pandemic on the baseline consumption and market adoption behavior. The 2021 EE Potential & Goals Study expects to release a separate report on the results.¹⁵⁵ SDG&E recommends that all stakeholders work together to develop a process for forecasting short term impacts of these economic indicators on programs.
- In the case of the COVID-19 pandemic, developing consistent approaches to health and safety requirements are important to maintain safe and appropriate program staff and customer interactions to minimize project interruptions. Several program activities and services were formerly delivered in-person, but with health and safety concerns, as appropriate, these were converted to on-line platforms. For example, on-site inspections/verifications were quickly converted to virtual verification processes. Another example is converting many of the in-person WE&T classes to on-line classes so that customers, students and the workforce could continue acquiring EE training and skills.
- SDG&E will also use the flexibility the Commission has granted PAs in order to respond quickly to issues at hand, from program performance adjustments to unexpected/unforeseen events that have significant impacts to program performance and ultimately to meeting Commission policies and goals. Examples are: fund shifting between programs,¹⁵⁶ advice letter processes for closing programs and introducing new programs,¹⁵⁷ and mid-term advice letters responding to identified triggers that impact program performance.

B. APPROACH TO FLEXIBLE PORTFOLIO MANAGEMENT

Overall, the Commission, through various policies and updates, affords the PAs flexibility to manage their portfolios efficiently to meet its goals and objectives, while maintaining appropriate oversight and transparency. The adoption of the TSB as the primary metric in lieu of relying solely on energy savings goals and cost effectiveness is one of the major policy updates that provides greater flexibility for portfolio planning and delivery. D.21-05-031 states,

Use of a single, lifecycle TSB metric, expressed annually, will tie the goals for the program administrators directly to the avoided cost value of energy efficiency savings, which should encourage achievement of savings that deliver high value. Another advantage of this single metric is that it is agnostic as to fuel, which

¹⁵⁴ For various SANDAG regional reports, see: <https://www.sandag.org/index.asp?listbyclassid=16&fuseaction=publications.listbyclassid>.

¹⁵⁵ 2021 EE Potential & Goals Study at 6.

¹⁵⁶ D.15-10-028, OP 18 at 127.

¹⁵⁷ D.21-05-031, OP 12 at 83.

facilitates fuel substitution as an option, without the need to convert savings from one fuel to the other.

This allows the PA to focus on tracking a single metric that encompasses all the policy goals without having to be distracted by different savings goals, some of which can be conflicting at times.¹⁵⁸

The adoption of portfolio segments, i.e., Resource Acquisition, Market Support and Equity program segments, combined with different cost effectiveness requirements for each of these segments, allows the PA to develop appropriate Market Support and Equity programs, as these segments do not count against the TRC threshold. Historically, because the Market Support and Equity programs did not realize immediate installed savings or were more expensive to deliver, it was difficult to achieve the required portfolio minimum forecasted TRC of 1.25. Furthermore, the Commission relaxed the TRC threshold that applies only to the Resource Acquisition segment, to be greater than 1.0 rather than the 1.25 threshold,¹⁵⁹ a threshold that has been increasingly difficult to meet if all programs counted towards the TRC.

This flexibility allows SDG&E to manage its portfolio to keep it on track to meet or exceed Commission goals. As discussed in the prior section, SDG&E has processes and procedures to monitor program performance and implement remedial actions to refocus programs. SDG&E identifies potential risks, monitors and mitigates risks using the various tools within the Third-Party Contracts and market sector analysis. The Commission provides the PAs flexibility to be nimble and respond to portfolio challenges. As stated above, some examples are fund shifting between programs, advice letter processes for closing programs and introducing new programs and mid-term advice letters responding to identified triggers that impact program performance. In addition, D.21-05-031 OP 10 provides PAs an opportunity to formally recalibrate their portfolios.

Each year on September 1 in the odd years when the energy efficiency potential and goals have been adopted by the Commission, each energy efficiency program administrator shall file either a portfolio true-up (prior to the start of a four-year portfolio) or a mid-cycle review (in year two of a four-year portfolio) Tier 2 advice letter adjusting its technical inputs, forecasts, and portfolio to account for the changes in energy efficiency potential and goals.¹⁶⁰

Stakeholder input is also important to SDG&E as it continuously looks for ways to improve portfolio performance. SDG&E will engage stakeholders on its own to consult on specific issues (e.g., identify opportunities to address reliability) or work with CAEECC stakeholders during meetings or workshops (e.g., review of draft implementation plans).

¹⁵⁸ Most electric measures (e.g., lighting) with KWH savings have negative therm savings. This presented a challenge for SDG&E since for every KWH installed (e.g., every efficient light bulb resulted in an increase in therm consumption) there was a corresponding negative therm impact which decremented the achieved therm savings.

¹⁵⁹ D.21-05-031 at 53.

¹⁶⁰ D.21-05-031, OP10 at 83.

C. PLANNED PROCEDURES AND THRESHOLDS FOR COURSE CORRECTION IF PORTFOLIO IS OFF-TRACK

SDG&E has addressed this issue extensively in Section V. A and B, above.

D. THIRD-PARTY PROGRAMS

1. Responsibility of SDG&E in Relation to Third-Party Designers/Implementers

SDG&E provides oversight and partnership for its Third-Party implementers who design and implement the programs. As stated previously, SDG&E plans to outsource all programs, going above and beyond the 60 percent outsourcing requirement set forth by D.18-05-031.¹⁶¹ To this end, SDG&E views the success of its implementers as the success of the SDG&E portfolio, and therefore is committed to working closely with all its Third-Party implementers so that their programs are successful and meet goals. In addition, SDG&E believes that its administration of the programs must provide adequate oversight of the Third-Party programs. SDG&E has Quality Assurance and Inspection plans for each Third-Party program as it relates to their specific design and implementation plan. Each quality plan outlines the points in the process where quality assurance is performed with various thresholds and methods for corrective action. SDG&E believes that in its dual role as partner and overseer of these Third-Party programs that this will ensure sustainable energy savings for the SDG&E service territory as well as California.

As part of its contract management and oversight, SDG&E will perform general administration functions consistent with Commission-approved administration functions. Administrative costs are necessary to support these Third-Party programs. Contract administrative functions consistent with Administrative Overhead costs include, but are not limited to, contract administration labor, accounting support, IT services and support, reporting database work, regulatory and filing support, data request responses, quality verification of project installation and other ad-hoc support required to verify contract invoices.

In addition to its administration and oversight functions listed above, SDG&E plans to continue using utility staff personnel to ensure a successful delivery of its EE Portfolio. SDG&E delivery functions and Direct Implementation Costs for the portfolio include, but are not limited to the following:

- i. Engineering
 - ✓ Workpaper development and submittals to ED for approval¹⁴
 - ✓ Workpaper development review and updates¹⁵
 - ✓ Measure changes
 - ✓ Custom project reviews and submittals
 - ✓ Data request responses
 - ✓ Response to Recommendation activities

¹⁶¹ D.18-05-004, FOF 1 at 53, COL 4, OP 1.

- ✓ Cal TF and eTRM DEER support
- ii. Evaluation, Measurement and Verification (EM&V)
 - ✓ Program and project evaluation activities: Ex-post reviews, Impact evaluations
 - ✓ Quality assurance and inspections
- iii. System Support
 - ✓ System configuration, testing, and maintenance
- iv. Marketing
 - ✓ Co-branding activities
 - ✓ Marketing and communications support

2. Solicitation Strategy

SDG&E employs a comprehensive team of subject matter experts in various functions during the solicitation process. At SDG&E, a solicitation involves, at a minimum, staff from Program Operations, Engineering, EM&V, Policy, the Contract Management Office (CMO) and Supply Management. The CMO is also the liaison with the Independent Evaluators (IEs) and the Procurement Review Group (PRG) who provide oversight to ensure fairness and transparency.

a. Strategies for Designing Scope and Schedule of 2024 – 2027 Solicitations

The strategies for designing the scope and schedule of solicitations for 2024 – 2027 described in this section, build upon effective practices¹⁶² identified and implemented 2018 through 2021, as well as the following considerations:

- Replacement of current existing Third-Party contracts:
 - SDG&E may resolicit to replace existing Third-Party contracts when contractual obligations cannot be met by the Implementer, or changes have occurred that severely impact the Implementer's ability to deliver on the scope of work even after remedial actions are undertaken (e.g., policy impacts, drastic economic changes, COVID-19), or when a contract has reached its term date.
- Extensions for existing Third-Party contracts:
 - SDG&E may extend a Third-Party contract when an Implementer is meeting all contractual obligations and the agreed-upon Key Performance Indicators. In such a case, SDG&E would reserve the right to extend a successful contract but within limits and not in perpetuity.

¹⁶² See Figures 5 and 6 at 231.

- New Market Segmentation:
 - With the introduction of market segmentation in D. 21-05-031, SDG&E has assessed its current offerings and identified portfolio gaps in the Market Support and Equity segments that will be addressed through additional solicitations.
- Portfolio diversification through adjustments of market sectors:
 - Consistent with the new segmentation, SDG&E has determined that segment/sector risks could be distributed among more programs by identifying sub-markets opportunities for solicitation.

Proposed Modification to Current Two-Stage Solicitation Process

D.18-01-004 requires Third-Party solicitations to be conducted in a two-stage process unless there is a specific schedule-related reason that a one-stage process must be used.¹⁶³ This two-stage process currently includes the following:

- Stage 1: Request for Abstract (RFA), which serves as a screening step by allowing Bidders to provide minimal information about their proposed program design and expertise. SDG&E down selects Bidders who proceed to Stage 2.
- Stage 2: Request for Proposal (RFP), which allows Bidders selected from the RFA to submit a detailed proposal. After the RFPs are evaluated and scored, this stage includes two additional steps:

Step 1: SDG&E interviews each of the bidders in a shortlist determined by their RFP score. Bidders provide a presentation and respond to specific questions.

Step 2: The final step is the negotiation and contracting process with the selected Bidder resulting in a mutually agreed upon contract.

After three years of implementing the two-stage process and frequent discussions with the PRG and IE, as well as other stakeholders who attend the semi-annual Third-Party Solicitations Stakeholder Forums, the following obstacles and challenges have been identified:

- The length of the process, which takes approximately 18-21 months to complete,¹⁶⁴ puts significant pressure on the Bidders by tying up their resources dedicated to their bid. This process is particularly difficult for small businesses who may not have adequate resources to sustain focusing on their bid over this lengthy process.

¹⁶³ D.18-01-004 at 31, FOF 6 at 54, COL 5 at 57.

¹⁶⁴ The estimated time for the solicitation process may be variable depending on the IE/PRG review of the solicitation materials, contract negotiations, and PRG review of final contract drafts.

- Like the bidders, SDG&E and the PRG members must commit considerable time and resources to develop the RFA and RFP packages and to review the RFA and RFP packages, respectively.
- The IE, who is compensated through ratepayer funds, provides oversight throughout the process. Due to the length of the two-stage process, this may not be the most efficient use of rate payer funds.

Furthermore, the two-stage process creates the following additional constraints with respect to decision making related to Third-Party programs that have been contracted:

- If an Implementer is not meeting contractual commitments and SDG&E decides to terminate the contract (refer to Section 2A above regarding Program “Close” Status), with the existing two-stage process, it would take approximately 18-21 months to complete a solicitation for a new program and Implementer. This would create a gap in program offerings resulting in an unserved customer segment.
- Most SDG&E contracts are for three years, with an option for two one-year extensions. With the current 18-to-21-month time frame to complete a two-stage solicitation, SDG&E will need to make the determination to resolicit by the end of the first year of program implementation to accommodate the lengthy two-stage process. This may not provide an Implementer sufficient time to demonstrate success or make course corrections. Furthermore, SDG&E will be in a constant state of solicitation.

Although SDG&E has incorporated improvements received from the IEs and PRG during monthly PRG meetings and the Semi-Annual Reports (SAR), as well as its own continuous improvement efforts, the amount of time it takes to complete a solicitation is still substantial. Other parties and stakeholders agree that the solicitation process can be improved and in February 2021, Energy Division created a Two-Stage Task Force to gather stakeholder input on how to improve the process. In addition, Energy Division engaged Opinion Dynamics to conduct a Third-Party program evaluation which includes a review of the two-stage process.

At the July 28, 2021, EE Third-Party Solicitation Stakeholder Forum, each IOU presented their efforts to streamline the two-stage process by reducing RFA requirements and establishing clear protocols for invoking single-stage RFP solicitations. SDG&E discussed its primary principles for reducing the required RFA information from bidders, which are:

- Focus should be on soliciting information to allow for sound decision making on whom to move forward to the RFP phase (e.g., experience, design, compliance); and
- Striking a balance between requesting bidders to review too much information and sharing enough to ensure bidders are set up for success in the RFP phase.

With these in mind, SDG&E implemented the following simplifications to the RFA process:

- Reduced the number of RFA questions by 50 percent;
- Eliminated documents that could be incorporated into the RFP stage; and
- Changed the RFA Response Form format

However, modifications and attempts to simplify the RFA stage are not sufficient to shorten the timeline and reduce resources. SDG&E recommends that the Commission adopt a One-Stage, Two-Step solicitation process. This recommendation eliminates the RFA stage and instead focuses on a more in-depth RFP stage and includes an interview step prior to contracting. This recommendation is consistent with the recently approved solicitation process adopted by the Commission for the Energy Savings Assistance Multifamily Whole Building statewide program in D.21-06-015,¹⁶⁵ which states, “We find that this protocol is less burdensome than a formal two-stage solicitation process and increases the opportunity for a complete assessment of the bidders.”¹⁶⁶ SDG&E agrees with the Commission because:

- Although the RFA has been simplified based on input from the Independent Evaluators, SDG&E has experienced multiple cases in which all RFA bidders moved to the RFP stage.¹⁶⁷ This may be an indication that the RFA is not adding value of screening as originally envisioned, and it adds five to six months to the timeline.
- With three years of solicitations experience, much of the Bidder community is now familiar with the solicitation process. Eliminating the RFA phase, and thereby shortening the timeline and commitment of resources, may afford more bidders the opportunity to participate.

SDG&E believes that a One-Stage, Two-Step solicitation process will be more efficient and effective, and it will reduce resources for all parties involved in the process – bidders, the IE, the PRG members, and SDG&E. It will also reduce ratepayer costs and enable more timely program offerings.

Description of the One-Stage, Two-Step Solicitation Process

Stage 1 – Request for Proposal (RFP): SDG&E will use the same approach for this stage as in the Two-Stage process. Moving directly to a Request for Proposal will save significant time and resources as it prevents duplicative questions and allows for a single submission and evaluation of detailed bids. Identical to the Two-Stage process, this stage includes two additional steps after the RFPs have been evaluated and scored:

¹⁶⁵ D.21-06-015, OP 116 at 500.

¹⁶⁶ D.21-06-015 at 355.

¹⁶⁷ Local Government Partnerships, Industrial, Industrial – Port Tenants, Agriculture, Statewide Residential HVAC QI/QM

Step 1 – Bidder Interviews: A shortlist of bidders determined by their RFP score are invited to an interview where they are asked specific questions and provide a presentation.

Step 2 – Contracting: A Bidder(s) is selected to start negotiations resulting in a mutually agreed upon contract.

This One-Stage, Two-Step approach has the following benefits:

- SDG&E estimates that this process will take only 12-15 months to complete, which will reduce the solicitation by approximately a year. This is a significant time reduction that will improve opportunities for smaller bidders to participate and commit resources.
- A shorter solicitation process allows SDG&E and programs with “Subject to Modification” status to implement program changes to get the program back on track for meeting its goals. A typical Third-Party EE contract has a duration of approximately 36 months. If resoliciting takes approximately 12-15 months, that allows for approximately 21-24 months to apply such course corrections. Under the two-stage solicitation schedule, the program would have approximately 12 months to implement changes and show improvement.
- It allows for more timely re-solicitations to replace programs with “Close” status or contracts that are terminated reducing the risk of gaps in the portfolio and the potential for an unserved market sector.
- Eliminating the RFA step reduces the resources commitment from the PRG, IE, and IOUs and is a more efficient use of ratepayer funds for IE oversight.

Table 31 and Table 32 provide a comparative overview of both options as it pertains to the duration of the solicitations.

Table 29: Current Two-Stage EE Third-Party Solicitations

Solicitation	Phases (in weeks)											
	RFA Prep		RFA		RFP Prep		RFP		Contracting		Total	
	Planned	Actual	Planned	Actual	Planned	Actual	Planned	Actual	Planned	Actual	Planned	Actual
EE 3rd Party Solicitations - Average Duration	12	14	18	17	10	11	22	22	12	34	73	98

The averages in the table above are based on solicitations completed by December 31, 2021. Average planned time totaled 73 weeks and the actual average time to complete the solicitations totaled 98 weeks. At the time of this filing, there are multiple solicitations in progress and which the average weeks per phase are not yet determined.

Table 30: Proposed One-Stage, Two-Step Solicitation

Solicitation	Phases (in weeks)			
	RFP Prep	RFP	Contracting	Total
	Planned	Planned	Planned	Planned
Southern ESA Multi Family Whole Building	13	20	20	53

The weeks associated with the Proposed One-Stage, Two-Step solicitation is based on the ESA MFWB solicitation timeline, which is in progress at the time of filing this application. The average planned time is 53 weeks.

Based on the data shown in tables 5-1 and 5-2, adopting a One-Stage, Two-Step solicitation process would save approximately 20 to 45 weeks based on planned and actual averages.

SDG&E proposes that all future solicitations follow the One-Stage, Two-Step approach. This will significantly reduce timelines, increase opportunities for small business participation, reduce the resource burden on stakeholders such as bidders, the PRG and IE, and minimize the potential for gaps in the portfolio.

b. Third-Party Solicitation Schedule from 2024 - 2027

SDG&E provides two schedules as part of this Application. Schedule A is based on utilizing a One Stage, Two Step approach and Schedule B is based on the current Two Stage approach. Below is a summary of assumptions that have been incorporated for each schedule:

Schedule A – One-Stage, Two-Step Solicitation Process Specific Assumptions:

- Assumes 12-month duration¹⁶⁸ for One Stage, Two-Step solicitations.
- Assumes a start time of 2024 based on the assumption that the Commission will approve these Business Plan Application by mid-2023.¹⁶⁹

Schedule B – Two-Stage Solicitation Process Specific Assumptions:

- Assumes 18-month duration¹⁷⁰ for Two-Stage solicitations.
- Applies to all scheduled solicitations if the Commission does not approve the One-Stage Two-Step solicitation process.

¹⁶⁸ Based on the timeline plan for the ESA MFWB solicitation of 53 weeks.

¹⁶⁹ D.21-05-031, Table 4 at 61-63.

¹⁷⁰ Based on planned average duration for Two-Stage solicitations completed between 2018-2021.

General Assumptions that Apply to both Schedules A and B:

In addition to specific assumptions for each schedule as listed above, the following general assumptions apply to the 2024 – 2027 solicitation schedule:

- Continued oversight and consultation with the EE PRG and IEs.
- Contract terms for new solicitations may allow for a 4 year plus one 1-year extension for a total maximum contract length of 5 years.
- Contract terms can be longer or shorter depending on the complexity of the program.
- Large and Small Commercial market sectors will have sub-sectors in the following segments:
 - Resource Acquisition:
 - Lodging (hotels/motels)
 - Groceries, Restaurants, and Food Storage
 - Wholesale/Retail/Offices, including Entertainment & Services
 - Private Institutions/Healthcare (medical facilities, private schools)
 - Market Support:
 - Property Management
 - Equity:
 - Small Business Outreach
- Other new solicitations will include:
 - Residential Equity Program
 - Residential Fuel Substitution Program
 - Non-Residential Behavioral

For implementation planning purposes, SDG&E assumes 30 days for Advice Letter filing preparation after contract execution, 60 days for Advice Letter approval once filed (does not account for protests and suspensions), and 60 days for the Implementation Plan webinar after Advice Letter approval.

Proposed Solicitation Schedules

Below are the two schedules described in the previous section:

Figure 5: Schedule A – One-Stage, Two-Step Solicitation Schedule

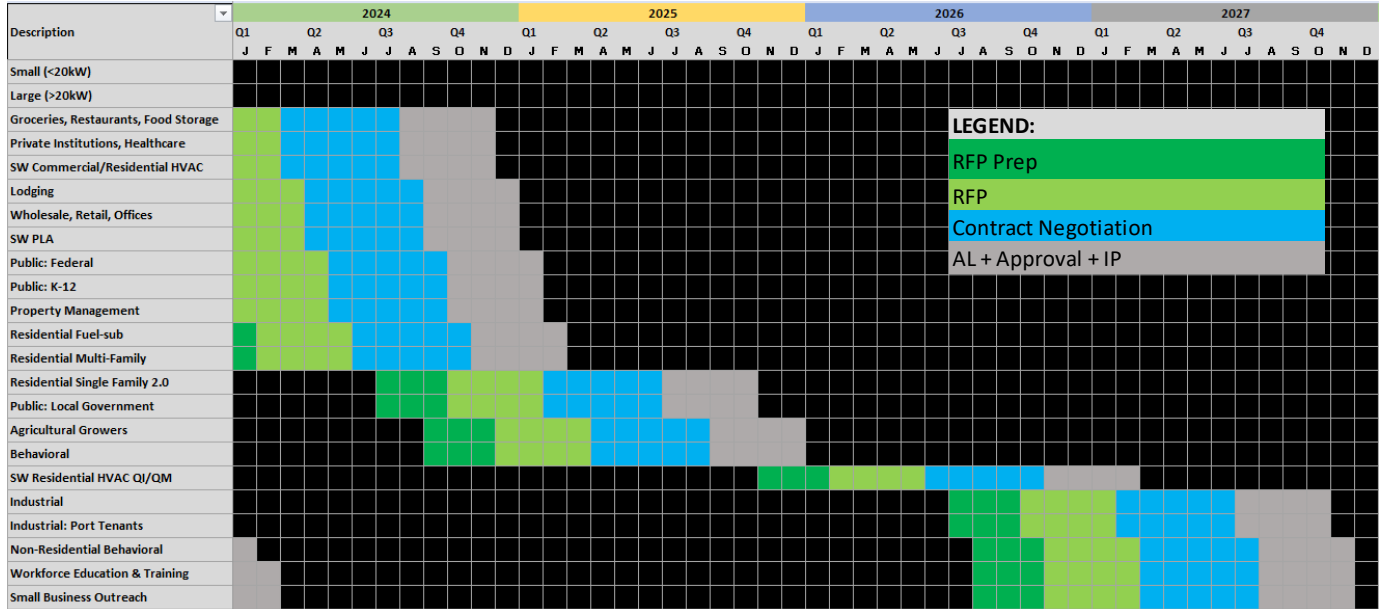
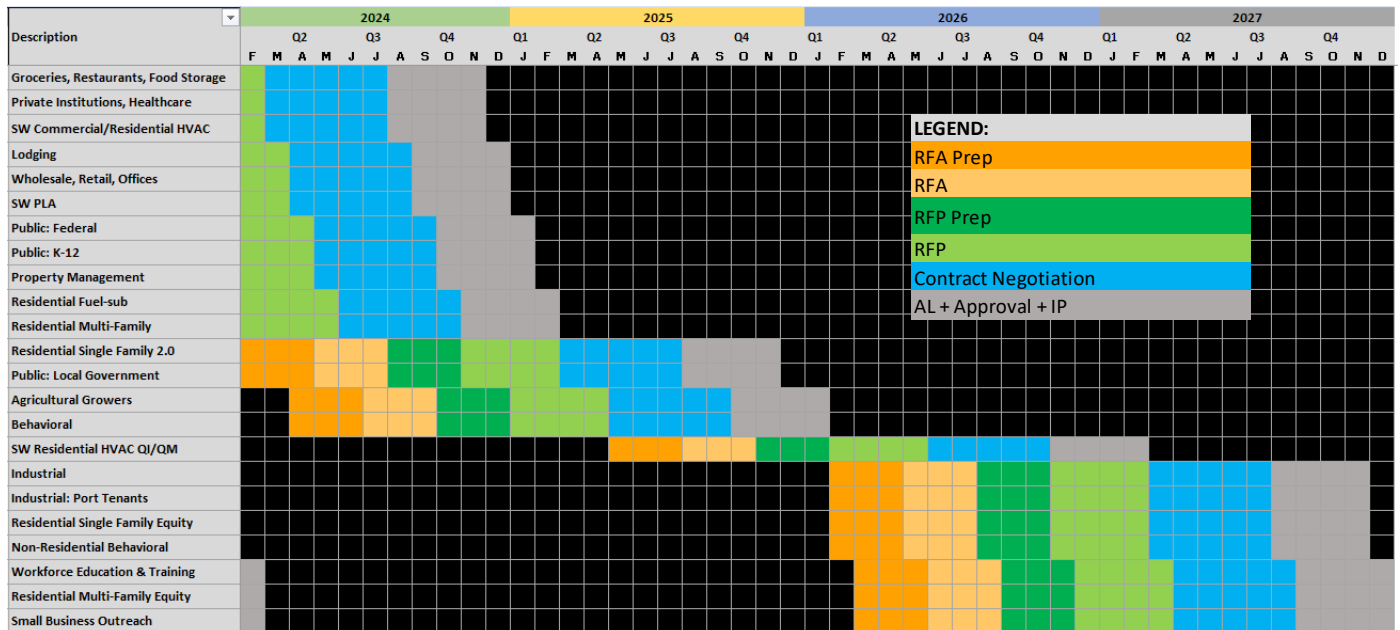


Figure 6: Schedule B – Two-Stage Solicitation Schedule



SDG&E will continue to seek out opportunities to serve its customers with effective energy efficiency solutions and may identify the need for additional solicitations or changes in the schedules put forth in this application.

c. Risk distribution

There are two aspects of risk distribution. The first is risk management across the portfolio with respect to Third-Party program performance, and the second is risk sharing between the PA and the implementer. Risk management is addressed extensively in the Section A: Strategies to Optimize Portfolio and Manage Risk. This section will focus on risk sharing or distribution between SDG&E and its Third-Party implementers.

As it pertains to risk sharing, D.16-08-019 states:

[A]s with many aspects of the portfolio, pay-for-performance is also not a one-size-fits-all solution for every program. Therefore, we encourage the program administrators to ensure risk-sharing and performance emphasis by utilizing pay-for-performance contracts in all contracts where savings measurement will be performed and where risk can be shared and not solely placed on ratepayer funding.¹⁷¹

SDG&E uses this principle in the design of its pay-for-performance contracts particularly for its resource acquisition programs or programs that deliver energy savings. SDG&E contracts are, in general, structured such that implementers are primarily compensated based on delivered program savings and other requirements and providing compensation for certain program ramp up activities. In addition, SDG&E recognizes superior performance by providing a bonus payment. These contracts use a combination of metrics and KPIs to track contract performance. There is timely feedback to assist implementers if they are not on track with goals. To manage risk of underperformance or non-performance, SDG&E describes its remediation process Section A above.

SDG&E will use a “pay-for-performance” approach for the Market Support segment and the Equity segment but will structure KPIs and metrics to appropriately reflect the goals of the program, i.e., KPIs and metrics will not necessarily be based on energy savings, cost effectiveness or TSB requirements. Below is SDG&E’s approach for pay-for-performance for the three segments:

- Resource Acquisition: SDG&E will work with the Third-Party Implementer to ensure they deliver cost effective savings and optimize TSB in their program design
- Market Support: SDG&E’s approach to the market support sector is one where a pay for performance structure may be used with the focus on delivering adequate support and services to the customer.
- Equity: Similar to the Market Support segment, SDG&E’s approach to this sector will be to focus on support and services to the customers that are hard-to-reach, in disadvantaged and underserved communities, etc. As stated above the pay-for-performance will be structured such that it focuses on program delivery to equity customers with the expectation that savings are delivered and tracked so that they can be counted towards the overall performance of SDG&E’s portfolio.

¹⁷¹ D.16-08-019 at 75-76.

SDG&E’s approach to risk sharing with its Third-Party program implementers as described above is fair and transparent with the expectation that ratepayers will not pay for benefits that they are not receiving.

d) Incorporation of input on current solicitation practices

SDG&E is committed to identifying and incorporating opportunities to improve the EE Third-Party Solicitation process. Feedback received from internal and external stakeholders, including the EE PRG, Independent Evaluators, Bidder Community and Energy Division has been valuable.

In addition, the Independent Evaluators have provided feedback via Semi-Annual Reports (SARs) and throughout their assigned solicitations. SDG&E has evaluated this feedback in real time and often adopted the recommendations provided. If the recommendation was not adopted, an explanation was provided. SDG&E views this feedback process as a beneficial construct that has resulted in more efficient and streamlined solicitations.

In August 2020, revised EE PRG Solicitation Guidelines were issued, which incorporated direction from Energy Division’s March 11, 2020, memorandum.¹⁷² This revision provided additional guidance geared towards streamlining the RFA, RFP, and Contracting phases to make it less onerous on bidders and reduce the timeline. SDG&E adopted the guidance and streamlined its solicitation processes.

Below is a high-level summary of improvements made to date that will be carried forward in future solicitations:

Table 31: Solicitation Improvements 2018-2021

Effective Practice	Action Taken
Real-Time Answers at Bidders’ Conference	The Bidders’ Conferences are conducted on Sli.do, ¹⁷³ with key subject matter experts (SMEs) available to field questions and provide answers in real time for bidders. All responses are also provided in writing and questions that are not answerable in real time are deferred until after the Conference.
Solicitation Announcements	SDG&E sends targeted emails to small and diverse business associations and other partners to enhance awareness of upcoming solicitations. In addition, SDG&E now posts announcements on its LinkedIn business page.
Multiple Rounds of Questions and Answers (Q&A)	For both the RFA and RFP stages, SDG&E provides more than a single round of Q&A following bidders’ conferences, which allows bidders to provide follow-

¹⁷² Letter sent by Ed Randolph to the IOUs on March 11, 2020.

¹⁷³ SDG&E conducts RFA and RFP Bidder's Conferences using the Sli.do webinar tool, which allows bidders to attend and ask questions in a manner anonymous to other bidders attending.

Effective Practice	Action Taken
	up questions and afforded bidders more opportunity to ask questions.
Address IE Recommendations and Effective Practices	SDG&E has initiated a process to address each Key Issues and Observations and Effective Practices presented in the Semi-Annual Reports. The IOU formally communicates its response to each item directly to the PRG and its collective IEs.
Reduce Solicitation Timelines	SDG&E has reduced the program solicitation timelines for all new solicitations going forward since PRG Guidelines were released in August 2020. Although these solicitations are still in progress, data for the phases that were completed at the time of this application filing (RFA Prep and RFA) show a reduction on average of 8 weeks. ¹⁷⁴
Providing Bidders with Rationale for Non-Selection	SDG&E began providing reasons for non-selection as part of their bidder notifications. Reasons included low evaluation scores, low total resource cost (TRC) scores, challenges with measure mix/budget and savings. In addition to written notifications with the high-level reasons, SDG&E offers the opportunity for a 25-minute Bidder Debrief Session.
RFA Stage Improvements	SDG&E eliminated the need for a Logic Model at this stage, reduced the number of questions from 24 to approximately 10, and transferred the Bidder Response Form from an Excel to Word format to improve user experience.
RFP Stage Improvements	SDG&E transferred the Bidder Response Form from an Excel to Word format to improve user experience, reduced the number of questions from 64 to approximately 24, and removed non-critical sections from this form to address later in the Interview or Negotiations process to lessen the burden for the Bidder at the RFP stage (e.g., duplicated Measure List, Customer Privacy Survey, etc.)
Contracting Stage Improvements	SDG&E established standing weekly negotiation calls for the solicitation.
CMO Weekly Check-Ins	The SDG&E CMO lead has weekly check-ins with the scoring team to answer any questions regarding proposal evaluations. The process allows the CMO to get detailed questions from scorers and provide

¹⁷⁴ Based on averages compared between solicitations completed between 2028-2021 and those launched after the revised EE PRG Guidelines were issued in August 2020 and completed the RFA Prep and RFA phases.

Effective Practice	Action Taken
	timely responses. This also reduces the potential for groupthink among scorers prior to calibration.
Scoring Team Debrief Sessions	SDG&E adopted this recommendation and applied it to the Local Agriculture and Local Government Partnership solicitations as a test case.

SDG&E will continue to seek out opportunities to improve the process and is committed to implementing effective practices and engaging with stakeholders on continuous improvement.

e. Supplier Diversity and Small Business

SDG&E is committed to supporting supplier diversity and small businesses as reflected in SDG&E’s 2020 Diverse Business Enterprises Annual Report, which states:

SDG&E injected over \$2 billion into the local economy in 2020 – the highest level of expenditures on goods and services in the history of our company. Of that amount, 41.6 percent, or \$872 million, was spent on contracts with diverse suppliers – small businesses led by women, minorities, and serviced-disabled veterans. This marks the eighth consecutive year that our supplier diversity spending has been at 40 percent or higher, far exceeding the California Public Utilities Commission’s (CPUC) goal of 21.5 percent.¹⁷⁵

As it relates to EE Third-Party contracts, Table 34 shows the percentage of contracts and related dollar values awarded to DBE Primes and Subcontractors to date.

Table 32: DBE EE Awarded as of Year End 2020

Total Contracted Amount	% \$ Awarded to DBE Primes and Subcontractors
\$172M – Includes funding PA contributions	24% \$41M
\$131M – SDG&E funding contribution only	28% \$36M

SDG&E’s EE portfolio presents opportunities for contracting with Third-Party implementers who are either DBE certified or willing to use qualified DBE subcontractors. SDG&E has a multi-pronged approach for encouraging participation of diverse businesses in EE solicitations, especially small business, and organizations and businesses that have not historically engaged with EE programs. This approach includes the continuation of facilitating collaboration opportunities, holding symposiums, sharing success stories and targeted outreach.

¹⁷⁵ SDG&E, 2020 SDG&E Supplier Diversity Annual Report (March 1, 2021) at 5, available at https://www.sdge.com/sites/default/files/2020_supplier_diversity.pdf.

SDG&E will hold quarterly meetings with Prime Contractors/Implementers to share the capabilities of diverse and/or small businesses to increase their awareness of these businesses and encourage collaboration.

SDG&E will host symposiums with Primes Contractors/Implementers, community-based organizations, and small and/or diverse businesses. The main objectives of these symposiums are to educate diverse suppliers on SDG&E opportunities and processes, introduce diverse supplier to Primes who may have sub-contracting opportunities, and to share DBE success stories.

We will continue to refine messaging and leverage communication channels that are effective in reaching small and diverse suppliers, as well as continue our outreach efforts.

i) Approach to continued Stakeholder Engagement on Solicitation Process

SDG&E will continue to engage stakeholders on the solicitation process. Since the inception of the EE Third-Party solicitation process SDG&E has, and will continue, to implement the following activities in support of stakeholder engagement:

- Increase Bidder Awareness on Upcoming Solicitations
 - LinkedIn – Posted messages about upcoming solicitations on SDG&E's LinkedIn channel.
 - Emails to Trade Associations and Community Based Organizations – targeted communications to announce upcoming solicitations to organizations whose members may be interested in participating
 - Emails to Multiple Service Lists – these communications are now shared with multiple service list members as opposed to only the EE proceeding service list
- Bidder Debrief Sessions
 - As of June 2021, SDG&E offers the option for Bidders not advancing to request a bidder feedback session. In this session, SDG&E representatives provides the Bidder with insights as to why they did not advance and field any questions.
- Trainings and Workshops
 - Several trainings and workshops have been held from 2018 through 2021 for the purpose of informing potential bidders about SDG&E's EE Third-Party solicitations. These trainings and workshops provide bidders with insights on the steps involved in solicitations and provides information on how to participate. SDG&E will hold at least one annual solicitation workshop which will cover the schedule of upcoming solicitations, where to register as a participant, and how to register as a DBE. In addition, SDG&E

will continue to partner with SDG&E's Supplier Diversity for additional workshop opportunities.

SDG&E has a dedicated web page that provides solicitation information to the Bidder community and external stakeholders.¹⁷⁶ This web page includes an overview of SDG&E's vision, an outline of the solicitation process, and links to resources such as SDG&E's Business Plans, the Joint IOU Third-Party Solicitation schedule, SDG&E's procurement portal – PowerAdvocate, the California Statewide IOU solicitation website – PEPMA, and the California Energy Efficiency Coordinating Committee (CAEECC) website.

SDG&E has participated in the Third-Party Solicitations Semi-Annual Stakeholder Engagement Forums and has found these forums to be informative and a good place to share information with a broader range of stakeholders. Under the assumption that these meetings continue, SDG&E commits to continued participation and support. Further, SDG&E provides updates on solicitations and process improvements at the monthly EE PRG meeting. With solicitations continuing in 2024 – 2027, SDG&E is supportive of keeping these monthly meetings.

3. Statewide Programs

a. SDG&E-led Statewide Programs

SDG&E is the current statewide lead for three programs: Statewide Upstream/ Midstream HVAC, Statewide Plug Load & Appliance, Statewide Residential Downstream Quality Installation/Quality Maintenance.

- The Statewide Heating, Ventilation & Air Conditioning Program, is a midstream/upstream program that offers a variety of HVAC products that serves both the commercial and residential sectors. The Program engages HVAC distributors, manufacturers, and retailers to offer incentives for energy efficient heating and air conditioning equipment that delivers cost-effective and reliable energy savings for California residents and businesses. The Program also offers training and marketing support to participating distributors and their contractors and offers education and training materials to end use customers. The program services both residential and commercial customers. This program launched in 2021.
- SDG&E filed a Tier 2 Advice Letter for approval for the Statewide Plug Load and Appliance program on January 28, 2022. The Statewide Plug-Load and Appliance program is a midstream program that will offer smart thermostats, room air conditioners, and water heating measures, including more efficient gas to gas replacement water heaters, standard electric water heaters to electric replacement heat pump water heaters, and gas to electric replacement heat pump water heaters (fuel substitution). The program will engage plug-load and appliance

¹⁷⁶ SDG&E, Energy Efficiency Third-Party Solicitations, available at <https://www.sdge.com/more-information/doing-business-with-us/energy-efficiency-third-party-solicitations>.

distributors and retailers to offer incentives for energy efficient plug-load and appliance equipment. In addition, the program will seek to educate key market actors along with end-user customers on various energy efficiency opportunities. This program is planning to launch in Q2 2022 after advice letter approval.

- SDG&E is currently soliciting for a program that seeks to promote interventions that increase customer adoption to pursue quality installations and value quality maintenance activities for their residential HVAC systems. In addition, the Program will support the training and education of HVAC industry actors to pursue standards that are considered acceptable for HVAC equipment installation and maintenance by the American National Standards Institute (ANSI). The Program will look to include a flexible delivery approach that targets customers based on specific criteria such as climate zones or other unique characteristics (e.g., Public Safety Power Shutoff zones, customers in disadvantaged communities, hard-to-reach customers etc.).

When these statewide contracts end, SDG&E plans to re compete the programs to bring a fresh perspective and offering to the market.

Table 33: SDG&E-led Statewide Programs

Program	Contract Term
Statewide Upstream/Midstream HVAC (Commercial and Residential)	PY 2021 – 2023
Statewide Plug Load and Appliance	PY 2022 – 2024
Statewide Residential Quality Installation/Quality Maintenance	PY 2023 - 2025

b) Statewide Programs Managed by Other Program Administrators

Statewide Programs Managed by other Program Administrators

Table 34: Statewide Programs Managed by other PAs

Lead IOU	Program
PG&E	WE&T Career and Workforce Readiness
PG&E	Residential New Construction (all electric)
PG&E	Residential New Construction (mixed fuel)
PG&E	Non-Residential New Construction (all electric)
PG&E	Non-Residential Ne Construction (mixed fuel)
PG&E	Codes & Standards Advocacy
PG&E	Institutional Partnerships (State of CA Department of Corrections & General Services)
SCE	Water/Wastewater Pumping
SCE	Lighting (Upstream)
SCE	Electric Emerging Technologies
SCE	Institutional Partnerships (Higher Education)

Lead IOU	Program
SCG	Gas Emerging Technologies
SCG	Midstream Commercial Water Heating
SCG	Food Service Point of Sale

c. Proposed Changes in the Designated Lead PA for the Statewide Administration of Programs, and/or Proposal to Convert Regional Programs to Statewide

SDG&E proposes additional programs for Statewide Administration consideration:

- Residential Behavioral Program
 - Offerings and methodology are consistent across the state, and thus moving this program from a local to a statewide program would help ensure uniform delivery across the state. Potential issues include the need for usage data from each IOU the Third-Party would coordinate with. This could be administered by any of the IOUs, since all participate in the Behavioral program offering. SDG&E is willing to be the SW PA.
- Residential Audits – Universal Audit Tool
 - Offerings and methodology are consistent across the state, thus moving this program from a local to a statewide program would help ensure uniform delivery across the state. This could be run in conjunction with the Residential Behavioral program and has much of the same challenges as the Residential Behavioral program in that the Third-Party would need coordination with all the IOUs for usage data. SDG&E is willing to be the SW PA.

SDG&E also recommends that a study be performed to validate if the following programs could be effectively considered for Statewide Administration:

- Residential Multi Family Program
 - D.21-06-015 directed solicitations for to administer two multifamily whole building programs, a Northern multifamily whole building (MFWB) and a Southern MFWB program that covers SCE, SoCalGas and SDG&E service territories. These 2 solicitations would replace the 4 individual IOU ESA multifamily programs.¹⁷⁷ These MFWB programs are expected to begin implementation no sooner than January 1, 2023.¹⁷⁸ Experience with this regional implementation strategy should provide information on serving the multifamily sector with a statewide program.

¹⁷⁷ D.21-06-015, OP 120 at 501.

¹⁷⁸ D.21-06-015, OP 123 at 502.

- Strategic Energy Management (SEM) Program
 - The methodology for this program is prescriptive and set at the statewide level. This makes this a program that could be implemented statewide, addressing the overarching needs of the industrial companies that are willing to participate in an SEM approach.

SDG&E proposes that with new potential programs for Statewide offering, this would be an opportunity to expand the Statewide Administrator pool to non-IOU PAs.

At this time SDG&E does not recommend any changes to the current Lead PA assignments for statewide program administration. Most statewide programs are in the beginning stages at the time of this Application, and it is too early to determine if a lead administrator change is warranted.

SDG&E recommends moving the Statewide Lighting program offerings to a local or regional level. Lighting measures would be part of a comprehensive program offering to customers. Over the past five years (since 2016), the lighting market has gone through major market transformation that has led to LEDs becoming the primary lighting technology. As a result, most LED bulbs (deemed measures) for residential and non-residential application have become code and/or standard, resulting in ineligibility for customer offerings in resource programs in IOU portfolios. As a result, the focus has turned towards energy efficient lighting solutions targeting individual customer needs, which lends itself to a downstream delivery model. Moving the delivery of lighting measures to the individual IOUs allows the local third-party and IOU programs to work with each customer to meet their individual needs and maximize energy efficiency opportunities.

4. Assessment and Mitigation of Risk from Portfolio Diversity, in Different Companies Contracted, Size of Company, Type of Company (New, Existing; DBE), Contract Budget Amount

Two different aspects of managing risk – during solicitation and during implementation.

SDG&E performs a credit and risk assessment of each selected bidder in a solicitation. Our internal Credit and Risk department performs a credit assessment of the selected bidder and makes recommendations to the solicitation team on potential securities and assurances with each bidder. In addition, SDG&E assess the portfolio on the whole in terms of implementer diversity as it relates to number of contracts and the percent of the portfolio budget that is under contract to one implementer. All of these data points are taken into consideration when making the final recommendation to senior leadership on a winning bidder.

5. Contract Management

SDG&E contract management includes on-going coordination and collaboration with its Third-Party Implementers, as well as reviews of program performance in relation to the Key Performance Indicators (KPIs) laid out in the contract. Program Operation team members schedule regular status update meetings and quarterly review sessions with the Third-Party Implementers to discuss program progress and achievement towards

goals. All KPIs and Metrics, along with spend and savings forecasts, are reviewed and shared with all internal stakeholders monthly. The Program Operations team tracks all deliverables outlined in the contract and reviews each with the Third-Party Implementers on a regular basis.

In addition to the functions listed above, there are several activities that a Lead IOU for a Statewide program performs to ensure proper administration of the program. After execution of the contract with a Third-Party Implementer, the lead IOU drafts a co-funding agreement for the contract. This process includes review and approval of the terms of the co-funding agreement from each funding IOU. The co-funding agreement outlines the responsibilities of the Lead and non-Lead PAs, amount of funding shares and the remittance of funds schedule, a process for procuring additional funding if a program is overperforming, tracking of funds through interest-bearing balancing accounts, an annual true-up which includes interest accrued and each IOU a status of their payments and a filing of the annual true-up in the Annual Report filed the following year. In addition, the IOUs share statewide program performance as well as forecasts monthly to help inform portfolio planning and management.

E. PORTFOLIO COORDINATION

1. Coordination with Other PAs

Coordination with the other PAs is necessary for the implementation of Statewide programs. D.18-05-041 assigned each IOU Lead administration responsibilities for certain statewide wide programs.¹⁷⁹ Consistent with D.18-05-041, SDG&E and the other IOUs utilize joint statewide meetings on a consultative basis to coordinate and inform each other on program progress, true-up payments and coordination between the upstream/midstream programs and downstream programs. This coordination is paramount to the success of all programs no matter the delivery channel type (i.e., upstream/midstream and downstream) to minimize double reporting of savings, multiple rebates for the same measure installation but more importantly, avoid implementer and customer confusion.

SDG&E will continue to actively participate in all statewide initiatives and project coordinating groups (PCGs), solicitation all hands forums, to ensure coordination with other PAs. Participation in these various statewide groups promotes statewide consistency and allows for efficiency as the PAs are able to share and leverage resources towards common goals (e.g., standardizing measure assumptions, developments of common reporting tools), and to share best practices.

As stated in the following section, in the event that a Community Choice Aggregator (CCA) or Regional Energy Network (REN) EE PA is approved in SDG&E's service territory, SDG&E will coordinate program offerings with them to avoid customer confusion and duplication of efforts.

¹⁷⁹ D.18-05-041, Tables 3 and 4 at 91-92.

2. Description of How the Program Administrator’s Portfolio is Complementary with the Portfolios of Other Program Administrators with Overlapping Service Territory

Should a CCA or REN be approved by the Commission to serve as an EE PA in the service territory, SDG&E will partner with these entities to effectively deliver Energy Efficiency programs to our customers in our shared territory. In the case that a CCA is looking to start offering EE programs in its geographic location, SDG&E will support the interested CCA by sharing SDG&E’s portfolio of programs, policies affecting EE, goals/metrics and overall administration of the EE portfolio. This will ensure that the CCA has the tools and support necessary to be successful. SDG&E’s territory overlaps with SCG in a small area to our north. SDG&E is the electric provider whereas SCG is the natural gas provider. SDG&E coordinates Energy Efficiency work on those customers in this area with our SCG counterparts to ensure that all Energy Efficiency needs are being met.

3. (IOU PA Only) Description, for Both Statewide and Regional Programs, of how Strategies have been Coordinated with the Other Program Administrators, Including Designation of the Lead for Statewide Programs and Level of Coordination for Both Statewide and Regional Programs.

The Statewide program lead assignments proposed in this Application for existing Statewide programs are the assignments as they are currently implemented and approved by D.18-05-041.¹⁸⁰ The statewide programs are in the beginning stages of implementation with most of the contracts either continuing to 2024 or extended. At this time, it is too early to determine if administration assignments should be revisited. SDG&E recommends that statewide administration and assignments be evaluated prior to making any changes.

As described above in Section V.E.1 above, SDG&E participates in various PA coordination program meetings on both the statewide and local programs. SDG&E’s approach to coordination between the statewide and regional programs has been one of collaboration with the other IOU PAs and communication with its local implementers. SDG&E manages its portfolio on the principle set by the Commission¹⁸¹ that the upstream/midstream statewide programs take precedence and have communicated with its local implementers on how to best manage their programs to avoid double dip and minimize customer confusion. In a joint response with SCG to an Energy Division data request in August 2021, regarding Measure Precedence and Statewide/Local Program Overlap, SDG&E laid out its preferred methodology as it relates to coordination between upstream/midstream programs and downstream programs.¹⁸² This includes the creation

¹⁸⁰ D.18-05-041, Tables 3 and 4 at 91-92.

¹⁸¹ D.18-05-041 at 82.

¹⁸² SDG&E and SoCalGas Response to Energy Division Data Request re Commercial Savings (August 30, 2021) at Question 2b: “Please summarize how the problem and associated risks would be impacted under each of the following hypothetical scenarios: CPUC directs downstream program implementers to utilize a catalog of participating up/midstream suppliers to avoid procuring incented equipment.”

and maintenance of statewide product catalogs showing eligible equipment and participating distributors and retailers in upstream/midstream programs. As noted in the response:

This catalog scenario provides transparency among the IOUs and local implementers as to which measures or equipment have been bought down at the earliest point in the supply chain and where the products are available. The availability of the catalog allows those downstream implementers to make their own choice as to what and where to purchase the measures for their customer. Operationally, SDG&E believe that the SW program should take full credit for all the savings and costs that are delivered through the participating manufacturers and distributors. To avoid double counting/double dipping, the local IOU would then direct their local implementer to only claim products that they purchased outside of the catalog. This option does not limit a customer or contractor's ability to procure equipment from their preferred supplier, but rather puts the burden on the downstream implementer to check for participating suppliers via the statewide catalog. Implementer contracts will need to address this procedure and the impact on their savings opportunities.¹⁸³

The catalogs are posted on PEPMA and updated regularly by IOU staff to ensure all Third-Party Implementers have access to the most current information. The PEPMA site also has links to the various statewide program websites for further visibility. The IOUs are working with Energy Division to finalize the approach to addressing this program precedence coordination.

In addition to program precedence coordination between upstream/midstream and downstream programs, there is coordination between local retrofit programs and the Statewide Residential and Non-Residential New Construction programs regarding what constitutes a major alteration. At the time of this filing, the joint IOU team continues to work on a common definition of major alteration projects that would meet the qualification of statewide New Construction project, otherwise these projects would qualify under the local retrofit programs. This clarification is critical for identifying what the appropriate baseline is for calculating savings. SDG&E will continue to work with the other IOUs, Energy Division and other stakeholders to finalize the definition of major alteration so that the project would qualify for participation in the Statewide New Construction programs. This action is consistent with direction provided in Resolution E-4818 that states, "We direct Commission staff to work with PAs and stakeholders to clarify specific measure-level questions related to baseline classifications, and to document the questions and resulting clarifications in a publicly available document on the CPUC website."¹⁸⁴

¹⁸³ *Id.* at Response 2b.

¹⁸⁴ Resolution E-4818 (March 2, 2017) at 53.

4. Description of How the 4-Year Portfolio and Budget Considers and Coordinates with Other Energy Programs to Mitigate Duplication of Effort, Unnecessary Spending, and Customer Confusion or a Customer Participating in a Suboptimal Program for Their Needs

The above sections on various coordination efforts to mitigate duplication of effort, unnecessary spending, and customer confusion or a customer participating in a suboptimal program for their needs are described in Sections V.E.1 through V.E.4, above.

SDG&E’s strategy for solicitation has been to solicit for clear markets, with no overlap, to avoid customer confusion and ensure a customer can be serviced end to end by the program.

5. Coordination with Other Programs -- Integrated Demand-Side Programs (IDSM)

a. EE + DR Coordination

As directed by D.18-05-041¹⁸⁵ and D.21-12-015¹⁸⁶ IDSM DR activities will be focused on facilitating and supporting residential and commercial automatic response and integrating DR capabilities into EE efforts. D.18-05-041 requires a set aside of a minimum annual amount of “\$1 million for the residential sector and a load-share-proportional amount of \$20 million for the commercial sector”¹⁸⁷ from each IOU PA’s IDSM budget to test and deploy integration strategies, which may test multiple program design and customer incentive approaches, as well as multiple technology types, with emphasis on demand-response-capable control technologies. SDG&E’s commercial load share is 20 percent or \$4.0 million. SDG&E has identified IDSM opportunities with its Third-Party Implementers and will continue to work with its contracted Third-Party Implementers to allocate the IDSM budget as applicable IDSM activities are implemented. The specific IDSM activities will be identified in the final implementation plans of the Third-Party programs. The following table provides the IDSM EE+DR budgets for 2024 through 2027.

Table 35: 2024-2027 IDSM EE+DR Budget

	Market Sector	Program	2024 Total Budget	2025 Total Budget	2026 Total Budget	2027 Total Budget
DR	Cross-Cutting	IDSM - DR - Commercial	\$ 2,000,000	\$ 2,000,000	\$ 2,000,000	\$ 2,000,000
DR	Residential	IDSM - DR - Residential	\$ 2,750,000	\$ 2,750,000	\$ 2,750,000	\$ 2,750,000
Subtotal DR			\$ 4,750,000	\$ 4,750,000	\$ 4,750,000	\$ 4,750,000
EE	Residential	IDSM - EE - Residential	\$ 3,013,102	\$ 3,021,145	\$ 3,025,017	\$ 3,026,507
EE	Cross-Cutting	IDSM - EE - Commercial	\$ 4,500,000	\$ 4,500,000	\$ 4,500,000	\$ 4,500,000
Subtotal EE			\$ 7,513,102	\$ 7,521,145	\$ 7,525,017	\$ 7,526,507
Total IDSM (DR+EE)			\$ 12,263,102	\$ 12,271,145	\$ 12,275,017	\$ 12,276,507

b. Water Energy Nexus Coordination

Since the early 2000s, the Commission has been interested in both the energy used by California’s water sector and the potential for realizing energy savings through efficiency measures. With the continuing drought and ongoing water issues in California, the

¹⁸⁵ D.18-05-041, OP 10 at 184 and at 36-38.

¹⁸⁶ D.21-12-015 at 84-85.

¹⁸⁷ D.18-05-041, OP 10 at 184.

Commission has advanced work on the water-energy nexus through several studies, pilot programs, and the development of analytical frameworks for evaluating water-related energy savings. D.15-09-023, the CPUC adopted the Water-Energy Calculator (WEN Calculator), which helps quantify energy savings from water-conservation projects and programs targeting the water system and allocate costs and benefits among Program Administrators. D.17-12-010 approved the WEN Action Plan, which primarily focuses on updating the WEN calculator.

SDG&E has included WEN measures in this portfolio application. The WEN measures are currently limited to those with approved workpapers and are primarily focused on WEN measures that save hot water, resulting in water heating savings in addition to water savings. These savings impacts are reported regularly to the Commission. SDG&E will continue to partner with the primary San Diego water agency, the San Diego County Water Authority (SDCWA), to identify common WEN measures that both SDG&E and SDCWA can jointly promote and install in the next cycle.

In order for the IOUs to pursue more WEN measures and expand to measures that are focused on cold water energy savings, SDG&E recommends that the Commission include WEN savings as part of the next Potential and Goals Study. Following that development of the WEN potential, the Commission should include it as part of the goal that would allow the IOUs to take credit for WEN savings. Currently, energy savings from WEN measures are reported but not included as part of the goal and counted towards the IOU's savings achievements towards the goal.

c. Building Decarbonization and Clean Energy Programs Coordination

SB 1477 established two building decarbonization pilot programs – the Building initiative for Low-Emissions Development (BUILD Program) program and the Technology and Equipment for Clean Heating (TECH Initiative) initiative in 2018.

The BUILD program is administered by the CEC and is limited to new residential housing building projects that are all-electric and have no hookup to the gas distribution grid. At this time, PG&E is the statewide administrator of the Residential New Construction program. SDG&E expects PG&E will coordinate with the CEC to promote the BUILD program as part of the EE new construction programs it is overseeing. SDG&E will also promote the BUILD program with its local jurisdictional agencies through its own local C&S programs.

The TECH program is administered by SCE and implemented by Energy Solutions. The TECH program is intended to drive market adoption of low-emissions space and water heating technologies for existing single and multifamily homes across California. More recently, the Commission approved D.21-11-002, which among other things, adopted incentive layering guiding principles and requirements¹⁸⁸ that provides a mechanism by which EE programs can coordinate with the TECH program. This coordination allows customers installing qualified space and water heating appliances to take advantage of additional incentives to facilitate and offset the cost of installing these appliances. The TECH program complements the EE fuel substitution initiatives and programs. As the statewide lead for the HVAC and Plug Load Appliances (PLA) programs, SDG&E will

¹⁸⁸ D.21-11-002, OP 1 at 112 and Appendix A.

work with the program Implementers to promote the coordination of the statewide HVAC and PLA programs' fuel substitution measures with TECH. In addition, SDG&E will encourage its local Implementers who are implementing fuel substitution programs and measures to coordinate with TECH.

D.21-11-002 also adopted the Wildfire and Natural Disaster Resiliency Rebuild (WNDRR) Program, which will 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, with SCE as the program administrator.¹⁸⁹ As with the BUILD program described above, SDG&E expects that PG&E's statewide Residential New Construction program will coordinate with WNDRR to assist customers who are impacted by future wildfire or other natural disasters. In addition, through its local C&S programs, SDG&E will promote the WNDRR program with local jurisdictions.

d. Market Transformation Initiatives and Programs Coordination

As early as 1998, the Commission defined market transformation as:

“Long-lasting sustainable changes in the structure or functioning of a market achieved by reducing barriers to the adoption of energy efficiency measures to the point where further publicly funded intervention is no longer appropriate in that specific market.”¹⁹⁰

Since then, market transformation has been one of the primary objectives of EE programs. In 2019, the Commission adopted a market transformation administration structure to focus on this objective. D.19-12-021 approved the creation of a Market Transformation non-IOU administrator (MTA) with PG&E assigned to be the contract manager and fiscal agent.¹⁹¹ In 2021, PG&E issued a request for proposal to select the Market Transformation administrator. SDG&E anticipates that the MTA will develop and implement various Market Transformation Initiatives (MTI) in the succeeding years.

SDG&E will coordinate its programs with the MTIs and programs that will be deployed by the MTA. However, SDG&E notes that because most of the statewide programs are upstream/midstream, there could be potential overlaps between the current statewide programs and MTIs, as market transformation programs also focus on midstream/upstream delivery channels. In addition, there could be overlaps with the downstream programs if the same measures are offered. SDG&E recommends the EE PAs and the MTA coordinate their efforts to avoid double counting of savings and duplication of efforts.

e. Energy Savings Assistance Programs Coordination

Energy Efficiency Residential programs will coordinate with the various Energy Savings Assistance programs. EE program Implementers will refer income-qualified customers to the appropriate ESA and CARE programs. Similarly, customers that do not qualify for ESA programs should be referred to EE programs. With respect to the multifamily

¹⁸⁹ D.21-11-002, OP 2 at 112-113 and Appendix B.

¹⁹⁰ CPUC, *California Energy Efficiency Strategic Plan* (January 2011) at 4, available at <https://www.cpuc.ca.gov/-/media/cpuc-website/files/legacyfiles/c/5303-caenergyefficiencystrategicplan-jan2011.pdf>.

¹⁹¹ D.19-12-021, OP 6 at 90.

customers and properties, SDG&E will coordinate the EE and ESA programs through SDG&E's Single Point of Contact (SPOC). EE programs will address in-unit and common area EE projects that don't qualify for ESA treatment.

6. Stakeholder Engagement in the Development of this Application

SDG&E's Business Plan Application planning was informed by several stakeholders through informal exchanges and meetings. SDG&E specifically solicited input from its Third-Party Implementers to develop the 2024-2027 outlook and forecast of the various sectors. SDG&E considers its implementers to be experts in the sectors that they serve and incorporated their feedback.

SDG&E also incorporated stakeholder feedback it received during the planning of its 2022-2023 budget advice letter, as the feedback was also applicable in the planning of this Business Plan. This includes comments on the increased focus on fuel substitution measures in programs, focusing on "right-sizing" the budget while still complying with the Commission's requirements on cost effectiveness, and setting targets relative to savings potential. The continuing discussions and feedback from the PRG and Independent Evaluators during the solicitations have also informed the development of this business plan.

Due to the planning timeframe of this Application, SDG&E has not had the opportunity to preview its business plan proposal at a California Energy Efficiency Coordinating Committee (CAEECC) meeting. The CAEECC proposal recommended a public workshop after the filing of the application that would serve as an orientation on the application.¹⁹² SDG&E will provide this opportunity for stakeholders after its filing.

¹⁹² The Natural Resources Defense Council's (NRDC) Motion Seeking Commission Ruling and Comment Period on the California Energy Efficiency Coordinating Committee Proposal for Improvements to the energy Efficiency Portfolio and Budget Approval Process Working Group Report, submitted in R.13-11-005, April 24, 2020, Attachment A at 15.

VI. EVALUATION, MEASUREMENT & VERIFICATION

OVERVIEW

As Energy Efficiency programs have continually expanded and evolved over the years, so has Evaluation, Measurement, and Verification (EM&V). EM&V roles and responsibilities increased but still maintain the goals and objectives to evaluate, measure, and verify the performance and savings of SDG&E programs. SDG&E EM&V activities include but are not limited to:

- Measure and verify savings claims at the beginning (ex-ante) and at evaluation (ex-post)
- Optimize and develop new strategies, metrics, and calculation methods
- Assess the potential of energy efficiency savings opportunities in the marketplace
- Provide subject matter expertise for program planning and policy updates
- Provide recommendations for system and tool enhancements to incorporate compliance changes

A. SUMMARY OF PLANNED EM&V STUDIES AND ACTIVITIES

1. Portfolio Savings Verification from Beginning to End

A significant portion of EM&V activities involve ongoing collaboration with the Energy Division and their independent evaluators that are hired to conduct various evaluations and studies. This includes impact evaluations on deemed, custom, and other uncertain measures, as well as the biennial P&G Study that the Commission uses as the basis for developing EE savings goals. The P&G Study provides a reference for SDG&E's future planning and forecasting. SDG&E utilizes the recommendations from the various impact evaluations to improve current and/or future program design, program systems, and updates to measure package assumptions to improve results at the end of the evaluated year, along with allowing a better start for Program Years offering similar measures.

Communication at the PCG meetings for various topics related to the Energy Division's four evaluation contracts have helped engage the IOUs to incorporate feedback for adjustments in research methodologies. Incorporating this feedback is necessary for evaluation work, as well as working with the ex-ante team and the measure package development. EM&V activities from impact evaluations and studies shape the next round of DEER Resolution updates. Program activities on the front-end are also enhanced when EM&V and Program leads are engaging in these PCGs directly from Energy Division staff and their evaluation team, which could help with any course corrections for associated programs. This current activity will increase in the new Business Plan, as newer and more innovative programs and measures are deployed and will need to be continuously evaluated.

Population-NMEC program design is an innovative methodology that will continue to be developed over the span of this EE Business Plan. As NMEC continues to grow in the

portfolio mix, there will be additional need for NMEC review processes and support. SDG&E recently launched a Request for Qualification (RFQ) for future services to prepare for an upcoming program that has Population-NMEC as their program design methodology. SDG&E will continue to participate in the newly formulated NMEC Working Group, which had a kickoff meeting in December 2021 and will carry over into 2022. This working group was reestablished as there was a growing need that came out of the NMEC PCG meetings to revise the NMEC Rulebook. These are examples on how NMEC continues to evolve and the need for such support from EM&V staff.

2. Portfolio Optimization and Evolution

The SDG&E EM&V team continues to support resource acquisition, as previously discussed in measurement and verification of savings of ex-ante and ex-post. The EM&V team also supports evolution and new updates such as adopting a new approach to segmenting EE Portfolios by establishing Market Support and Equity pursuant to D.21-05-031. EM&V team members statewide participated in the working groups for these two portfolio segments and established new metrics for the IOUs to capture and meet performance. As with the existing 300+ resource acquisition metrics and these new metrics for the new segments, EM&V will continue to support any additional updates and/or changes over the course of the Business Plan to comply with the CPUC and Energy Division strategies.

One strategy that enables potential portfolio evolution is conducting energy efficiency pilots. SDG&E is currently conducting the San Diego Port District Specialized Energy Efficiency Pilot Program (PDSEEP) and evaluating savings opportunities that do not qualify for SDG&E's current EE programs.¹⁹³ If the pilot is successful, SDG&E would propose these specialized measures to be included in the standard EE measures so that the savings from these pilot measures can be included in overall portfolio performance. The SDG&E EM&V team will continue to support future Pilots that may arise and/or are determined as necessary to support EE.

3. Portfolio Potential and Accuracy of Implementation

Another important and large portion of EM&V activities are IOU studies to support local and statewide programs. Currently, SDG&E is leading the Residential EE Market Study to assess the residential EE market with a focus on single-family customers, unmet needs/program gaps, barriers to participation, and opportunities to improve current program offerings and/or develop new measures that meet the needs of these customers. With the increased focus on Fuel Substitution measures, SDG&E proposes to conduct market studies at the local level to determine SDG&E's fuel substitution potential for both the Residential and Non-Residential sectors. These are examples that would be in our future EM&V Roadmap planning.

In addition to conducting SDG&E's specific research and evaluation studies, SDG&E partners with the other IOUs for studies that may impact SDG&E programs and

¹⁹³ The PDSEEP was authorized by D.19-12-002 and Advice Letter 3527-E and is currently not part of SDG&E's EE Portfolio. Funding for the program is authorized separately from the current EE portfolio.

customers. SDG&E will continue to participate in and co-fund IOU PCGs to design and develop research plans, survey instruments, communication of data requests, presentation of study results, etc. SDG&E may participate in various IOU EM&V solicitations to select the best fit of evaluation firms to conduct these studies. The IOU-led studies help support the overall EM&V Roadmap planning that is conducted biennially, in compliance with D.21-05-031. This roadmap also coordinates all planned studies from both the IOUs and the Energy Division.

4. Portfolio Compliance and Enhancements

As SDG&E continues to meet its Third-Party compliance targets, along with recent decision language in D.21-05-031 and D.21-09-037 that include modification of the portfolio approval and oversight process combined with new goals, SDG&E will continue to implement EM&V resources that review and provide comments when these regulatory filings, and system and tool upgrades are distributed for stakeholder feedback. An example of EM&V activities include participation in the Integrated Demand Energy Resources proceeding (R.14-10-003) that oversees the annual update of the Avoided Cost Calculator (ACC) to understand the impacts of the updates to the EE portfolio's cost effectiveness and TSB. Once the updates are finalized, SDG&E will continue to work with Energy Division and other stakeholders as the new ACC values are incorporated into the EE cost effectiveness tool (CET). Another critical update is the biennial P&G Study that continuously updates the potential achievable EE available for portfolio programs.

SDG&E EM&V activities also include participating in the Reporting PCG by reviewing and testing CET formulas and updates. SDG&E's continuing involvement in the ACC, P&G, and the Reporting PCG will support and develop appropriate recommendations to help align reporting with these various reports/proceedings. SDG&E will continue to have resources from EM&V for future enhancements to assist in aligning compliance language and system enhancements.

The EM&V staff will continue to support future Third-Party solicitations throughout the new Business Plan to provide market potential, EM&V results, and other research to assist third parties as they develop relevant programs and for SDG&E staff to evaluate proposals. Once these new Third-Party programs are launched, SDG&E will use EM&V to support development of Quality Assurance plans, including internal checks on the front end to provide enhancements for both the program and implementer.

There is a need for behavior-based energy efficiency programs to continue, as shown in the 2021 EE Potential & Goals Study. However, D.10-04-029, OP 13 limits future program designs, where “[s]avings from behavior-based energy efficiency programs, defined as comparative energy use reporting contemplated in Senate Bill 488, shall be eligible for counting, if evaluated consistent with experimental design methods contained within the California Evaluation Protocols.” As SDG&E begins its local behavior solicitation process, the expansion of allowable methodologies other than experimental design in behavior-based energy efficiency programs is needed, such as allowing Population-NMEC to become eligible.

B. SDG&E/ED BUDGET ALLOCATION AND JUSTIFICATION

D.16-08-019 notes that 27.5 percent of the budget is allocated to program administrators and that the CPUC "agree with the staff recommendation to increase the portion of the EM&V budget allocated to the program administrators to a maximum of 40 percent."¹⁹⁴ D.16-08-019 further notes that the increase would only be "...in recognition of the increased emphasis on 1) NMEC and Pay for Performance, and 2) up front planning and market assessment associated with the market transformation and other programmatic emphasis in SB 350 and AB 802."¹⁹⁵ The Decision goes on to say, "Additional budget beyond the current 27.5 percent earmarked for program administrators, and up to the 40 percent cap allowed herein, should be designated only for the additional activities associated with the change in EM&V priorities and activities articulated in this decision."¹⁹⁶

Resolution E-5152 also mentions that Energy Division ". . . agree[s] with SDG&E that support for CalTF may be considered either program- or evaluation-related, and therefore grant the IOUs the discretion to determine whether to categorize the activity as program implementation funding or EM&V for budgeting purposes."¹⁹⁷ SDG&E has accounted eTRM enhancements through EM&V and as directed in Resolution E-5152, provided a breakdown of costs. Resolution E-5152 also notes that "[u]ltimately, the Energy Division will integrate the eTRM with the California Energy Data and Reporting System (CEDARS) when the Energy Division receives authorization by the California Department of Technology for the appropriate IT procurement activities. The IOUs may pass financial responsibility for ongoing eTRM maintenance and development to the CPUC when the CPUC's IT procured contracts to fund and support the platform are underway in 2022. At this point, the Energy Division will manage the eTRM indefinitely, including vendor contracting, funding, development and maintenance."¹⁹⁸

By 2024, eTRM enhancement costs that were previously accounted for in SDG&E's EM&V budget, will be accounted for by Energy Division. This leaves room to help fund the CalTF implementation budget. SDG&E had accounted for these eTRM enhancements by increasing its allocation by 2.5 to 30.0 percent when filing for PY2022 and PY2023. For PY2024-PY2027, SDG&E will account these EM&V dollars for the CalTF implementation budget and continue to ask for 30.0 percent. The remaining costs will be handled by program dollars. The table below provides the costs of CalTF's budget for 2024-2027 as of January 4, 2022.

¹⁹⁴ D.16-08-019 at 80.

¹⁹⁵ *Id.* at 80-81.

¹⁹⁶ *Id.* at 81.

¹⁹⁷ Res E-5152 at 26.

¹⁹⁸ *Id.* at 9.

Table 36: Proposed CalTF Budgets PY2024-PY2027

Program Year	2024	2025	2026	2027
CalTF budget for SDG&E's portion	\$291,422.67	\$305,993.80	\$321,293.49	\$337,358.17

The table below provides the forecasted allocated costs for EM&V activities, including general labor, NMEC, CalTF, and studies, utilizing the increase of SDG&E's share of 30 percent.

Table 37: Breakdown of EM&V Allocated Costs and Justification to 30 Percent

	2024	2025	2026	2027
NMEC	\$ 150,000	\$ 150,000	\$ 150,000	\$ 150,000
Other Studies	\$ 237,489	\$ 275,765	\$ 246,792	\$ 272,106
CalTF	\$ 200,000	\$ 200,000	\$ 200,000	\$ 200,000
Admin	\$ 368,487	\$ 381,221	\$ 394,871	\$ 409,185
EM&V SDG&E (30%)	\$ 955,976	\$ 1,006,986	\$ 991,663	\$ 1,031,291
EM&V - ED (70%)	\$ 2,230,611	\$ 2,349,634	\$ 2,313,881	\$ 2,406,345
Total EM&V Budget	\$ 3,186,587	\$ 3,356,621	\$ 3,305,545	\$ 3,437,635

Table 39 provides some examples of other studies and the categorization for the type of study and associated EM&V activities would include but not limited to process evaluation, market assessment, best practices and methodology improvements, and metrics. These examples of EM&V studies and activities could be implemented jointly with the other IOUs (co-funding) or locally depending on the category and scope of the study. Some of these examples could also be led by the EM&V staff from the Energy Division as they would be brainstorming suggestions on how to spend their EM&V portion. The specifics of source funding and leads of each study proposals would be detailed in upcoming biennial EM&V Roadmap Planning activities.

Table 38: Examples of Other Studies and Categories

Categories of Studies	Example
Process Evaluation	<ul style="list-style-type: none"> a. 3rd-Party Programs <ul style="list-style-type: none"> i. Evaluate any cross-over of 3rd-party programs to avoid cannibalization statewide programs ii. Include Marketing, Education, and Outreach (ME&O) of material and possible confusion to the customer iii. Include evaluability studies with metrics b. Quality Insurance (Q&A) Plans

Categories of Studies	Example
Market Assessment	<ul style="list-style-type: none"> a. Fuel Substitution for local territory b. Refrigerant measure market study <ul style="list-style-type: none"> i. Low-GWP ii. Avoided Costs and CET component iii. Removal/Recycling of baseline equipment c. Additional decarb market assessment
Best Practices and Methodology Improvements	<ul style="list-style-type: none"> a. Industry Standard Practice <ul style="list-style-type: none"> i. Support measure package developments/updates b. Total System Benefit (TSB) and reviewing DEER Load Shapes for Optimization c. Impacts and Alternative Evaluation Methods to the Upstream/Midstream delivery when collecting End-User data d. Normalized Metering Energy Consumption (NMEC) rulebook and technical guidance updates e. Cross Cutting <ul style="list-style-type: none"> i. Incentive layering increased deployment ii. Issues with CAISO and peak demand reliability
Performance Metrics	<ul style="list-style-type: none"> a. Evaluation of data collection fields related to the proposed methodology to metrics <ul style="list-style-type: none"> i. Existing Resource metrics ii. New Market and Equity segments

VII. COST & COST RECOVERY

OVERVIEW

The purpose of this section is to describe SDG&E's cost and cost recovery mechanism for its 2024-2027 portfolio plan and the various balancing accounts (BAs) used to manage the revenue collection and program expenditures. In addition, SDG&E discusses its proposals for modifications to these BAs, including the closure of the following BAs and subaccounts:

- Electric Procurement Energy Efficiency Balancing Account (EPEEBA)
- Post-1997 Electric Energy Efficiency Balancing Account (PEEEBA) subaccounts
- Post-2005 Gas Energy Efficiency Balancing Account (PGEEBA) subaccounts

A. SUMMARY OF COSTS AT PORTFOLIO-LEVEL

SDG&E's Business Plan budget request for the 2024 through 2031 is addressed in detail in Exhibit 1 Chapter II and Exhibit 2 Chapter I. For its' 2024-2027 portfolio plan, SDG&E is proposing to escalate the labor and non-labor costs using the 4th Quarter 2021 IHS Markit Global Insight Power Planner (Global Insight) utility cost forecast. These rates are shown in Attachment B. Global Insight escalation rates for both labor and non-labor (O&M and administrative) cost were also used in SDG&E's 2019 General Rate Case application (A.17-10-007). The electric and gas split for the 2024-2027 portfolio plan period is 67 percent and 33 percent, respectively.

The revenue requirement associated with SDG&E's 2024-2031 Business Plan proposed budget is detailed in Attachment A, Tables 1 and 2.

B. COST RECOVERY THROUGH CONTINUED USE OF BALANCING ACCOUNTS

1. Energy Efficiency Balancing Accounts

SDG&E records collections and portfolio expenses for its electric EE funds in its Post-1997 Electric Energy Efficiency Balancing Account (PEEEBA). Similarly, SDG&E records its collections and portfolio expenses for its gas EE funds in its Post-2005 Gas Energy Efficiency Balancing Account (PGEEBA). Additionally, SDG&E records its revenues and contract costs associated with the Willdan contract as authorized in D.16-12-041 in its Electric Procurement Energy Efficiency Balancing Account (EPEEBA), as further described below.¹⁹⁹ Program spending is limited to the authorized budget, and over-expenditures may not be recovered from ratepayers. Shareholders absorb the balance if actual program expenses exceed authorized levels.

The status of these balancing accounts is reported monthly to the California Public Utilities Commission (Commission).

SDG&E also maintains gas and electric balancing accounts to record the difference between ratepayer funding and actual loans provided to customers participating in

¹⁹⁹ This program is not part of the EE portfolio addressed in this application.

SDG&E's On-Bill Financing (OBF) program authorized by D.09-09-047. The electric On-Bill Financing Balancing Account (OBFBA) is an interest-bearing balancing account which records the difference between ratepayer funding and actual loans provided to customers participating in SDG&E's OBF program originally authorized by D.09-09-047 and updated by D.12-11-015 and D.16-11-02. Similarly, SDG&E maintains a gas OBFBA to track gas transactions. Other program costs associated with the OBF program are funded by the EE portfolio budget and are recorded in PEEEBBA and PGEEBA, for electric and gas expenses, respectively.

a. Electric EE Revenue

SDG&E's electric EE revenue is collected through the Public Purpose Program (PPP) rates. The annual revisions to electric PPP rates are based on currently authorized annual revenue requirements, forecasted discount costs, and updates to the electric PPP regulatory account amortizations. SDG&E's electric PPP rates consist of the EE cost component, as well as other cost components (e.g., CARE, Low Income (LI), etc.).

Pursuant to Commission D.03-04-027, SDG&E files an advice letter by October 1st of each year requesting to establish the electric PPP rate effective January 1st of the following year. The rate revenue consists of Commission-approved EE authorized electric program budget for the following year and the net amortization component of electric PPP account balances.

b. Natural Gas Revenue

Pursuant to D.04-08-010 OP 22, in R.02-10-001, SDG&E files an advice letter by October 31 of each year requesting to update its gas surcharge rates effective January 1 of the following year to fund PPP, as authorized by Assembly Bill (AB)1002. AB 1002 directs the Commission to establish a gas surcharge annually to fund certain natural gas related PPP projects such as EE, LI, and research and development (R&D). Revenues collected from the surcharge are remitted to the California Department of Tax and Fee Administration (CDTFA), previously known as the State Board of Equalization (BOE), and ultimately appropriated back to utilities or other entities designated by the Commission to administer PPP. The rate revenue consists of Commission approved EE authorized program budget for the following year and the net amortization component of gas PPP account balances.

2. IDSM-Demand Response Cost Recovery

Consistent with D.12-04-045, SDG&E currently records all program costs associated with its existing demand response programs in its Advanced Metering and Demand Response Memorandum Account ("AMDRMA"). SDG&E will continue the existing disposition of the AMDRMA balances being transferred to SDG&E's electric Rewards and Penalties Balancing Account (RPBA") on an annual basis for amortization in SDG&E's electric distribution rates over 12 months, effective on January 1st of each year, consistent with SDG&E's adopted tariffs.

SDG&E is requesting that it be allowed to continue its current practice of recording all IDSM DR authorized demand response program costs associated with the IDSM program activities in the 2024-2031 EE portfolio, be recorded in AMDRMA.

3. Request to Close SDG&E's Electric Procurement Energy Efficiency Balancing Account (EPEEBA)

SDG&E has been maintaining the following two electric balancing accounts to record collections and program expenses associated with its energy efficiency portfolio.

- Post-1997 Electric Energy Efficiency Balancing Account (PEEEBA)
- Electric Procurement Energy Efficiency Balancing Account (EPEEBA)

Pursuant to Commission D.97-12-103 and Resolution E-3792 effective December 17, 2002, the purpose of the PEEEEBA is to record the revenues and expenses associated with the electric EE PPP, transference of PPP funds to a new administrator(s), and certain other adjustments to funding levels as authorized by the Commission Decision(s). The PEEEEBA also records the costs associated with the OBF Program adopted in D.05-09-043 and extended by D.09-09-047.

- Monthly PEEEEBA revenue equals the percentage of authorized PPP revenue pertaining to the Non-Low-Income Energy Efficiency program multiplied by the unbundled PPP revenue billed during the month.
- PEEEEBA Expenses: Expenses authorized by the Commission associated with the electric Non-Low-Income Energy Efficiency PPP, as well as other program costs associated with the OBF program adopted in D.09-09-047. Actual expenses recorded to the PEEEEBA shall be those in compliance with the guidelines for expenses authorized by the Commission.

The EPEEBA was established effective March 1, 2004, to record the costs of procurement energy efficiency program funding authorized in D.03-12-062. In addition, the EPEEBA records revenues from a non-bypassable surcharge that funds the procurement energy efficiency program costs as ordered by D.03-12-062. Pursuant to D.16-12-041, the EPEEBA also records contract costs between SDG&E & Willdan Energy Solutions ("Willdan") starting January 1, 2018, and the revenues from a non-bypassable surcharge as authorized in D.16-12-041 for the SDG&E/Willdan contract.

Currently, SDG&E records the actual revenue billed during the month from the EPEEBA revenue described above and performs a monthly transfer to the PEEEEBA less the contract costs and billed revenue (net revenues) associated with the Willdan contract.

SDG&E is requesting the Commission's approval to transfer the remaining balance of its EPEEBA to PEEEEBA and to close the EPEEBA. Going forward, SDG&E requests that all EE revenues and expenditures including the contract costs and billed revenues associated with the Willdan contract be recorded to the PEEEEBA.²⁰⁰ This transfer will facilitate and streamline the process of accurately tracking overall electric EE program revenues and expenditures. The EPEEBA balance as of December 31, 2021, is a

²⁰⁰ The Willdan contract costs and revenues from a non-bypassable surcharge as approved by D.16-12-041 will be tracked through PEEEEBA.

\$153,198 under-collection. If approved, SDG&E will close its EPEEBA and update its Preliminary Statement accordingly.

4. Request to Close SDG&E's of PEEEEBA and PGEEBA sub-accounts.

SDG&E has been maintaining the following electric and gas program year/cycle subaccounts within the PEEEEBA and PGEEBA, respectively.

• 2021	• 2017	• 2013-2015
• 2020	• 2016	• 2010-2012
• 2018-2019		

SDG&E is requesting the closure of all PEEEEBA and PGEEBA subaccounts and consolidate to minimize efforts in managing separate subaccounts. SDG&E is already tracking the program expenditures annually using SAP internal orders that are created each year. This consolidation will facilitate and streamline the process of accurately and efficiently tracking overall electric EE program revenues and expenditures. SDG&E will continue to collect and record revenues and expenditures as set forth in this request its PEEEEBA and PGEEBA.

5. Request to Modify Statewide Energy Efficiency Balancing Accounts

The Statewide Energy Efficiency Balancing Account (SWEEBA) and the Statewide Energy Efficiency Gas Balancing Account (SWEEGBA) currently records expenses incurred by SDG&E for the administration of statewide EE programs as the Lead Program Administrator. SDGE is requesting to modify both SWEEBA and SWEEGBA preliminary statement by transferring the recording of expenses incurred by SDG&E for the administration of statewide EE programs as the Lead Program Administrator to PEEEEBA and PGEEBA. If approved, SDG&E will update its Preliminary Statement as shown in the Business Plan Application Section VII. Attachment C and D.

C. SDG&E’S APPROACH TO CLASSIFICATION OF WHICH UNSPENT FUNDS ARE DESIGNATED “COMMITTED” AND THUS NOT APPLIED TO REDUCE RECOVERY IN FUTURE YEAR

As part of the preparation for closing out the program year, SDG&E analyzes each program to identify existing contracts or approved program expenditures for which the underlying contracted service or program activity will be completed after December 31 of the program year. SDG&E retains copies of the contracts, agreements, engineering documentation, subsequent invoices, and any other relevant documentation that supports the identification of a future expenditure as committed to a prior program year and therefore not applied to reduce revenue recovery of a future program year. SDG&E monitors the status of committed funds through the future payment of the program expenditure. SDG&E does not propose any changes to the treatment of unspent, uncommitted funds for program years 2024-2027.