Pacific Gas and Electric
Stillwater Energy

Commercial Strategic Energy Management (CSEM) Program

Internal

Internal

Program Overview

The Commercial Strategic Energy Management (CSEM) Program ("the Program") will lead groups of PG&E commercial customers in cohorts on a journey of up to six years to elevate their energy management processes, with three two-year cycles of educational and onsite activities to foster deep adoption of SEM best practices. Program support includes a mix of technical assistance, one-on-one coaching, energy tracking, and financial incentives to spur energy efficiency actions on the part of the customer. The Program will deliver services adhering to the most recently published California SEM Design Guide and California SEM M&V Guide, unless augmentation to better serve commercial customers is requested and approved by PG&E.

Program Budget and Savings

Table 1: Program Budget and Savings

1	Program Name	Commercial SEM
2	Program ID number	PGE_Com_009
3	Program Implementer	Stillwater Energy, LLC
4	Portfolio Administrator	PG&E
5	Program Implementer Type (IOU Core, Third-Party Solicited, REN/CCA)	Third-Party
6	Portfolio Segment (Resource Acquisition, Equity, Market Support, or Codes and Standards)[1]	Resource Acquisition
7	Total Program Budget	$14,996,501
8	Program Budget by Year	2025: $722,719 2026: $1,214,655 2027: $1,793,916 2028: $2,373,939 2029: $3,004,279 2030: $3,279,450 2031: $2,607,543
9	Program Duration (Start Date - End Date)	1/30/2025 – 12/31/2031
10	Total System Benefit (TSB) (Total Program TSB and TSB by Program Year)	2025: 0 2026: $944.587 2027: $2,156,906 2028: $3,102,301 2029: $4,370,186 2030: $4,626,941 2031: $4,732,971 TOTAL: $ 19,933,892

[1] D.21-05-031 Ordering Paragraph 2

Internal

11	CO_2 (Lifecycle, First Year, Net, Gross)	• First Year Gross CO2: 16,458 • First Year Net CO2: 16,458 • Lifecycle Gross CO2: 80,465 • Lifecycle Net CO2: 80,465
12	KW (First Year, Net, Gross)	• First Year Gross: 4,901.3 • First Year Net: 4,901.3
12	KWh (Lifecycle, First Year, Net, Gross)	• First Year Gross: 38,507,730 • First Year Net: 38,507,730 • Lifecycle Gross: 192,538,650 • Lifecycle Net: 192,538,650
13	Therms (Lifecycle, First Year, Net, Gross)	• First Year Gross: 856,830 • First Year Net: 856,830 • Lifecycle Gross: 4,284,150 • Lifecycle Net: 4,284,150
14	Program Cost Effectiveness: Total Resource Cost (TRC): (Total TRC and TRC by Year)	2025: 0 2026: .91 2027: 1.40 2028: 1.42 2029: 1.74 2030: 1.58 2031: 1.87 Total TRC: 1.49
15	Program Cost Effectiveness: Program Administrator Cost (PAC): (Total PAC and PAC by Year)	2025: 0 2026: .85 2027: 1.27 2028: 1.29 2029: 1.56 2030: 1.41 2031: 1.65 Total PAC: 1.346

16	Market Sector(s) (i.e., residential, commercial, industrial, agricultural, public, or cross-cutting) If multi-sector, provide estimated % of the total budget for each sector)	Commercial and public
17	Program Type (i.e., Non-resource, Resource)	Resource
18	Delivery Type(s) (i.e., Upstream-Manufactured, Midstream-Distributor, Midstream-Retail, Downstream, Downstream - Direct Install,[2] Codes & Standards)[3]	Downstream
19	Intervention Strategies (e.g., Strategic Energy Management (SEM), Market Access Program (MAP), Direct Install, Incentive, Finance, Audit, Technical Assistance, Advocacy, Training, Marketing and Outreach, etc.)	Strategic Energy Management, Incentive, training, finance, technical assistance
20	M&V Methods (e.g., Deemed, Custom, NMEC – Population, NMEC – Site, SEM M&V, Randomized Controlled Trial (RCT), Other (if applicable, describe Other M&V method))	SEM M&V

Implementation Plan Narrative

1. Program Description

Program Purpose

The Commercial Strategic Energy Management (CSEM) Program ("the Program") is a resource acquisition program that will lead groups of PG&E commercial customers in cohorts on a journey of up to six years to elevate their energy management processes, with three two-year cycles of educational and onsite activities to foster deep adoption of SEM best practices. Program support includes a mix of technical assistance, one-on-one coaching, energy tracking, and financial incentives to spur energy efficiency actions on the part of the customer. The Program will deliver services adhering to the most recently published California SEM Design Guide and California SEM M&V Guide, unless augmentation to better serve commercial customers is requested and approved by PG&E.

Program Rationale

SEM is a wholistic energy efficiency approach that teaches organizations how to systematically integrate energy management practices into their operations, thereby seeing sustained and persistent energy savings. By looking at energy savings through whole facility energy consumption adjustment models, organizations are equipped to track and manage their energy in a deeper, more detailed way that is not normative in the commercial sector. This approach also provides utilities with the ability to identify and secure cost-effective savings that both transform the market and support the utility's resource acquisition goals while deepening customer engagement with the utility.

[2] https://cedars.sound-data.com/deer-resources/deemed-measure-packages/guidance/
[3] Database for Energy Efficiency Resources (DEER) 2026 Delivery Types

The Program is designed so that that customers in the same geographic regions can support one another in creating transformative experiences. Stillwater works in regional cohorts where areas of underserved customers are identified to create a supportive network of organizations that can build community.

Program Objectives

The Program's primary objective is to provide cost-effective energy savings that maximize TSB. The Program has additional objectives to achieve high customer satisfaction and to deliver a deep and transformative participant experience in which:

- Participants build internal capacity (knowledge, skills, and resources) to manage their energy use and costs through their participation in the program.
- Participants adopt and deepen their SEM practices throughout their enrollment and achieve measurable improvements in their energy performance.
- Participants adopt and sustain energy management practices that persist beyond their enrollment in the program.

Potential Measures and Projects

Through site-specific treasure hunts, Stillwater anticipates identifying a wide range of Energy Performance Improvement Actions, including capital-funded retrofits and behavior-based, operations and maintenance, and retro-commissioning type interventions.

Activities, Milestones, and Objectives

The Program will follow California's SEM Design Guide to support a customer's CSEM journey through two main avenues: cohort-based community engagement and site-specific activities. Cohort engagement will be based on the educational modules defined in the California SEM Design Guide, which will build upon each other over the course of the six-year engagement. Site activities will be catered specifically to support the organizational needs of the customer and are intended to help customers put into practices learnings from the cohort engagement educational modules. Activities have the flexibility to be delivered in person or virtually depending on customer and cohorts needs. Educational modules and activities may be combined using different avenues to support cohort and customer progress.

2. Performance Tracking

Table 1, above, includes the annual and total targets for this resource acquisition Program's primary performance metrics: TSB, TRC, and gas and electric savings. Below is a list of the other key performance indicators the Program will track:

- TRC Ratio
- TSB Goal Forecast Accuracy

- Budget Forecast Accuracy
- Engineering Quality
- Participant Satisfaction

3. Program Delivery and Customer Services

Program Strategies/Tactics

The Program will engage customers across the entirety of PG&E's territory, focusing initially on the largest population centers, then moving to smaller population centers once the program is established and results have been proven. While the Program does not have specific HTR/DAC participant recruitment goals, the Program will still identify areas of PG&E's territory that are considered underserved, hard-to-reach, or otherwise disadvantaged, and these findings will be incorporated into recruitment and cohort engagement. Delivery will include mixed-sector, geographically specific cohorts over the course of a six-year engagement throughout the PG&E territory. As the program grows, the program will include sector specific peer sharing to support integration of sector specific knowledge and learnings across the territory. The Program will create regional hubs of market transformation, balancing the need for savings while serving smaller, more rural communities to create a network of energy management professionals.

The Program focuses on building customer energy management capacity quickly by getting onsite early during the engagement and building a strong cohort community. As energy management gains traction within each organization, the Program will support internal capacity by expanding beyond energy efficiency management. The Program will seek to guide customers to use the framework to manage all their energy-related activities, including GHG emissions reductions and demand management. Focus will be given to sharing stories and lessons learned within cohorts in addition to creating opportunities for sector peer sharing through planned sector specific events.

Target Market/Customer Group

The Program will target the commercial, institutional, and public segments, focusing on higher education, K-12 schools, government, hospitals, lodging, office, grocery, commercial multifamily, non-industrial warehouse, and other healthcare. Hi-tech shall be excluded. Customer size will vary by sector and geography; however, in general, the Program will focus on recruiting larger customers to deliver greater savings on average, thereby enabling the Program to also serve smaller participants as needed.

The following is a list of NAICS codes that are eligible for the Program. However, if a Commercial or Public organization's type is not listed below, and it is identified as a good fit for the program, Stillwater may request an exception with PG&E's program administrator to include them; PG&E will approve or disallow these exceptions.

Table 2: Customer Type and Corresponding NAICS

Customer Type	Associated NAICS & Relevant

	Information
Higher Education and K-12 Schools	Serving 611 (Educational Services) and targeting higher education and k-12 schools
Government	Serving 921 (Executive, Legislative, and other general government support) and targeting state, local, and federal government buildings.
Hospitals and Clinics	622 (Hospitals) and 621 (Ambulatory Health Care Services) and specifically targeting large and mid-sized care facilities
Lodging	721 (Accommodations) and specifically targeting hotels and other forms of lodging
Office and Multifamily	531 (Real Estate) and specifically targeting lessors of non-residential buildings (i.e., commercial real estate) as well as large residential buildings (i.e.: commercial multifamily).
Grocery	445 (Food and Beverage Retailers) and specifically targeting large grocery.
Warehouses	493 (Warehousing and Storage) and specifically targeting large warehouses not related to manufacturing sites.

Customer Outreach

Stillwater will target customers for outreach based on the geographic area the program is focusing on and will engage larger customers in the designated area. To identify potential customers, Stillwater will:

- Review historical energy data to identify customers with significant energy savings potential in the geographic area chosen.
- Leverage local knowledge from staff and market to trade organizations and conferences for sector specific and regional leads, as well as run marketing campaigns such as social media posts, program flyers, and participant success stories.
- Collaborate with utility account managers as available to identify sector and customers within a specific geographic area and coordinate outreach based on existing relationships.

Customer outreach will be tracked and managed by Stillwater. Once customers are identified, vetted, and engaged, the customer will sign an enrollment participation form.

Services, Incentive, & Tools Provided (Activities, Milestones, and Objectives)

The Program will provide those educational and technical services outlined in the California SEM Design Guide such as treasure hunts, training workshops, energy management assessments, one-on-one coaching, and other as-needed support for the development of projects and sustained SEM practices at the Site. The Program will provide both activity-based milestone incentives and savings-

based incentives for both electric and gas savings claimed as measured and verified through methods described in California's SEM M&V Guide.

Educational modules and onsite activities will focus on identifying energy savings opportunities early on during the engagement and supporting customers to prioritize these opportunities into manageable bite-size chunks. As the Program progresses, it will guide customers to generating annual SEM plans to support ongoing project implementation.

Services and Activities include the following:

- **Kickoff Meeting:** As customers roll into the program, a kickoff meeting will be held to set expectations, get questions answered, and prepare for upcoming activities. The objective of this activity is to prepare the customer for a successful engagement and to identify any upfront barriers or opportunities. During the kickoff meeting, Stillwater will explain the roles and responsibilities for each partner in the program, including participants, Stillwater, and the utility.
- **Treasure Hunts:** The objective of this activity is to identify energy savings opportunities and to spur action quickly within the facility. At the launch of each cohort, onsite treasure hunts will include a building walkthrough and additional activities to identify "quick win" opportunities, which typically focus on those that require less capital and are less resource intensive, such as Building Management System schedule changes, updating/implementing operations and maintenance best practices, and changing behaviors. By securing these quick wins at the launch of a cohort, customers can realize savings early on and solidify organizational buy-in.
- **Energy Management Assessments:** The objective of this activity is to set an initial baseline for energy management integration and then track and support further integration over time during the length of the engagement. Stillwater will regularly assess the organization's current energy management practices to gauge a baseline of best practices implemented at the start of the engagement and determine progress through the entirety of the cohort journey.
- **Workshops:** As defined by the California SEM Design Guide, most educational modules will be delivered through cohort-based, participant-centered workshops. Workshops will be held either virtually or in-person depending on the topic. Providing both virtual and in-person workshops educates customers on energy management practices while also recognizing the importance of customer time and the benefits of creating community to share ideas and lessons learned.
- **Energy Models:** The objective of this activity is to provide energy savings to the utility and customers while delivering an educational and informative tool that the customer can use to learn how to track and manage energy use. The Program will leverage Cascade Energy's Gazebo, a proprietary energy performance platform, as the program performance tracking tool to model energy savings as well as to provide energy insights and feedback to customers. In addition to complying with the California SEM M&V Guide, Gazebo's

platform provides a dynamic space for Stillwater coaches and customers to interact with energy data, track energy use, identify trends, and make a plan to take action.

- **One-on-One Coaching:** The objective of the energy coach is to be an advocate, educator, and supportive team member as customers head down their energy management journey. Each participant will be assigned an energy coach who will act as a single point of contact, lead coaching calls, and guide energy teams through the six-year engagement.

The Program will utilize a combination of organizational change management activities alongside program services identified above to educate and gain support of executive sponsors, energy champions, and energy teams. The Program will leverage a combination of the following practices to engage participants, including:

- Change management
- Behavioral economics
- Community-based social marketing (CBSM)
- Organizational psychology
- Participant-centered learning

The Program will utilize key financial levers to drive program interest and engagement:

- Utility cost avoidance through energy use reduction
- Savings incentives
- Activity milestones

Roles and Responsibilities

During the customer kickoff meeting where expectations are discussed, and as part of the initial workshop, Stillwater will review the defined roles in the California SEM Design Guide with the customer and cohort to collectively set expectations and understand who will best serve these roles. Programmatic roles that will be reviewed with the customer/cohort include:

- The Program Administrator, who may act as an account executive to help manage customers expectations, support data collection, and attend various activities.
- Program Implementer, who will serve as the SEM Coach and provide day to day support to customers to for implementing energy savings activities and integrating energy management best practices.

In addition to reviewing the roles and responsibilities of PG&E and Stillwater, each customer will craft a team charter and develop an executive sponsor agreement form. While required responsibilities are laid out in the California SEM Design Guide, there will be flexibility in assigning more than one role to an individual on the customer's energy team.

In general, the following responsibilities will be designed and defined for the customer:

- **Data Owner:** This role is responsible for ensuring energy and project data is collected, including developing and following the data management plan as created by the customer.
- **Energy Champion:** This role acts as the project manager for the customer's energy management efforts and is responsible for success of the SEM program at the site. The Champion is the point of contact for the assigned SEM Coach.
- **Energy Team Member:** It is anticipated that each customer will identify a core energy team based on the needs of their organization. This team should be cross-functional in nature and may fluctuate in size and skills based on phase of the engagement.
- **Executive Sponsor:** This role should be an individual with decision making and budget approving authority. They should have the ability to assign staff to the team and support their peers in assigning roles. It is expected they will be engaged at a cadence determined by the customer's energy team.

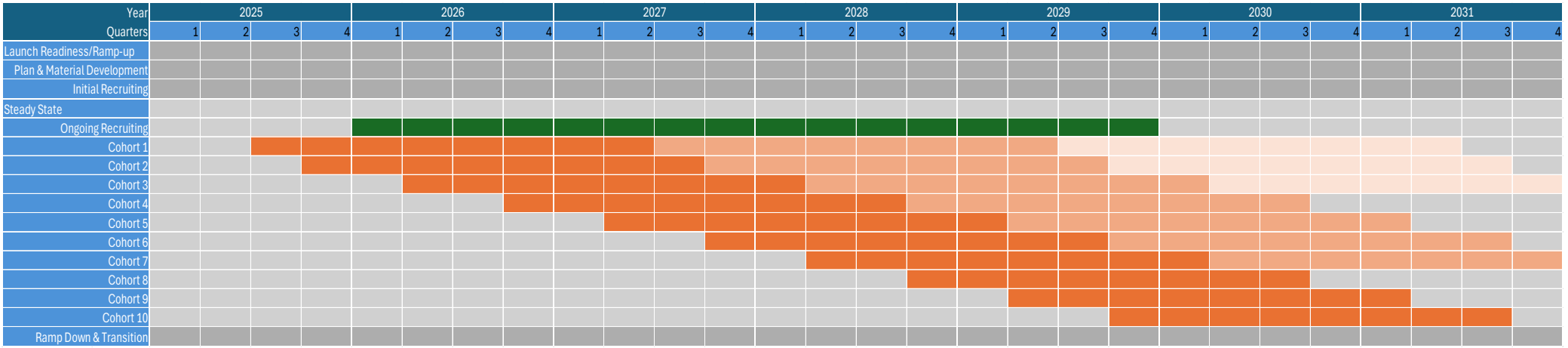
Program Coordination

The Program will coordinate with PG&E and other program administrators, including CCAs, RENs, and certain government agencies as needed to support the customer's understanding of programs available to them and highlight complimentary services with the CSEM participants. In order to accommodate this coordination, the Program has identified those organizations that overlap with PG&E and that overlap with the CSEM service offering, including the statewide Higher Education Efficiency Performance (HEEP) program which Stillwater will specifically reach out to at the onset of recruitment to understand which higher education institutions are participating in the HEEP program and which customers are available to join PG&E's CSEM program. We have prioritized coordination based on known overlap of targeted markets and will provide a point of contact to these organizations for coordination.

Timeline & Strategy for Customer Acquisition

The Program will lead up to ten cohorts through up to three two-year cycles, as defined by the California SEM Design Guide. The Program will aim to launch two cohorts per year with an average of nine participants per cohort. The actual number of participants will vary based on geographic location, savings acquisition needs, and recruiting efforts. Due to the rolling basis of enrollment and the currently defined contract end date, the Program will proportionately offer each cohort the number of cycles of Program content that fit within that duration; in the event the Program ends while participants are still in progress with the 3-cycle duration, Stillwater will coordinate with PG&E to facilitate the transfer of these cohorts to another SEM program as available and appropriate.

Figure 1: Program Timeline



Internal

4. Program Design and Best Practices

The table below outlines the commercial sector market barriers we have identified and the strategies and tactics that Stillwater will use to overcome them.

Table 3: Barriers and Solutions

Barriers	Strategy and Tactic
Bureaucracy / complex organizational structures	**Strategy:** Stillwater coaches are skilled in working with customers to understand how to navigate complex structures. Putting a plan in place upfront and setting expectations are necessary in organizations with large bureaucracy. SEM Coaches will work to understand and break down organizational issues as they arise. **Tactics:** • Executive Sponsor Agreement Forms set expectations for the energy team and the executive, including supporting energy teams in navigating bureaucracy • Energy Management Assessments help understand where bureaucratic barriers exist and support alignment of multiple departments
Lack of funding	**Strategy:** SEM program design is focused on what organizations can do internally with little upfront capital. Once the program gets running, incentives are provided to ease the funding burden. **Tactics:** • Treasure Hunts help find no- or low-cost quick wins • Milestones help motivate organizations with funding • Energy Models help organizations see SEM's positive financial impacts
High staff turnover	**Strategy:** SEM supports integrating energy management into the organizational structure so that as turnover happens the program maintains ownership and transfers to incoming staff. **Tactics:** • Energy Policies help organizations stay focused through major changes • Energy Teams support resiliency when Energy Champions are promoted • Energy Management Assessments identify areas where energy management can be better integrated into business practices
Lack of labor resources and knowledge	**Strategy:** Providing education and ongoing support increases the abilities of current staff and provides a mechanism to invest in staff. **Tactics:**

Internal

	• Employee Engagement helps organizations leverage enthusiastic employees • Workshops help train employees and keep them committed to the program and the organization • One-on-One Coaching provides technical and organizational assistance when knowledge is lacking, or staff turns over

5. Innovation

The Program will leverage numerous innovations to improve program outcomes. Stillwater will use metrics to monitor these innovative approaches and better understand which work better. e.g., for the Awards innovation below, metrics may include number of awards earned/given, or how many people attended the celebration event (where the Awards are given). These metrics will assess the degree that each innovation is effective, in the following levels:

- In the first instance of deployment ("alpha")
- In the first 10% of expected instances of deployment ("beta")
- In the first 50% of expected instances of deployment ("early majority")

Program innovations are delineated as technical, marketing, or delivery innovations.

Technical Innovation

- Leveraging benchmarking – The Program will leverage CA and SF building benchmarking requirements to help participants address these requirements as well as using these laws as sources to recruit participants.
- Energy performance platform – Cascade Energy's Gazebo software will help participants better understand their gas and electric consumption as well as peak demand.
- Comprehensive planning – The Program will incorporate PG&E's decarbonization offerings and elements such as Electric Vehicle (EV) fleets, energy storage, and renewable power into participants' CSEM annual plans to support a more wholistic view of energy at a site and within an organization.

Marketing Innovation

- Video case studies – Participants who achieve significantly higher than anticipated savings will be recognized with a video case study that their organization can use to engage their stakeholders and employees. This will support an organization's engagement activities, increase executive buy-in, and provide marketing pieces for recruitment.

Delivery Innovation

- Awards – In the Program's celebration events, participants will be recognized with awards including, but not limited to, the most energy saved, the most innovative projects, the best

Internal

executive leadership, and the most engaging employee outreach. Integrating gamification and recognition strategies increases participant program commitment, legitimizes the program for participants, and increases executive support.

- Participant council – The Program will convene select organizations as part of a participant council that provides input on the program's direction and success. Giving individuals and organizations a choice in program design is a proven strategy in the participant engagement framework to receive buy-in and encourage participation. It also has the added benefit of providing a valuable communication feedback loop for PG&E, not just for the program but in other areas as well.
- Partner peer coaching calls – The Program will extend the peer support value of workshops into the coaching calls, where the participants will have the option of being paired with similar organizations, to share lessons learned and hold each other accountable.
- Sector share events – The Program will convene sector-focused events to foster sharing across multiple organizations in individual sectors.
- Increased executive sponsor focus – The Program will integrate executive level design thinking into the program services with tools like the Executive Sponsor Agreement Form.
- Engaging milestones – The Program will offer milestone incentives to encourage the "leading behaviors" that ultimately drive energy savings.

6. Pilots

Not Applicable

7. Workforce Education and Training

Not Applicable for resource programs.

8. Workforce Standards

The applicable CPUC mandated Workforce Standards for the Program are the HVAC Workforce Standards and the Advanced Lighting Controls Workforce Standards. Stillwater may leverage other workforce-related resources that focus on Energy Efficiency, such as the Building Operator Certification (BOC), administered by the Smart Building Center. Stillwater will review these resources with PG&E for consideration to incorporate into the program.

9. Disadvantaged Worker Plan

Not Applicable; this program does not directly involve the installation, modification, repair, or maintenance of EE equipment.

10. Market Access Programs

Not Applicable to this program.

Internal

11. Additional information: Tailored Program

The Program will comply with the most recent versions of both the California SEM Design Guide and the California SEM M&V Guide. If at any point the Program and PG&E identify opportunities where diverging in some way from either Guide would better deliver SEM to participating customers, such as potential adjustments which may benefit participants in the Commercial sector, the Program will seek appropriate approvals from PG&E prior to implementing these changes, and upon approval, update the Implementation Plan as needed.

Internal

Supporting Documents

12. Program Manuals and Program Rules

1. Eligible Measures or measure eligibility, if applicable:

The measures identified in the California SEM M&V Guide will be those primarily contributing to savings for the Program. These include behavioral, retro-commissioning, and operational measures. Additional measures that may be included are larger capital projects and those that support decarbonization if energy savings are associated.

2. Customer Eligibility Requirements:

The Program will target commercial and public sector PG&E customers identified by their NAICS codes in Section 2. The Program does not have a strict requirement for customer size as measured by annual energy use for program participation but will focus recruitment on identified geographic locations with a mix of the area's largest users and smaller users as necessary to generate energy savings that meet the Program's TSB targets while remaining cost effective in implementation. The program will focus on the customers commitment as evidenced by the internal capacity of the organization to support an energy champion and team and identify an executive sponsor.

3. Contractor Eligibility Requirements:

Stillwater is partnering with several subcontractors to implement the Program, of which over half are minority- or women-owned. The table below describes the role of each subcontractor on the program.

Table 4: Subcontractor & Role

Subcontractor	Role
Facility Energy Solutions	Treasure Hunts and modeling support
Impact Solutions	Equity Consultant
Cascadia	Recruitment Services
Cascade Energy	Energy Performance Platform: Gazebo
Ecotope	Decarbonization and Treasure Hunts

4. Participating Contractors, Manufacturers, Retailers, Distributors, and Partners:

Not applicable. The CSEM Program delivery type is downstream, and this item is only applicable to midstream or upstream delivery type programs.

5. Additional Services:

Additional services are identified in the Innovation Section of the Implementation Plan.

6. Audits:

Stillwater will conduct either in-person or virtual treasure hunts as part of the CSEM engagement. There are no audit-based financial incentives or other funding offered to participants for audits within the CSEM program.

7. Program Quality Assurance Provisions:

Stillwater has developed quality assurance processes to provide complete, correct, and timely delivery of client, program, and contractual requirements. Our quality assurance/quality control (QA/QC) process has been developed based on our experience implementing successful SEM programs and is informed by the expertise of team members with various professional certifications including Certified Energy Managers and Certified Measurement & Verification Professionals. The successful implementation of the QA/QC approach:

- Ensures quality deliverables and accurate reporting of program results and energy savings to both participants and PG&E
- Fosters a collaborative exchange with PG&E and third-party review staff to meet applicable program guidelines and best practices
- Integrates continuous improvement concepts to seamlessly adapt and innovate procedures and processes throughout the program lifecycle

The QA/QC processes will be applied and tracked across multiple facets of the program delivery activities, and include tracking of workshop metrics, QA/QC records, customer and client feedback, internal reviews and feedback, energy model development records, and customer interactions such as coaching call notes. Particular QA/QC focus is applied to M&V activities and the mid-year and year-end project reporting deliverables, which undergo rigorous review throughout the annual reporting period, with regularly planned QA/QC reviews for energy models and associated documentation.

- Hypothesis Model Development – During the model development process, the modeling engineer reviews collected data and completes the model development process in alignment with the California SEM M&V Guide. Once the hypothesis model is identified, a second engineer reviews the selected model using a standard QA/QC checklist to confirm that all modeling requirements are met.
- Mid-Year Review – At the mid-year review stage the hypothesis model is submitted for PG&E Policy Review and third-party technical review along with required supporting documentation. Prior to submission, the mid-year package is reviewed for completeness and accuracy.
- Final Review and Year-End Savings Claim – Upon completion of the reporting period, final updates to the energy model are completed and the year-end performance report is drafted. This may include data updates, application of model adjustments, tweaks to the energy model, summary of program participation, and alignment of savings trends with completed opportunities. This work is completed by the modeling engineer and the participant energy

Internal

coach. Prior to submission, the year-end reporting package is reviewed for completeness and accuracy by a second engineer and energy coach.

- Bi-Monthly Model Health Checks – On a bi-monthly basis, each energy model will be reviewed and checked for accuracy. If an anomaly or other issue is identified, it will be investigated and corrected appropriately.
- Ad-Hoc – If an energy model undergoes any non-routine adjustments or other troubleshooting during the reporting period, the adjustment will be reviewed for reasonableness and accuracy.

Finally, there will be a periodic review of the QA/QC process to ensure the QA/QC procedure is being followed, is effective, and to identify areas to improve QA/QC effectiveness in the future.

8. Other Program Metrics:

All metrics are identified in Section 1.

13. Program Theory and Program Logic Model

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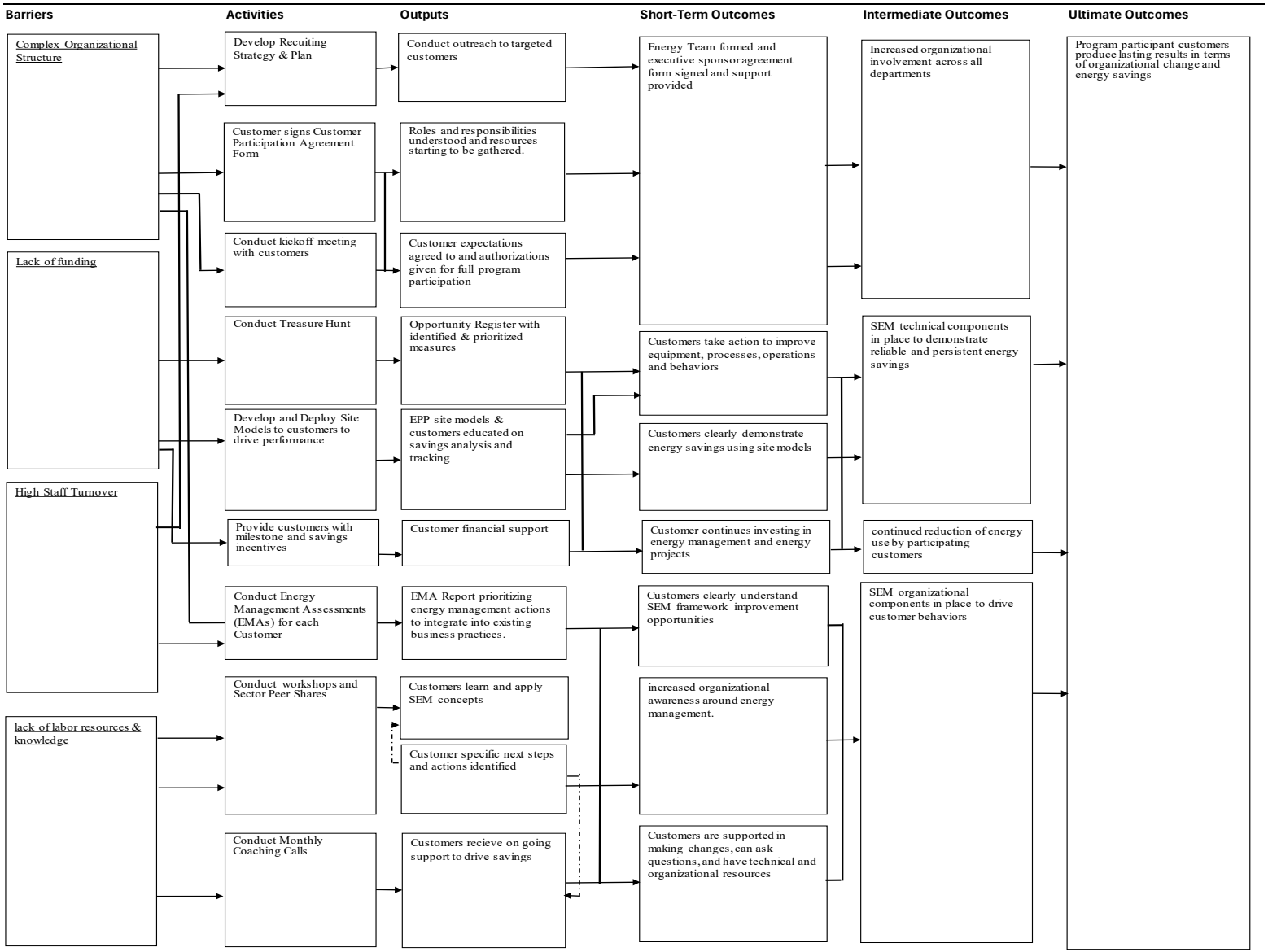
Figure 2: Program Theory and Logic Model



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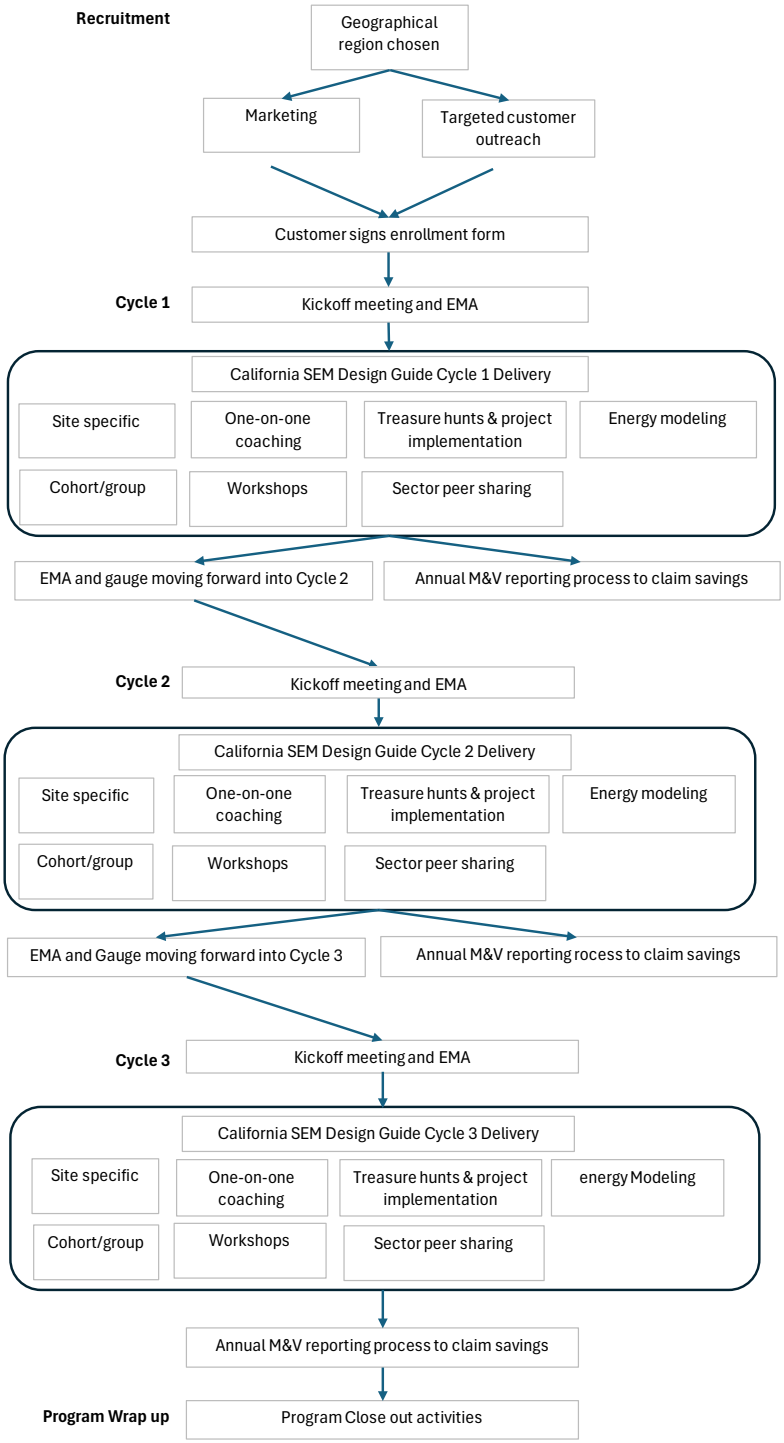
14. Process Flow Chart

Figure 3: Process Flow Chart



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15. Measures and Incentives

Below are the planned incentives and corresponding levels.

Table 5: Program Incentives

Incentive	Level	Delivered	Details
Activity Milestone	$1,000/milestone	As milestone is completed and reviewed & approved by PG&E	Based on participant completion of certain activities (i.e.: executive sponsor agreement form finalized and signed by executive sponsor and team)
kWh savings	$0.05/kWh	Annually as SEM year completes M&V and reviewed approved PG&E	Based on gross savings
Therm savings	$0.21/Therm		

The program does not plan to utilize deemed measures or custom measures. If a customer wishes to pursue a deemed or custom measure Stillwater will refer them to the appropriate program.

16. Diagram of Program

Figure 4: Diagram of Program

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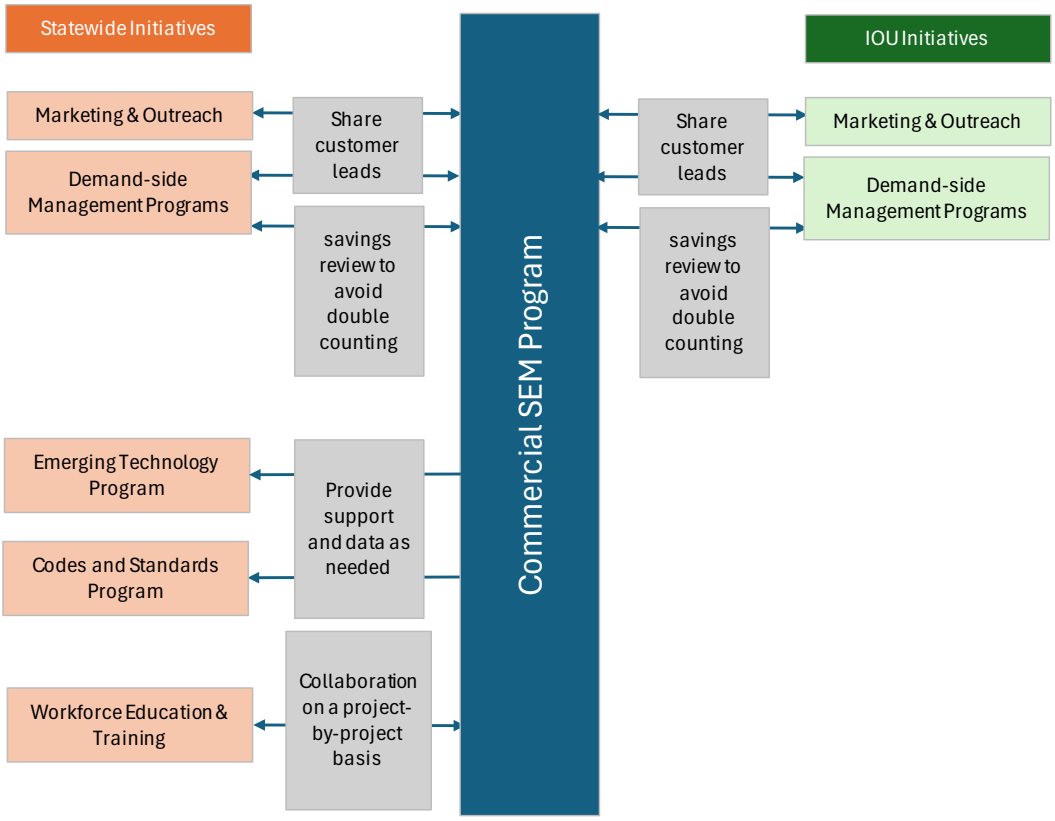

17. Program Measurement & Verification (M&V)

The Program will comply with the most recent version of the CPUC-approved California SEM M&V Guide (currently version 3.02). The California SEM M&V Guide outlines the processes, procedures, and documentation required to provide complete and accurate savings claim submissions. This includes the specific deliverables indicated for both the mid-year and year-end evaluations as specified in Sections 13 and 14 of the California SEM M&V Guide, respectively.

Meter-based M&V allows SEM to target a variety of valuable energy-saving measures. We expect very minimal risk for savings generated through SEM. Our approach to SEM M&V follows:

Data Collection

Data collection requirements for the Program are detailed in the California SEM M&V Guide. We will collect relevant program data in compliance with the energy data collection plan. Data collected for the M&V process will include:

- **Site Consumption Data:** Stillwater will collect energy consumption data (kWh and Therms) from the utility meters within the measurement boundary. This will include interval or monthly billing data as available for the identified meters. The preference will be to use interval data; however, for sites without interval meters, monthly data will be used instead. Stillwater plans to utilize Green Button connections with Gazebo to automate data

Internal

collection where possible but when unavailable, Stillwater will work to gather data from PG&E or the participant directly. In the case that participant owned sub-meters are required and available to meet the defined measurement boundary, Stillwater will ensure the meters align with revenue grade data accuracy requirements. Finally, as applicable, data corresponding with any onsite generation (e.g., solar) will also be collected.

- **Energy Driver Data:** Energy drivers are independent variables used to explain variations in energy use. Stillwater collects a wide range of energy driver data and uses statistical methods to determine the combination of energy drivers that result in an energy model with the best fit and lowest error. Typical energy drivers for commercial buildings are ambient weather and schedule and occupancy data.
    - Ambient weather data can be represented by a variety of variables. During the model development process, Stillwater considers dry bulb temperature, dew point temperature and relative humidity directly from nearby NOAA weather stations. Additionally wet bulb temperature and several heating degree day (HDD) and cooling degree day (CDD) variables.
    - Occupancy data can vary based on building type. For example, for educational buildings such as schools and universities, occupancy data typically differentiates schooldays from non-schooldays, while for other types of sites, weekends, holidays, or other occupancy indicators may be investigated.
- **Site Specific Qualitative Data:** Stillwater will also investigate and collect site specific details that may impact the M&V analysis, such as recent changes to the site operating profile, occupancy changes, equipment upgrades, etc. This information will be used to identify potential non-routine adjustments.

The data collected throughout the Program engagement will be checked regularly for quality and accuracy to ensure accurate performance reporting.

Quantification & Reporting Methods

Model Development: SEM programs track energy performance and energy savings using a whole facility (as defined by the measurement boundary) energy consumption adjustment model (energy model). Requirements for a valid energy model and supporting documentation are included in the California SEM M&V Guide. The energy model is developed using statistical analysis tools built into Gazebo, which streamlines the process of aggregating data, testing candidate variables for statistical significance, and comparing and documenting performance of models. Gazebo's modeling algorithms and workflows have been designed for compatibility with the guidelines listed above and are utilized in commercial and industrial SEM programs across North America, including industrial SEM programs in California.

To develop the energy model, Stillwater reviews the data to identify potential outliers, adjustments, and non-routine events, then performs stepwise regression analysis in Gazebo considering all collected energy drivers to determine which combination of energy drivers results in a model with

Internal

the best fit. This process is iterated multiple times to evaluate different numbers of energy drivers in the model and different baseline period lengths including one-year and two-year periods.

The goal is to identify the hypothesis energy model that best meets the statistical guidelines included in Section 7.8 of the California SEM M&V Guide[4]. However, model selection is not always simply based on the best statistics; a model is selected based on a combination of model statistics, ease of data acquisition, physical conditions at the site, and what makes intuitive sense to the building operators. The model development process aims to produce robust energy models with readily understood energy drivers. Once a model is selected, it will be used to facilitate SEM participant communication, sharing, and ongoing tracking.

While energy models are the preferred M&V method for the program, in the case a valid energy model cannot be created, a bottom-up approach will be used instead. Stillwater will notify the PA and provide documentation detailing the justification for the pivot to bottom-up. Any bottom-up calculations used to calculate energy savings will align with the appropriate effort based on estimated energy savings defined in Annex D of the California SEM M&V Guide. We expect this to be a minimal issue in the commercial sector and anticipate being able to model most participant sites.

SEM Energy Savings: Energy savings within the project boundary will be calculated using an energy consumption adjustment model following the methodology in the California SEM M&V Guide. Avoided energy savings will be claimed unless specific conditions are met to justify the use of annualized savings as defined in the California SEM M&V Guide.

- Energy savings will be reported annually.
- Incentivized energy savings will be assessed on an incremental basis as appropriate.
- Energy savings from any projects completed outside of the scope of the CSEM program will be netted out of the claimed energy savings to ensure savings are not double counted.
- Adjustments to energy savings will be made to account for the presence of non-IOU fuel sources (e.g., solar, or other self-generation) to ensure only energy savings realized by the grid are claimed in the program. This analysis will be completed as prescribed by the California SEM M&V Guide.
- Negative energy savings will be reported according to the California SEM M&V Guide.
- Peak demand (kW) savings will be assessed using the CPUC approved SEM-NMEC Demand Savings Calculator based on energy savings (kWh) indicated by the energy model and the relevant corresponding load shape.

[4] Additionally, we refer to International Performance Measurement and Verification Protocol (IPMVP) Option C and American Society of Heating, Refrigerating and Air Conditioning Engineers (ASHRAE) 14-2014 guidelines when developing whole-facility energy models as applicable.

Evaluation Support

Our experienced modeling engineers follow a rigorous M&V approach that aligns with the California SEM M&V guide and that is adaptable to evolving statewide guidance. To further ensure robust and effective M&V of program savings, we will:

- Maintain consistency across each step of the process from collecting data to building M&V models and calculating savings.
- Work with PG&E staff to ensure that the CSEM program follows all applicable requirements and best practices.
- Provide complete and well documented project submission packages.
- Streamline review cycles by providing prompt and complete communication with the PG&E and third-party review teams.

These strategies are enabled by our use of Gazebo to collect and store data, generate M&V models, and calculate and document savings from those models. Gazebo provides our team and PG&E stakeholders with a level of visibility, consistency, and accuracy across our program that decentralized tools and systems would be unable to provide.

PG&E and third-party evaluation of energy model validity, applicability and energy savings results will happen in two stages for each reporting period, the mid-year and year-end reviews as defined in the California SEM M&V Guide. To ensure a smooth and successful review process, Stillwater utilizes a detailed internal QA/QC process for project submittals including energy models and required supporting documentation. We will also strive to develop a collaborative relationship with the PG&E and third-party review teams to facilitate open communication, efficient review processes, and high-quality results.

18. Normalized Metered Energy Consumption (NMEC) Program M&V Plan

NMEC is not applicable to the CSEM program.

19. Multi-DER IDSM Pilots Only

Not applicable to SEM programs.

20. SEM Programs

The Program will follow the California SEM Design Guide in delivery of educational modules and site-specific activities. In two instances, the program plans to bring forward educational modules based on known commercial sectors barriers. These two modules include employee engagement and leadership support. Executive engagement is the number one reason initiatives fail in the commercial sector. As such, engaging these individuals and their direct reports is imperative to ensure a successful SEM Program.

Program Timeline with Activities and Milestones

Below is a timeline that highlights all the SEM activities and milestones that will be accomplished throughout the course of the three cycles of the Program and represents the archetypal timeline for a customer who participates in all six years. This timeline includes a schedule for the facilitation of the educational modules identified in the California SEM Design Guide.

Table 6: Program Timeline: SEM Activities and Milestones

	Cycle 1				Cycle 2				Cycle 3			
	Year 1		Year 2		Year 3		Year 4		Year 5		Year 6	
Phases	1	2	3	4	5	6	7	8	9	10	11	12
Educational Module												
General Information	x				x				x			
Getting Started	x											
Improving Performance	x		x									
Measuring Success		x										
Planning		x			x	x			x	x		
EMIS			x				x				x	
Celebration & Next Steps				x				x				x
Operational Controls												
Employee& Leadership Engagement	x					x	x			x	x	
Risks to Success									x			
Site Activities												
Kickoff/Completion Meeting	x			x	x			x	x			x
EMA	x			x	x			x	x			x
SEU/Energy Map	x											
Treasure Hunt	x		x		x		x		x		x	
Action Plan/Annual Plan	x	x			x	x			x	x		
EMIS Support			x				x				x	
Operational Controls Support					x							
Employee & Leadership Engagement	x		x			x		x		x	x	
Cohort Activities												
Peer Sharing					x		x		x		x	
Participant Council						x		x		x		x

Educational Modules: Description, Objectives and Tools

The Program will comply with the objectives for educational modules in the California SEM Design Guide. The tables below highlight the key educational modules curriculum path and the associated objectives for each area of interest, including ISDM and GHG that will be a focus of the program.

Table 7: Cycle 1: Educational Module Learning Objectives

Module Number	Educational Module	Program Learning Objective	GHG Learning objectives	IDSM Learning Objectives
1	General Introduction, Year 1	What is SEM & EnMS? What services are provided?	How are GHG calculated and how does the program support GHG reduction?	What is wholistic energy management? How does the program support it?
2	Getting Started	How are we defining our energy team and what are	What are our gaps in GHG knowledge and	What are our energy management objectives and what

Internal

		its SEM scope and boundaries?	which GHG's will be managed?	training do we need?
3	Improving Performance	What energy and equipment are we looking at and how do we prioritize opportunities?	How does GHG reduction interact with energy use reduction? How do we take this into account?	What other non-energy efficiency opportunities are there?
4	Measuring Success	What data do we need to track energy use and determine our baselines?	What metrics are we collecting and how are we reporting this information?	What other data besides consumption do we need to capture?
5	Planning, Year 2	What goals should we set for Year 2? What needs to change? Do we need more opportunities?		
6	Improving Performance, Year 2	What can we do to better track our performance? What other opportunities do we need to look at? What knowledge gaps exist?		
7	EMIS, Year 2	What is an EMIS? How does the program support collection and visualization of all the identified data?		
8	Celebration & Next Steps	Reflection on what has been accomplished and planning to present to leadership.		

Table 8: Cycle 2: Educational Module Learning Objectives

Module Number	Educational Module	Program Objective	GHG objectives	IDSM Objectives
1	General Introduction	What should we expect in Cycle 2?		
2	Planning for Cycle 2	Has anything changed in the organization that would affect our work? Is there new information that we need to account for? What projects do we have planned and how will we get them done? What is an energy policy, and do we need it?		
3	Operational Controls	What SOPs do we need to put in place to ensure efficient equipment operations?	Are there specific considerations within the SOPs we need to consider in order to account for GHGs?	What other considerations beyond energy efficiency do we need to think about?

Internal

4	Employee Engagement, Year 3	To whom do we need to communicate our efforts? Are there external stakeholders that need to know? What types of training do our staff need in order to be able to manage energy and GHG's effectively?
5	Planning, Year 4	What goals should we set for Year 4? What needs to change? Do we need more opportunities?
6	EMIS, Year 4	What support does the program provide for an EMIS? What are the next steps we need to take to further integrate into our organization and determine best practices?
7	Employee Engagement, Year 4	Do staff that are responsible for managing facility designs and suppliers or providing services to the site know of the energy management goals of the organization? If not, how will we inform them?
8	Celebration & Next Steps	Reflection on what has been accomplished and planning to present to leadership.

Internal

Table 9: Cycle 3: Educational Module Learning Objectives

Module Number	Educational Module	Program Objective	GHG objectives	IDSM Objectives
1	General Introduction	What should we expect in Cycle 3?		
2	Planning for Cycle 2	Has anything changed in the organization that would affect our work? Is there new information that we need to account for? What projects do we have planned and how will we get them done? Do our goals, scope, or targets need to change? What support do we need from management?		
3	Risks to Success	What legal, regulatory, or organizational barriers or concerns do we face with our energy management program?	Are there specific challenges or concerns with our GHG management system that may cause issues?	Are there issues that would limit our ability to manage energy outside of consumption that we need to act on?
4	Leadership Development	Is our energy policy working? Do we have buy-in from management? Do we need to update or strengthen our energy team or connection to our executive sponsor?		
5	Planning, Year 6	What goals should we set for Year 6? What needs to change? Do we need more opportunities? Do we need to update our SOPs? How are we responding to variations in energy use?		
6	Employee Engagement, Year 6	Are there procurement policies in place that support our energy management efforts? Do we take into consideration energy efficiency or GHGs when designing new equipment?		
7	Documentation and Measurement of the EnMS	What types of documentation have not been created that need to be created? Do we need to update any of our documentation? How will we regularly update our EnMS and evaluate its effectiveness?		
8	Celebration & Next Steps	Major celebration and reflection on what six years has brought the organization, including highlighting individual efforts and leadership team support.		

Internal