CLEAResult

Implementation Plan

Higher Education Efficiency Performance (HEEP) Program

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A. Program Budget and Savings Information

1. Program and/or Sub-Program Name

CLEAResult Higher Education Efficiency Performance (HEEP) Program

2. Program and/or Sub-Program ID Number

SWHE100

3. Program and/or Sub-Program Budget Table

	2022	2023	2024	2025	Program Total
Administration	$96,755	$244,535	$351,986	$357,404	$1,050,680
Marketing/Outreach	$64,558	$79,820	$81,614	$83,463	$309,455
Incentives	$719,952	$1,918,654	$1,857,172	$1,972,218	$6,467,996
Direct Implementation	$495,842	$1,228,129	$1,516,279	$1,502,906	$4,743,155
Annual Total	$1,377,107	$3,471,138	$3,807,050	$3,915,991	$12,571,286

4. Program and/or Sub-Program Gross Impacts Table

	2022	2023	2024	2025	Total
Gross On-Peak Demand Reduction (kW)	220	1,067	735	1,049	3,071
Gross First Year Energy Savings (kWh)	2,842,907	11,726,529	10,751,473	12,304,339	37,625,247
Gross Life Cycle Energy Savings (kWh)	36,925,839	138,711,666	112,213,565	133,871,993	421,723,063
Gross First Year Energy Savings (therms)	57,074	289,387	244,294	293,660	884,415

Gross Life Cycle Energy Savings (therms)	937,051	5,154,406	3,428,839	4,245,475	13,765,771

5. Program and/or Sub-Program Cost-Effectiveness (TRC)

	2022	2023	2024	2025
Expected TRC	1.73	1.91	1.08	1.13
TRC w/ 6% SCE Adder	1.66	1.84	1.04	1.09

6. Program and/or Sub-Program Cost-Effectiveness (PAC)

	2022	2023	2024	2025
Expected PAC	2.67	3.63	1.78	1.99
PAC w/ 6% SCE Adder	2.51	3.40	1.67	1.86

7. Type of Program and/or Sub-Program Implementer

Program Implementer	
PA-delivered	☐
Third Party-Delivered	☒
Partnership	☐

8. Market Sector

SCE Business Plan Sector	Yes
Residential	☐
Commercial	☐
Industrial	☐
Agricultural	☐
Public	☐
Higher Education	☒

9. Program and/or Sub-Program Type

Program Type	
Resource	☒
Non-Resource	☐

10. Market Channels and Intervention Strategies:

Market Channels	
Upstream	☐
Midstream	☐
Downstream	☒
Intervention Strategies	
Direct Install	☐
Incentive	☒
Finance	☒
Audit	☒
Technical Assistance	☒
Other	☒

11. Campaign Goals and Timeline:

Phase	Key Deliverable(s) / Milestone(s)	Dates/Duration	% of kWh Savings	% of Therm Savings
Launch Readiness	• Implementation Plan • Program Manual • Program Materials/Forms • Date Program is Available to Customers	7/1/2022-9/30/2022	0%	0%
Ramp Up	• Marketing Plan Implemented	10/1/2022-12/31/2022	8.3%	7.9%

	• Pipeline Development • Energy Savings			
Steady State	• Energy Savings	1/1/2023-6/30/2025	75.4%	76.3%
Ramp Down / Transition	• Energy Savings • Program Ramp Down Plan • Close out pipeline • Date Program is No Longer Available to Customers	7/1/2025-12/31/2025	16.3%	15.8%
Measurement & Payment	• Completion of energy savings reporting/payments, if required	N/A	0%	0%

B. Implementation Plan Narrative

1. Program Description

The CLEAResult Higher Education Efficiency Performance (HEEP) Program combines traditional efficiency programs (Custom, Deemed) with supported energy action plan implementation and Strategic Energy Management (SEM). SEM is a holistic, whole facility approach that uses Normalized Meter Energy Consumption (NMEC) and dynamic baseline models to determine energy savings from all program activity at the facility, including capital projects, custom and deemed retrofits, Behavioral, Retro commissioning and Operations (BRO) projects. The SEM offering for the Higher Education sector requires a multiyear customer commitment to participate in multiple cohort-type training workshops, energy analysis, and Measurement and Evaluation (M&V) activities based on information and characteristics of the facility's specific operations.

The HEEP program targets customers across the Higher Education sector and delivers savings to diverse building types owned by each of the three UC/CSU/CCC California Higher Education school systems.

The program's primary objective is to meet the CA Investor-Owned Utility business plan goals and objectives and achieve deep energy savings and performance through a comprehensive delivery design. An additional objective of the program is to increase participation by identifying and offering technical support to establish a foundation on which to develop capital projects, which will yield deeper savings. Our targeted yet flexible approach, coupled with our streamlined processes and thorough quality

management will yield a cost-effective program that serves Higher Education Sector customers.

2. Program Delivery and Customer Services

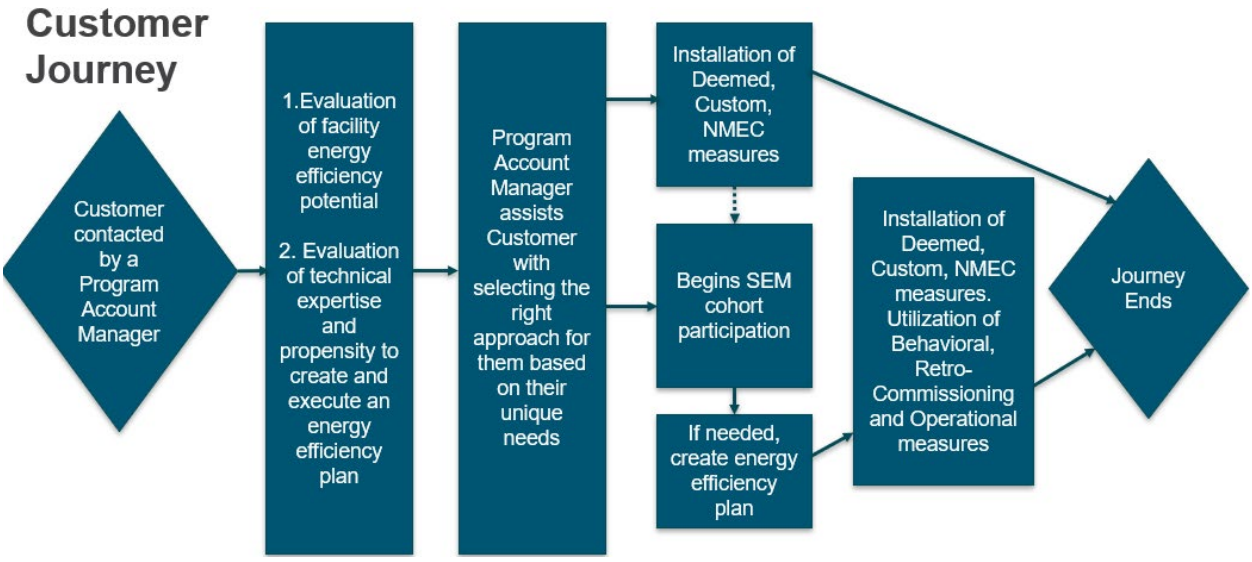
Program Offerings Delivery

The HEEP Program will solely utilize the downstream delivery channel with customer services including implementer account manager outreach/support, no cost energy assessments, facility walkthroughs, SEM cohort support and incentive processing.

The program will employ two main strategies to deliver savings: savings which come from individual measures utilizing a deemed, custom or NMEC approach and savings which come from participants engaging in an SEM offer cycle.

Customer Outreach

Initial outreach will be performed by CLEAResult Account Managers who will contact campuses and go through an initial evaluation of the energy efficiency potential of that campus. Eligible higher education sector customers seeking to implement standalone projects will benefit from a streamlined downstream channel connecting customers with deemed, custom, and metered incentives. Savings will be measured using CPUC-approved deemed, custom and NMEC methodologies.



For some customers, this will be the end of their energy efficiency journey with the program. Remaining customers will be recruited to participate in an SEM offer cycle, which deliver cost-effective savings to higher education institutions that oversee and maintain building and infrastructure portfolios. SEM savings will be measured utilizing methods in alignment with the California SEM M&V Guide (v 3.02), the latest statewide

guidance. The California SEM M&V Guide was created using ASHRAE Guideline 14:2014, BPA MT&R Reference Guide, ETO Energy Production Efficiency, Energy Intensity Modeling Guideline, v2.2 and others which utilize the same M&V methodologies for SEM across all business sectors. For SEM offering information see Section B.11 Additional Information.

Market actors in the higher education sector are often unstaffed, underfunded, and lack the technical expertise to effectively execute an energy efficiency plan. They require one-on-one support and a close relationship with program representatives to understand complex needs, build trust, and secure commitments. CLEAResult's HEEP Program will help higher education customers identify top savings opportunities, implement low/no-cost operations and maintenance improvements, and prioritize efficiency projects to drive rapid energy savings and integrate demand response (DR) opportunities, while institutionalizing persistent energy performance practices and policies.

Customer Services and Support Tactics

To address higher education barriers, the program will:

- Deliver a targeted, high-touch customer experience and subsequent increase in savings through a flexible Program structure that guides each participant towards the path to savings that best fits their operational and financial needs.
- Educate key decision makers at participant facilities to be energy experts who will continue to drive energy savings after their initial program touchpoint. We teach participants to better understand their energy usage, recognize energy improvement opportunities, and envision a long-term energy roadmap. Historically, our SEM participants go on to complete more capital projects than participants in other C&I energy efficiency programs, and many opt into ongoing SEM participation.
- Provide consistent, simplified program processes and requirements across all higher education sector subsegments to improve the customer experience and reduce confusion. Our decades of implementation experience coupled with high-quality, intuitive online customer portals will reduce the customer's labor burden for participation.

Hard to Reach and Disadvantaged Communities

In traditional downstream program designs, direct program outreach and technical assistance in hard-to-reach (HTR) and disadvantaged communities (DAC) is often costly because many of these customers are located in smaller, rural communities spread out across California. Rural and DAC areas offer unique barriers to participation, and to overcome these to make the program accessible, we will use webinars and virtual peer-to-peer learning events to reach remote locations and help them feel connected. This virtual capability minimizes travel and increases the number of events we can deliver.

CLEAResult's SEM cohorts offers a pathway to reach diverse communities and organizations with high levels of service and rapid realization of low/no cost energy

savings. This model encourages a collective increase of enthusiasm for energy efficiency and a recognition that gains in efficiency are available to all customers. In addition, including these smaller communities within the program cohorts helps not only reduce the cost of serving each customer, but also reduces the savings delivery risk for the program by spreading the contribution of savings across a more diverse group of participants. SEM will focus on recruitment of entities across the spectrum of the program's target customers and will determine the total number of participants based on the anticipated baseload of each customer. We will enroll on a first come, first served basis, and will determine the final number of participants based on the potential savings of the total baseload.

For projects implemented within HTR customers and within DACs that are also located in areas with constrained grid resources, the program will offer support seeking alternative funding and grants these communities may be uniquely qualified for. We will also leverage our coaches' and auditors' professional networks to identify prospects using a Diversity, Equity, and Inclusion (DEI) lens and to have targeted conversations with local stakeholders about how to increase representation from diverse communities.

The program will utilize a regional targeting approach to identify participant candidates in the top quadrant of HTR and DAC communities, through identifying zip codes with a CalEnviroScreen score of 4.0. CLEAResult's analysis of the CalEnvironScreen 4.0 Draft data estimates approximately 27 percent of the customers reside in a DAC within the HEEP service territory.

Over the course of the program, CLEAResult will include tracking of projects located in HTR and DACs in terms of quantity of projects, energy savings, and incentives paid. These KPI's (Defined in Section B.5 Metrics) will be monitored and our approach to recruiting and serving these customers will be evaluated and adjusted in accordance with our overall process of continuous improvement

Strategic Energy Management:

SEM will play a key part in the program and will help to address many of the market barriers mentioned above. SEM programs have proven to be successful in significantly reducing energy consumption across a wide array of sectors, including higher education. The CLEAResult SEM team is well versed in delivery of SEM programs and working with participants to work through the challenges of implementing a robust energy management system.

SEM is a part of the HEEP program that will be offered primarily in a cohort-style format and will have a subset of objectives in addition to the overall program objectives. The primary objectives of the SEM offering design, looked through a three- to four-year lens, are:

- To cost-effectively acquire measurable energy efficiency savings by helping participants develop a systematic approach to managing energy while ensuring the participant can manage the system they have developed and continue saving energy after program completion.

Secondary objectives of the SEM offering design are to:

- Integrate education on using energy management business practices to manage broader energy-related objectives and provide options for activities that give participants support for integrating those objectives into energy management business practices so that participants can strategically implement a wide-variety of low/no-cost energy saving projects.
- Introduce higher education sector participants to additional clean energy opportunities in water efficiency, demand response, renewable energy, project financing and carbon emissions mitigation.

To achieve energy savings goals, the program uses a cohort format that includes training workshops and individual one-on-one and onsite activities. A dedicated SEM coach supports each participant site from beginning to end of the program to help them meet SEM offering objectives and their own goals. The updated California SEM Design Guide provides for delivering SEM to participants either via a cohort or as an individual entity. CLEAResult's primary method will be to recruit multiple educational institutions to participate in cohorts however we will maintain the ability to support sites in an individual way as long as that support helps meet overall program savings goals.

Site activities include conducting an energy opportunities Treasure Hunt and recording findings in an Opportunity Register. The energy coach and engineering staff help identify and provide technical project management support for implementation of behavioral, retro-commissioning and operational, as well as capital, custom and deemed energy efficiency projects

During the first year, participants begin establishing Energy Management System practices and identify, implement, and track organizational and operational changes that will help save energy at their facilities. During the second year, participants solidify and advance those practices. In addition, participants' efforts in the early years are primarily focused on reducing energy waste by increasing operational efficiencies and implementing no- and low-cost solutions through operations and measurement (O&M) actions.

SEM Services Provided:

Participants who choose to participate in SEM will be guided and coached by the CLEAResult SEM team who will follow the California SEM design guide. While deviations are not expected, any divergence to the guide will be documented in the implementation manual and submitted to SCE in writing for approval before implementation. Participants pursuing the SEM pathway will be treated with the following services in alignment with the California SEM Design and M&V guidelines:

- Individual kick-off meeting to lay out clear program expectations
- Cohort or individual facility workshops with clearly defined learning objectives and well facilitated peer-to-peer learning that include strategies on:
    - Developing SEM

    - Identifying and Implementing Energy Savings Projects (focused on BRO measures)
    - Employee Engagement
    - Persistence of Savings
    - Tracking Energy Performance through Energy Modeling or alternate measurement and verification methodologies
    - Designing and Implementing an Energy Management Information System
- Onsite energy Treasure Hunt to identify energy waste and savings opportunities.
- Onsite and remote support for: goal development, employee engagement, energy map development, energy data collection and data logging, project savings persistence strategies, as well as annual updates to key activities.
- Development of an energy savings regression model and annual updates to meet the requirements of the CA M&V guidance.
- Implementation of an Energy Management System Assessment to assess progress on customer Energy Management System (EnMS) and plan future improvements.
- Identify, scope and provide technical support for project implementation.
- Where appropriate, supporting the customer in defining and implementing an Energy Management Information System (EMIS) to better track, report, and make decisions on energy data.

3. Program Design and Best Practices

Higher Education market barriers will be addressed by the program through the following strategies and tactics:

Market Barriers	Mitigation Strategies, Output and Outcomes
Bureaucratic and complex decision-making structures that impede participation	**Strategy/Outcome:** UC, CSU, and CCC institutions have existing sustainability policies with established goals and objectives. We will educate, promote, and employ energy management and support each higher education institution from within the framework of their existing sustainability policies. We will also work closely with the system-wide organizations and committees to provide expertise and direction that helps colleges on their path to energy efficiency and sustainability, such as the UCOP Energy Services department and the CCC Chancellors Office Climate Change and Sustainability Steering Committee. Despite having sustainability directives in place, local campuses seldom adequately resource to successfully implement these policies. Our

	program provides knowledge, tools and support to enable campuses to align their energy management, facilities maintenance, and capital planning with policies established by the Board of Regents, Board of Governors, or other applicable governing bodies. Our strategy enables local decision-makers and stakeholders to be more successful from the perspective of the bureaucracies in which they operate. This will lead to more successful project implementation and help ensure sustained participation. A successful energy efficiency outreach strategy in the higher education segment has been program participation at conferences, forums, and workshops leveraging existing UC/CSU/CCC educational channels to reach both high-performing and underperforming colleges and districts. For example, the annual California Higher Education Sustainability Conference (https://chesc.org/) brings together all three higher education systems in a focused multi-day conference centered on improving energy and sustainability with participation of college staff, students, and faculty. The annual Community College Facilities Coalition Conference (https://www.caccfc.org/2021AC.html) features educational workshops, general sessions, and a trade show with valuable networking opportunities throughout the event. Both venues provide outreach and program education to the broadest possible higher education audience and have proven extremely valuable in the 2006 – 2019 IOU Partnerships and to the success of Proposition 39. Our experience supporting higher education institutions across the country through our innovative SEM programs has informed our methods of navigating entrenched bureaucracies and complex decision-making. We have also had success with this approach supporting Proposition 39 projects over the past eight years. In addition, our industry partners have employed similar tactics leading to successful management the Community College IOU partnerships from 2006 through 2019.
Wide Range of Technical Expertise and Organizational Maturity, Lack of Tools and Expertise	Strategies: Targeted recruitment and tailored program services such as audits, virtual assessments, and engineering support. SEM introduces proven, highly refined tools and process for building new or improving existing EnMSs

	Output/Outcomes: • Varying program services and value propositions for participants • SEM Energy Champions identified, strategy defined and participation authorized • Onsite activities provide highly skilled engineering services to map energy use and identify energy-saving opportunities • Tracking and M&V to build robust gas and electricity usage models • Train SEM participants to use and maintain models • Facilitate peer-to-peer learning • SEM Energy Action Plan timelines accelerated and increased BRO and capital projects • SEM cohort Alumni engage in continuous improvement
Rigid financing and procurement hurdles	Strategy: Integration of On-Bill Financing (OBF), alternative funds sourcing, and direct incentives Output/Outcomes: • Flexible participation options adapted to policy constraints and producing net positive economic benefits • Deemed and Custom incentives paired with OBF drive measure-based equipment retrofits • Meter-based incentives unlock savings potential unavailable through deemed and custom pathways • Enhanced incentives for DR-enabling EE technologies and equipment drive expansion of integrated demand side management (IDSM) in the higher education sector. • Alternative sources of project funding can include complimentary programs, such as grants and incentives administered by the South Coast Air Quality Management District (SCAQMD) for local governments that implement cleaner technologies. Other sources of funding can also include local bond funds, federal grants, or third-party financing through groups like the National Energy Improvement Fund (NEIF).
Security and Access Restrictions	Strategy: Personnel & subcontractor pre-screening and robust IT security policies Output/Outcomes:

	• Physical and digital access granted for SEM Treasure Hunts, and in-person and virtual assessments • Energy use monitored to measure performance
Limited Resources for Data Collection	**Strategies:** Intuitive and secure digital platform CLEAResult's digital platform provides participants user-friendly features for program participation. Features may include: • Participation Dashboard upon request, with an administrative toolkit to manage their rebate applications, documentation, track incentives, and report on savings achieved and in progress • Online Intake Form for multiple participation pathways and rebate application electronic signatures • Access to program information and educational materials **Output/Outcomes:** • Streamlined data collection and workflows • Improved data quality for evaluation
Lack of organizational commitment to SEM	**Strategies:** CLEAResult's process ensures that participating organizations have a full understanding of what participation entails and are committed to the process **Output/Outcomes:** • Screening and recruiting participants • Training for the executive sponsor • Regular meetings with executive management, including reviewing Treasure Hunt results, gaining their input and approval on project lists and priority • Establishing and engaging communication and coordination across participant functions (i.e., maintenance, production, purchasing, accounting, etc.) to ensure understanding and participation across the organization
Commitment of resources	**Strategies:**

	Peer interactions through SEM cohort workshops strengthen commitment. Onsite activities engage multiple stakeholders within the organization Output/Outcomes: • Tracking and M&V show clear progress and benefits across multiple business objectives
Changes in site personnel, production, or facilities	Strategies: Our team's experience is that one or more of the SEM offering participants will go through a change in personnel within the program period. We have learned to mitigate this risk by ensuring: • Two or more personnel at each participant facility attend each workshop • Establishing and maintaining executive sponsor contact • Well documented work products • Establishing succession plans for key roles on an energy team • SEM coach support to onboard new energy team staff Output/Outcome: • Improved transfer of knowledge within the participating organization, program recommendations established as institutional policy and standard practice
Frustration with standard offerings	Strategies: Skillful facilitation of SEM workshops to maximize engagement and participation. One-on-one SEM coaching and support customized to meet participant needs Output/Outcomes: • Streamlined future participation in incentive programs by introducing clear documentation and measurement practices • More educated, empowered customer – CLEAResult provides the process, the skills and the knowledge for customers to move forward

4. Innovation

CLEAResult's program design includes several innovative and flexible elements to accelerate cost-effective energy efficiency advancement in higher education while driving increased satisfaction and deeper engagement among program participants and regional stakeholders. Our innovative program elements include:

- A streamlined platform to simplify and improve data management and performance monitoring, enabling transparency for program participants and more reliable reporting for Program Administrator monitoring and EM&V. Key decision makers at the campus and institutional level will have the benefit of a single program portfolio review applications, manage projects, track their progress, and also request information about other cross-cutting programs and opportunities. Our strategy of offering a curated experience supported by a combination of personal relationships and innovative technology will meet this customer need. Having a dedicated, single point contact from the program to assist key higher education decision makers and staff will provide CLEAResult with an intimate, long-term understanding of their capabilities and needs, and provide the participants with a clear understanding of resources and assistance available.
- Working industry partners who have extensive experience in accelerating the commercialization and development of new and underutilized Emerging Technologies (ET) that have successfully transitioned from applied research pilot studies into demand side management rebate and incentive program solution code measures.
- We consistently communicate results through NMEC metered savings methods creating ongoing participant engagement which optimizes savings achieved. We have developed this approach based on experience testing behavioral and operational engagements with commercial customers nationwide and through extensive delivery of SEM to commercial, institutional and industrial customers.
- We provide the innovative opportunity to conduct key components of the program virtually, enabling the delivery of SEM even in times of disruption and ensuring continuity of existing programs.
- Integration with DR: By definition, combining SEM, traditional prescriptive or custom EE projects, and DR integration is innovative, as traditional utility programs have kept these projects and their incentives separate.
- Given the Proposed Decision on Assessment of Energy Efficiency Potential and Goals and Modification of Portfolio Approval and Oversight Process, our measure design is set up to both maximize cost effectiveness in the current rule set while driving the adoption of measures that will score well under the Total System Benefit metric.

Benefits include energy savings, increased stakeholder engagement, community development and increased goodwill within customer segments that are traditionally hard to reach.

Each of these innovative elements is replicable across each cohort and for every participant in the SEM offering. Ongoing feedback via monthly reports detailing energy savings and facility participation as well as comprehensive annual savings reports for participants and SCE alike to track program progress.

5. Metrics

The program will be assessed by several measurable key performance indicators. These include the following:

- Gross and Net Savings Goal Attainment –kWh, therm, kW
    - All Participants
    - Disadvantaged Communities (DAC)
    - Hard-to-Reach (HTR) Markets
- Project Pipeline Target Savings – kWh, therm, kW
- Schedule Adherence – Projects committed vs installed vs forecasted
- Cost per unit Saved - Levelized cost of energy efficiency per kWh, therm, and kW
- Average percent of energy savings per project building or facility
- Percent of higher education sector accounts participating in program
- On-Bill Financing participants
- Cost Management – Incentive spend vs paid vs forecasted
- Customer Satisfaction Rating
- Safety Rating
- HTR and DAC total participants

6. For Programs Claiming To-Code Savings

The to-code savings potential mainly resides in the retro-commissioning measures, and behavioral retro-commissioning sub measures that are a part of the NMEC and SEM categories. The to-code potential resides both in the non-code compliant lighting and HVAC equipment and controls under all the building types, customer segments and geographical locations of the program scope. However, the measures will be cost-effective depending upon equipment loading, existing efficiency and hours of operation. There may also be weather dependent measures, which will be more cost-effective in hotter climate zones.

The typical barriers that prevent code-compliant equipment replacements are:

- Lower initial capital costs of lesser efficient equipment
- Unaware of utility program incentives
- Unaware of code requirements
- Lack of awareness on energy efficiency, its alternatives and associated lifetime energy savings
- Unaware of OBF and alternative state financing plans
- Lack of understanding of non-energy benefits of higher efficiency measures

Natural turnover will occur in certain markets for a variety of reasons, but as this applies specifically to the HEEP program and facility types eligible to participate, the most significant barrier is access to expertise. Market actors in the higher education sector are often unstaffed, underfunded, and lack the technical expertise to effectively execute an energy efficiency plan.

The program interventions that would effectively accelerate equipment turnover are:

- Program incentives
- Aware of life-time energy efficiency savings' benefits
- Third party implementer's site assessment and identification of potential energy efficiency opportunities
- Third party implementer guidance on available energy efficiency alternatives and selection of most-efficient energy option
- Aware of non-energy benefits of measures including reduced maintenance and longer equipment life
- Environmental benefits/corporate sustainability goals

7. Pilots

Not applicable

8. Workforce Education & Training (WE&T) [1]

As we have in the past, CLEAResult will continue to work collaboratively alongside WE&T programs by informing our network of trade allies and program participants of potential candidates, as well as examining the potential for candidates to find a fit in our organization. During program launch and ramp-up, CLEAResult will examine current WE&T programs to see if the current training is producing the specific skill set we need

[1] D.18-05-041, Page 20-21 and Ordering Paragraph 7.

to support our work. Should there be a fit, we reach out to the program to see if there are any viable candidates. We'll then interview and hire, the most recent example is the direct hire of an energy advisor who is the product of a WE&T program.

A trained, skilled, and qualified workforce is needed to ensure the availability of services and realization of energy savings critical to the Program's success. The Program will support workforce, education, and training (WE&T) to market actors and reinforce the value with customers where possible.

CLEAResult will take the following steps:

- Cultivate relationships with and provide resources to vendors serving the higher education sector with a track record of high-quality installation and energy efficiency proficiency who meet and advance workforce standard.
- Engage and provide information to customer's local and regional vendors who work in the higher education sector to ensure they understand Program requirements and build the necessary skills to support energy efficiency projects.
- Reinforce the value of a skilled and trained energy efficiency workforce with customers to further support customer's vendors development.
- Promote and perpetuate SCE's goal for WE&T to support the education of decision makers on upcoming code changes and the value of energy efficiency, expand access and availability of educational offerings, and continue to look for cross-sector collaboration as described in the SCE Energy Efficiency Rolling Portfolio Business Plan for 2018-2025, Section 8.

9. Workforce Standards[2]

The HEEP program design/implementation aligns with established rules for workforce standards (D.18-10-008). The program design requires that participating customers comply with D.18-10-008 workforce standards with their staff or through contractors they hire. Participants will receive training and education on acceptable HVAC technician credentials and California Advanced Lighting Controls Training Program (CALCTP) requirements for lighting vendors to maintain good standing.

CLEAResult's digital platform will be configured to collect information on contractors used for each incentivized project that meets D.180-10-008's minimum criteria for workforce standards. To track compliance, the program will collect data on each project pertaining to technician name, phone, email, required licenses, year of experience, and evidence of qualifying credentials with expiration date. For HVAC projects with incentives exceeding $3,000, the program will ensure that technicians performing the work meet at least on of the following criteria:

1) Completed an accredited HVAC apprenticeship.

[2] D.18-10-008, Ordering Paragraph 1-2 and Attachment B, Section A-B, Page B-1.

2) Is enrolled in an accredited HVAC apprenticeship.

3) Completed at least five years of work experience at the journey level according to the Department of Industrial Relations definition, Title 8, Section 205, of the California Code of Regulations, passed a practical and written HVAC system installation competency test, and received credentialed training specific to the installation of the technology being installed.

4) Has a C-20 HVAC contractor license issued by the California Contractor's State Licensing Board.

For projects involving advanced lighting control measures where the incentive exceeds $2,000, each technician shall be certified by the CALCTP.

Projects will be screened for 100% compliance with D.180-10-008.

The SEM curriculum is enhanced with embedded Workforce Education and Training into existing curriculum with the objective of connecting course content directly to utility incentive programs. This will provide the opportunity for students to acquire the job skills needed to create immediate transfer opportunities into the energy industry workforce.

10. Disadvantaged Worker Plan:[3]

The HEEP program doesn't involve the direct installation of EE measures and is therefore not in a position to directly improve access to career opportunities for Disadvantaged Workers. However, the program's SEM curriculum is enhanced with embedded Workforce Education and Training into existing curriculum with the objective of connecting course content directly to utility incentive programs. This will provide the opportunity for students to acquire the job skills needed to create immediate transfer opportunities into the energy industry workforce. The program will also provide referrals to technicians and trade allies to applicable local and statewide workforce education and training resources, and trade allies will be updated via regular communication from CLEAResult about the opportunities available to them.

CLEAResult will track the participation of Disadvantaged Workers among participating program allies using our digital platform. Each program ally's record in our platform will include a field to record the number of Disadvantaged Workers they employ. We will annually survey participating program allies to enumerate and report on workers employed who meet the Disadvantaged Worker criteria:

- Household total income <50 percent of area median income
- A recipient of public assistance
- Lacks a high school diploma or GED

[3] D.18-10-008, Attachment B, Section D, page B-9.

- Previous history of incarceration lasting one year or more
- A custodial single parent
- Previously chronically unemployed
- Aged out or emancipated from the foster care system
- Limited English proficiency
- Lives in a ZIP code in the top 25 percent of the unemployment indicator of the CalEnviroScreen Tool

Because program allies do not collect such information about their employees, we will provide them with a survey that they can share with staff to complete on a voluntary basis. The program will provide any Disadvantaged Worker information we collect to SCE on an annual basis.

11. Additional Information

SEM Offering

Cycle 1 & 2 Strategic Energy Management (SEM) Checklist Information:

Per the request detailed in AL 4772-E-A, the following sections provide CLEAResult's program description for the SEM portion of the HEEP Program. As stated in the Program Delivery section of this document, the most recent versions of the SEM Design Guide, California SEM Design Guide For: Cycle 1, 2, and 3, Version 1.01 dated July 5, 2022, and SEM M&V Guide, California SEM M&V Guide, Version 3.02 dated July 06, 2022 are the basis for all answers below. It is worth noting the updated guides depart in a number of ways from the previous versions, including visually and in the language used.

SEM Cycles: CLEAResult plans to offer enrollment in SEM Cycle 1 (2 years) with the possibility for continuation into Cycle 2 for organizations that enroll with enough time to start Cycle 2 and complete items as part of Year 3 of SEM.

Cycle 1 focuses on building energy management experience and creating savings quickly. The focus is on developing informal, technical (e.g., engineering, operational, and maintenance) business practices for our HEEP participants. Activities are meant to be hands-on, with a somewhat short-term view of saving energy. Energy saving focus is on identifying and implementing quick, low- or no-cost, and easy-to-implement opportunities.

Cycle 2 focuses on increasing savings and more deeply engaging employees. It builds on the experience developed in Cycle 1 to expand beyond the initial core of employees targeted in Cycle 1. Cycle 2 helps participants work with top management, purchasing, and design and ensures there is management commitment, employee awareness and operator competence. Business practices begin to get defined and documented so they can be repeated. Energy saving focus is on identifying and implementing more

complex opportunities that may require more investment of resources (financial or human) and involvement from employees outside the energy team.

Starting in Cycle 2, the SEM offering uses the EnMS structure provided by the US Department of Energy (US DOE) through its 50001 Navigator (Navigator) as the base for the business practices taught to participants. The full implementation of Navigator, US DOE 50001 Ready program recognition, or certification to ISO 50001:2018 is not mandated as part of the California SEM program design. Navigator is used as the base structure for the EnMS for the following reasons:

1. It is publicly available and maintained,
2. It is provided at no cost,
3. It provides a defined structure for a complete EnMS, and
4. It is based on the internationally recognized and accepted ISO 50001:2018 standard.

It is important to not confuse the fact that the design uses the Navigator "structure" and does not "require" that participants adhere to all the Navigator guidance. 50001 Navigator translates the requirements of the ISO 50001 standard into guidance and organizes the materials into manageable tasks and suggested actions. The California SEM Design Guide takes these tasks and introduces or enhances them in each cycle to support the intent of each cycle and build on the experience developed in the previous cycle. The guidance offered in each cycle provides the details of when and how the tasks should be introduced or enhanced, through educational modules, or workshops, and site-specific activities, depending on the task. Most educational modules/workshops and site-specific activities list the Navigator tasks that pertain to that module/workshop or activity for reference.

The below descriptions reference 50001 Ready and tasks associated with Navigator and will be introduced to individual sites in more detail where such introduction makes sense, and the SEM Coach believes the site can take advantage of completing 50001 Ready. The SEM Design Guide formally starts this process in Cycle 2.

Deemed Savings Measure Allocation: The Program will employ a mix of deemed, normalized metered energy consumption, and custom measures. The SEM offering approach will follow the SEM guidebook and appropriate deemed/custom program rules. The CPUC Rulebook on NMEC Savings Claims, California Industrial NMEC Guide, and SEM M&V Guide each will be utilized for the evaluation of measured savings. SCE is planning to claim a net-to-gross ratio of 1 and an effective useful life of 5 years for the SEM components, as approved in eTRM, each consistent with D.17-09-025, Navigant's Energy Efficiency Potential and Goals Study for 2018 and Beyond, CPUC's support tables (DEER2020) in eTRM, SBW Consulting's 2018-19 Industrial Strategic Energy Management Impact Evaluation, and Marin Clean Energy's approved SEM program.

Targeted Subsector Cohorts: The HEEP Program targets all University of California, California State University, and Community Colleges within the SCE, PG&E, SDG&E, and SCG IOU territories.

SEM Pathway Participants: The SEM offering will target participants across the subsectors listed above. More specific eligibility criteria may be developed as part of the implementation of the program. Initial outreach will be performed by the Implementer's account managers who will contact facilities and conduct an initial evaluation of their energy efficiency potential. SCE anticipates four (4) Cohorts of 10-12 participants in the SEM offering.

Detailed 2-year Cycle 1 SEM Description

1. SEM Cycle 1 Calendar

According to the California SEM Design Guide For: Cycle 1, 2, and 3 Section 3.1, "All cycles are broken down into four six-month "phases" and the phases are numbered sequentially through all three cycles. Activities, both educational and site-specific, are presented in a phase and meant to be completed within the six-month window for that phase and in the sequence outlined." Refer to section 3.1 in the guide for the full description. As discussed above, the updated design guide breaks down activities into phases rather than by month as was previously the case in older versions of the design guide.

Phase	Educational Modules	Site-Specific Activity
Phase 1		1- Kick-off Meeting, Year 1 2- Energy Management System Assessment (EMA), Year 1
	1- General Information, Year 1 2- Getting Started 3- Improving Performance, Year 1	
		3- Energy Map/SEU Selection Support 4- Treasure Hunt, Year 1 5- Action Plan- Support
Phase 2	4- Measuring Success	
	5- Planning for Year 2	
		6- Planning for Year 2- Support
Phase 3	6- Improving Performance, Year 2	
		7- OPTIONAL: Treasure Hunt, Year 2
	7- EMIS, Year 2	
		8- EMIS Support, Year 2
Phase 4		9- EMA, Year 2 10-Cycle 1 Completion and Next Steps, Year 2- Support
	8- Celebration and Next Steps, Year 2	

Table 1- Cycle 1 Sequence

2. SEM Offering Roles and Responsibilities

As outlined in the California SEM Design Guide For: Cycle 1, 2, and 3, there are three main entities involved in the success of the SEM offering – the program administrator (SCE), the implementation contractor (CLEAResult), and the participant organization.

- The SEM Program Administrator (SCE) ensures that the SEM offering is delivered by CLEAResult as expected. SCE oversees all aspects of the offering and has the following key roles:
    - Is responsible for ensuring the proper review and approval of California SEM Design Guide required reports and key documents to ensure program progress, influence, and quality is properly documented. These reports and documents are outlined in sub-section 5: Summaries and Reports for HEEP SEM offering, below.
    - Provision of participant data including interval data.

    - SCE should ensure any relevant utility staff are involved where needed.

- CLEAResult is responsible for ensuring participants meet the SEM offering objectives, all progress and projects are properly documented, and energy savings are properly modeled and documented. Although CLEAResult will have a team that consists of multiple individuals supporting participants, the expectation is that there is one participant-facing individual responsible for supporting participants. This individual, called the SEM Coach or sometimes energy coach, will:
    - Maintain regular one-on-one communication with participants, including performing site visits as necessary, to ensure all program expectations are met.
    - Develop and review with SCE all educational and activity material and content.
    - Ensure educational and site-level activities are properly facilitated and meet program requirements, including any learning objectives.
    - Ensure proper technical support is provided during Treasure Hunt and for any resulting projects.
    - Ensure all energy consumption models and M&V documentation are delivered on-time and meet the requirements of the SEM M&V Guide
    - Ensure all program data, documentation, and contact information meets program requirements.
    - Is responsible for ensuring participant issues and implementation issues are resolved.

  The SEM offering Program Manager will ensure the SEM coach and team are supported and have what they need to succeed. The SEM offering Program Manager is also responsible for maintaining regular communication with SCE regarding participant progress and issues.
- The participant will designate a member of staff for each of these roles.
    - The Data Owner is responsible for ensuring that a plan is created for collecting energy data and relevant variable data, that the plan is followed, and that data is properly screened and documented.
    - The Energy Champion is responsible for the success of the SEM offering at the site. This individual is responsible for coordinating both with the SEM Coach and internally with any site staff, including the Energy Team, Data Owner, and Executive Sponsor.
    - The Energy Team is typically a cross-functional team (i.e., management, production, procurement, maintenance, HR) that meets regularly to manage and develop any energy management-related business practices and activities.

- The Executive Sponsor should be the highest-level manager available at the site (typically the site or facility manager) and is responsible for ensuring the Energy Team has the resources it needs to succeed during the SEM offering.

3. HEEP SEM Pathway Site Activities and Workshops

Per the California SEM Design Guide For: Cycle 1, 2, and 3, "the SEM program is delivered to a participant through a progression of workshops and site-specific activities that take place over each of the two-year cycles. The progression of workshops and site-specific activities build upon each other within and between the cycles."

The below descriptions are composed of material from the SEM Design Guide and CLEAResult's experience and materials.

Cycle 1 Site-Specific Activities

Site-Specific Activity #1: Kick-off Meeting, Year 1

The Kick-off Meeting begins a site's engagement with the SEM offering and introduces the SEM Coach to the site's team. This meeting has multiple purposes:

1. Engage and meet the Executive Sponsor and Energy Champion, ideally in person, to help them understand:

    a. The SEM offering's 3-cycle approach and the general goals for each cycle.

    b. The Cycle 1 goals, expectations, roles, and requirements for their site's involvement in the SEM offering.

    c. The roles of the SEM Coach and rest of the SEM team.

    d. The roles and responsibilities of the Energy Champion, Data Owner, Executive Sponsor, and Energy Team.

    e. How the SEM offering can help support key corporate and site objectives and strategies, specifically strategies such as GHG emissions reductions and any others that relate to energy (e.g., energy independence, cost reduction, sustainability, resilience, etc.).

2. Discuss with the Executive Sponsor:

    a. The resources (human and capital) available to support the SEM offering.

    b. Any existing or desired site objectives or targets the offering should try to meet, including Cycle 1 EnMS and savings objectives and targets.

    c. Agreement to SEM's Cycle 1 requirements, including any follow-up meeting with the Executive Sponsor.

3. Develop a plan, primarily with the Data Owner and SEM Coach, for gathering and providing data for relevant energy drivers. This should include expectations

for data transfer (responsibility, minimum data requirements, general format guidelines, process for transferring data, etc.), data quality, data frequency, etc.

4. Develop a list of existing planned capital projects and a plan for estimating savings from those projects.

Site-Specific Activity #2: Energy Management Assessment, Year 1

The objective of the Energy Management Assessment (EMA), Year 1 is to provide SEM a baseline of the site's energy management practices relative to the business practices that will be introduced in Cycle 1. The EMA shall consist of questions based on the tasks listed below from the 50001 Ready Energy Management Assessment:

Task #	Navigator Task Name
Task 1	**An EnMS and Your Organization**
Task 3	**Scope and Boundaries**
Task 6	**Energy Team and Resources**
Task 8	**Energy Data Collection and Analysis**
Task 9	**Significant Energy Uses (SEUs)**
Task 10	**Improvement Opportunities**
Task 11	**EnPIs and Energy Baselines**
Task 12	**Objectives and Targets**
Task 13	**Action Plans for Continual Improvement**
Task 21	**Monitoring and Measurement of Energy Performance**

Table 2- Tasks for Questions to be asked in EMA, Year 1

The EMA shall be held during or after the Kick-off Meeting and prior to any other educational or site-specific activities and is designed to be conducted in a question/answer manner with the SEM Coach and Energy Champion.

Site-Specific Activity #3: Energy Map and SEU Selection Support

The objective of the Energy Map/SEU Definition Support activity is to help the participant start with Task 8 Data Collection and Task 9 Significant Energy Uses (SEUs) of 50001 Ready. There are two related but separate activities that will take place:

1. Energy Map: the energy map is akin to an energy end-use breakdown chart. It helps the Energy Team visualize the relative scale of energy use for different locations and/or systems in their site. It provides a snapshot of energy use that will be reviewed in future planning sessions. Energy Map requirements are provided in the California SEM M&V Guide.

2. SEU Selection: SEU Selection is based on the Energy Map and is a documented decision of which energy uses the site will focus its efforts on. At this point in the SEM offering, the selection of SEUs may be informal and may simply be based on the largest energy-consuming systems or areas. In future cycles, the selection may be based on multiple criteria (e.g., energy consumption, energy costs, and savings potential). The SEU selection helps the Energy Team make decisions on where to focus limited resources. This selection will be reviewed in future planning sessions. A notation of the SEUs selected and

the criteria used shall be made on the Energy Map (see the California SEM M&V Guide for details).

Either the SEM Coach or the Energy Team may develop the Energy Map, using the tool provided by the SEM Team to the participant's preferred level of detail. If the Energy Team develops the Energy Map, the SEM Coach shall be available to assist the participant in both developing the energy map and choosing criteria for selecting the SEUs.

Modification: In CLEAResult's experience delivering SEM, the energy map is something that sites are better suited to work on in the second year of engagement. Energy teams tend to get bogged down in the details of the energy map and can spend a lot of time in the first year on that process when the focus will be on energy savings projects. Therefore, CLEAResult is suggesting that the energy map be introduced and created in the second year of the program.

Site-Specific Activity #4: Treasure Hunt, Year 1

The objective of the Treasure Hunt is to identify energy waste and energy saving opportunities so that participants can make changes that save energy, which supports Task 10 - Improvement Opportunities. A successful outcome of the Treasure Hunt is the identification of opportunities to meet Cycle 1 objectives. A primary focus of this first Treasure Hunt is to identify simpler low- or no-cost opportunities with the identification of other opportunities being a secondary focus for HEEP sites.

The SEM Coach will plan and facilitate this event, in coordination with the Energy Champion. The SEM Coach will work with the Energy Champion in advance to determine the scope of the Treasure Hunt. Generally, the entire site is the focus rather than individual systems. This can be adapted and narrowed as needed in specific situations and will be done using the Energy Map and SEU Selection. Some sites are so large that the Treasure Hunt will be focused on a single system or a specific engagement boundary, rather than being all-encompassing. This can often be the case for higher education institutions.

After the Treasure Hunt concludes, the SEM Coach shall help the site's energy team estimate energy savings for projects identified during the event.

All projects, including O&M, retro-commissioning, and Capital projects identified in the Treasure Hunt will be documented in the Opportunity Register. The Coach will ensure that capital projects identified be documented in accordance with any additional PA requirements, which may require documentation outside of the opportunity register and will align with the overall SCE offering. Opportunity Register requirements are provided in the California SEM M&V Guide.

Site-Specific Activity #5: Action Plan Support

After identifying and prioritizing opportunities, the Energy Team will need to select and implement projects. The objective of this activity is to ensure each Energy Team selects, creates action plans, gets any necessary approvals, and implements opportunities to meet their energy objectives.

To be useful, an action plan will contain:

- The activities to be completed to implement the project and achieve energy performance improvement
- The resources needed to complete the activities
- The timeframe for completing the activities
- The person or persons responsible for completing the activities
- A description of the method for verifying project results
- A description of the method for verifying the energy performance improvement

These plans will be tailored to each HEEP organization and reflect the needs and goals of the site.

Site-Specific Activity #6: Planning, Year 2 Support

The objective of this activity is to review key items that might affect the site's approach for SEM offering Year 2 and make any appropriate changes. The SEM Coach will assist the Energy Team in a review of their year 1 actions (e.g., implemented projects, energy savings, objectives, performance indicators, SEUs, and data collected) and determine if any significant changes need to be made for SEM offering Year 2 based on the Navigator Tasks discussed in Workshop #5- Planning, Year 2. This includes adjusting any objectives and targets, making any changes to EnPIs or the Data Collection Plan, making sure the Energy Map and SEUs selected are still relevant, ensuring opportunities and action plans will meet objectives, etc.

This activity creates an experience and expectation for annual planning that will be repeated and expanded through the remaining four years of the program. Although the Energy Team should eventually lead their own planning, in this initial planning session the SEM Coach will provide significant support. The SEM Coach and Energy Champion will use this planning session to determine if another Treasure Hunt is needed in order to identify opportunities to meet the Cycle's objectives.

Optional Site-Specific Activity #7: Treasure Hunt and Action Plan Support, Year 2

As previously stated, the objective of any Treasure Hunt is to identify energy saving opportunities so that participants can make changes that save energy, which is an element of Task 10- Improvement Opportunities. A successful outcome of this second Treasure Hunt is the identification and prioritization of opportunities to meet SEM offering Year 2 and beyond (e.g., Year 3 and 4) objectives. A primary focus of this Treasure Hunt is to identify more complex or resource (capital or human) intensive opportunities that, because of capital expenditure or scheduling reasons, may or may not be implemented in this cycle.

As in all Treasure Hunts, the SEM Coach will plan and facilitate this event, in coordination with the Energy Champion. The SEM Coach will work with the Energy Champion in advance to determine the scope of the Treasure Hunt. After the Treasure

Hunt concludes, the SEM Coach will teach the site's energy team how to estimate energy savings for projects identified during the Treasure Hunt.

All projects, including O&M, retro-commissioning, and capital projects identified in the Treasure Hunt will be documented in the Opportunity Register. The SEM Coach will ensure that capital projects identified are documented in accordance with any additional PA requirements, which may require documentation outside of the opportunity register.

Once opportunities have been prioritized, the SEM Coach will help the Energy Team select opportunities to implement that meet their objectives for the Cycle. The SEM Coach will then help the Energy Team develop action plans to ensure those opportunities are implemented.

Site-Specific Activity #8: EMIS, Year 2 Support

The objective of this activity is to ensure the participant applies the principles introduced in Workshop #7- EMIS, Year 2 in looking at simple ways to enhance and visualize energy data. In this activity, the SEM Coach will assist the participant in analyzing how existing data, data processes, and data systems can be used to right-size and prioritize where energy data can be integrated into existing control and reporting systems. Future EMIS activities will look at potentially more complex enhancements to data processes and systems. For many HEEP participants, an EMIS will be more simplistic based on building types and focus areas of the program.

Site-Specific Activity #9: EMA, Year 2

The objective of the Energy Management Assessment (EMA), Year 2 is to provide the program an end-of-cycle assessment of the site's energy management practices relative to the business practices that were introduced in Cycle 1. The EMA shall consist of questions from the 50001 Ready Energy Management Assessment and will focus on the same tasks as the Year 1 EMA.

Similar to EMA, Year 1, this EMA is not intended to be a participant-facing process, the primary purpose is to document the participant's EnMS progress through Cycle 1. The SEM Coach will have been working closely with the Energy Champion and Energy Team on these business practices and should have the knowledge to complete the EMA without their input. Optionally, the SEM Coach can engage with the Energy Champion and/or Energy Team to complete the EMA. The results of the EMA can optionally be shared with the Energy Champion and Energy Team. In CLEAResult's experience, conducting an EMA with the Energy Team can help align goals and activities of the SEM offering with other internal organizational goals and help to engage employees as well as other stakeholders of the organization.

Site-Specific Activity #10: Cycle 1 Completion and Next Steps, Year 2 Support

This activity has two objectives: 1) to help the site understand and summarize their achievements and issues throughout their involvement in Cycle 1, and 2) help the site decide whether or not to advance to Cycle 2. Achievements and issues will be

presented to the Executive Sponsor. The Executive Sponsor and Energy Champion shall decide whether or not the site would like to continue to Cycle 2.

Based on that decision, the Energy Champion and SEM Coach will document a transition plan that covers anything the participant should address, either as they exit the SEM offering or as conditions to entering Cycle 2. The SEM Coach can optionally request the Executive Sponsor's and Energy Champion's commitment to address any key issues before Cycle 2 begins.

Cycle 1 Educational Modules (Workshops)

Per the California SEM Design Guide: "As described before, educational modules provide the requirements for educational activities, which can be provided in a variety of ways, including face-to-face, on-line, or a combination of the two." CLEAResult's plan is to deliver these modules in a combination of in-person workshops and on-line or virtual workshops. In CLEAResult's experience, the term "workshop" communicates the collaborative nature of the SEM cohorts and combination of presentation and "work" time for the organizations. As such, the below descriptions will utilize the term "workshop" in place of "educational module" in many instances. In Cycle 1 there are eight modules/workshops.

Workshop #1: General Introduction

The objective of this workshop is to give participants an introduction to five general topics:

1. The program itself and its structure through the three cycles, expectations in Cycle 1, the scope of what is included and not included, and the resources the program does and does not provide.

2. The concept of an EnMS, what it is, why it is important, and how it will be developed in this first cycle.

3. Why the focus is on energy efficiency and what the approach to saving energy and implementing energy saving opportunities is in Cycle 1 and in future cycles.

4. What managing energy can mean in a broader sense (beyond energy efficiency), metrics that can be managed through the EnMS (e.g., demand response, time of use, etc.), and what the SEM offering does or does not support in relation to these other metrics.

5. What GHG emissions are, why they are important, why they have a connection to energy and the EnMS, and how the SEM offering does or does not support GHG emission reduction efforts.

Workshop #1, often referred to as the Kick-off Workshop, is a great opportunity to learn about the objectives above, but equally important, is an opportunity for the individual organizations in the cohort to meet each other, establish relationships, and start the collaborative efforts that lead to so many tangible and intangible benefits that come with SEM. CLEAResult's plan is to make every effort to deliver this workshop face-to-

face for cohorts while balancing the feasibility of locations of participants and the cost-effectiveness.

Workshop #2: Getting Started

The objective of this workshop is to provide practical guidance for participants in establishing an EnMS in their organization. For some participants an EnMS, and continuous improvement in general, will be new. This module/workshop provides an opportunity to begin laying the foundational pieces of the EnMS. In this module, participants will begin to connect their corporate or site's high-level goals to the EnMS, develop their energy team, set the scope of their activities, and review the goals and direction established by their Executive Sponsor in the Kick-off Meeting.

In addition, this module/workshop continues to expand the two topics introduced in the previous module/workshop that extend beyond energy efficiency:

1. The connection between GHG emissions and the energy management system.
2. The broad range of energy performance objectives that can be integrated into the EnMS and how those can help support strategic corporate or site objectives.

Workshop #3: Improving Performance, Year 1

The objective of this workshop is to provide participants guidance for visualizing how their site uses energy, understanding how they can prioritize or focus efforts, and understanding the actions they can take to save energy. The workshop focuses on giving participants the knowledge and skills needed to identify and implement energy-saving projects as early as possible. The Energy Map Tool, ideas for no- and low-cost energy saving opportunities, and the Opportunity Register will be delivered and explained during this module. The three Site-Specific Activities that follow this module, the Energy Map/SEU Selection Support, Treasure Hunt, and Action Plan Support, will also be explained.

Identifying and implementing quick wins is critical to building momentum and enthusiasm for the SEM offering. The agenda should include training that will enable near-term identification and implementation of technical opportunities through straight-forward concepts, processes and tools.

Given the focus across the state on IDSM opportunities, this workshop, and the program, will discuss (where it makes sense to) the economics and cost effectiveness of energy conservation and efficiency as foundations for IDSM opportunities and how educational institutions can integrate SEM into their IDSM planning activities. For the purposes of education in the SEM offering, IDSM opportunities are defined as the multitude of energy solutions available to a participant. Below is a general order of cost effectiveness of IDSM options, often referred to as a "loading order". The first item would typically be the most cost effective and each of these options align the general recommendations of SEM and fall into various categories of an EnMS.

1. Energy conservation
2. Energy efficiency, including Water/Energy Nexus

3. Time of use management and pricing
4. Demand response
5. Self-generation and energy storage

The definitive definition of IDSM opportunities and the grid-based "loading order" will be determined from the CPUC or CPUC approved sources and will be updated as policy dictates.

Workshop #4: Measuring Success

The objective of this workshop is to provide participants guidance for how to track their energy performance. Participants will have just completed their energy map, SEU Selection, Treasure Hunt, and action plans and should have a good sense of the opportunities they plan to implement.

In this workshop, they will review the data they are collecting, review the metrics and baselines that they can use to track energy performance, and review options for determining their energy performance. In this workshop the SEM Coach will share the energy model with the participant and give them an opportunity to understand how the model was developed and why it is used. The participant should understand what their role is in developing and maintaining the model and how the program will use its results. The objectives of this workshop include:

1. Reviewing data that has been collected, how to ensure its accuracy and quality and determining if any data is missing. This will also include discussing the purpose of a data collection plan and their role in collecting data.
2. Discuss the metrics needed to track participant energy performance, agree on what the baseline should be, and how often the participant will compare their metrics to the baseline.
3. Discuss how participants will determine their energy performance, what metrics they will use, and what happens if their performance deviates significantly and how the program determines and tracks these factors.

Ideally, the Energy Data and Performance Tracking Tool will be shared with participants prior to this workshop so they have a working copy to refer to and work with during the workshop. Many circumstances dictate this and CLEAResult has backup options in the event a participant's model is not ready.

Workshop #5: Planning, Year 2

The objective of this educational module/workshop is for each participant to develop a plan of action for SEM offering Year 2. The SEM Coach will work with the participant to reflect on their SEM offering experience thus far, as they will have engaged in the program for nearly a year at this point. With an eye on the future, they will consider what has worked, what has not, what needs to be changed, and where they want to go from here, both with their EnMS and their energy saving opportunities. Participants will learn how to review their progress as well as ensure that they are on track to meet SEM offering Year 2 objectives.

The questions below are based off EnMS and Program related objectives from the SEM Design Guide and are what CLEAResult SEM coaches will use to help guide the participant through in an interactive workshop format as well as in follow up sessions. Ideally the Executive Sponsor, Energy Champion, and Energy Team will all have a chance to discuss and give their input.

1. What are our objectives and targets for year 2 and beyond? How do they compare with year 1? How will the program help us set or achieve our objectives and targets? How might competing targets be addressed?
2. Have we compared our metrics to their baselines in year 1? Should any metrics be changed or added for year 2? Are there any changes in how the program tracks our metrics or EnPIs?
3. Do we have enough opportunities to meet our objectives for year 2 and beyond? Do we need to identify more? What opportunities do we focus on this year? When do projects have to be implemented to receive incentives in Cycle 1? Are our implemented projects well documented in the Opportunity Register?
4. Are there changes that affect how we select our SEUs? Do our current SEUs apply to SEM offering Year 2? Do we need to change them?
5. Are we collecting the right data at the right time? Do we need to modify the data we collect or the approach we take? Are there changes that affect our Data Collection Plan, Energy Map, or SEUs?
6. In year 1, did we implement the projects we planned on implementing? Do our approved projects for year 2 meet our objectives? Should we develop action plans for any opportunities? How do we make sure the actions we implement last?
7. Do we have enough opportunities to meet our objectives? Are there additional opportunities that we can identify? How do we identify projects that are more complex?
8. Do we need to select and get approval for additional opportunities? Should we add persistence strategies to our action plans?

Workshop #6: Improving Performance, Year 2

The objective of this workshop is for participants to be able to identify more advanced, complex, or resource (capital or human) intensive energy improvement opportunities. Participants will learn how to improve on elements learned in Workshop 3 and applied through the first year of the SEM engagement.

In this module, participants should learn how to identify and implement more advanced energy savings projects and better estimate the energy savings potential of those projects. Participants will also learn best practices for creating action plans for these more complex projects.

The technical content of this module/workshop will depend on the systems and processes present at the participant's site as well as on the needs of the participant, and

CLEAResult SEM coaches will tailor the content to fit the participant's needs. Objectives for this workshop will include:

1. The SEM Coach will work with participants to ensure they have enough opportunities to meet their objectives, help explore additional opportunities that may exist at sites, and help Energy Teams identify projects that are more complex.
2. Examine current savings and identify opportunities to better estimate savings.
3. Determine if there are opportunities that may be outside of the scope of SEM.

Workshop #7: EMIS, Year 2

This workshop gives participants tools and methods for understanding and tracking energy performance at a deeper level using the concept of an Energy Management Information System (EMIS). In this context, an EMIS is not any specific hardware or software solutions but it is the proper integration and visualization of energy information so that multiple levels of employees and management within an organization are able to take actions and make decisions that save energy and maintain energy savings.

The objective of this module/workshop is to help participants understand how they can leverage existing data points and process and enhance them. Participants should understand that no matter how they are currently tracking key site and energy data, improvements designed to fit their situation can help drive better decisions within and across facilities. In this module, SEM coaches will help participants explore how to right-size and prioritize where an EMIS approach can have an impact, how it can be integrated into existing control and reporting systems, and how an EMIS approach can be implemented to supplement their SEM offering.

Future EMIS activities will look at potential improvements to data processes.

Workshop #8: Celebration and Next Steps, Year 2

The objective of this module/workshop is to recognize the participants' accomplishments and generate enthusiasm for continuing engagement in the SEM offering. Participants have worked hard for two years; this workshop will provide a forum for their peers to recognize the work they have done and hear what they have planned for the future.

The SEM Coach will work with each Energy Champion ahead of time to prepare a brief presentation explaining the story and outcomes through their engagement with the SEM offering. This should be a similar presentation as that given to their Executive Sponsor. Participants should receive a certificate of accomplishment.

Detailed 2-year Cycle 2 SEM Description

As stated in the SEM Design Guide, Cycle 2 focuses on deepening savings and engaging a broader circle of employees. It builds on the experience developed in Cycle 1 to expand beyond the initial core of employees. This cycle helps participants work with a broader number of employees and ensures there is management commitment,

employee awareness and operator competence. Processes will begin to get defined and documented so they can be repeated. Energy savings focus is on more complex opportunities that may require more resources (financial or human) and broader involvement from employees outside the Energy Team than those opportunities that were the focus in Cycle 1. Management commitment becomes critical in this Cycle to ensure the resources are available to meet the site's objectives.

By the end of this cycle, HEEP participants should be able to begin to lead their technical business practices with decreasing support from the SEM Coach.

SEM Cycle 2 Calendar

Similar to Cycle 1, the sequence presented in the table below should be followed in order from top to bottom. This means, for example, that Site-Specific Activities #1 and #2 (Kick-off Meeting, Year 3 and EMA, Year 3) are completed before Educational Modules #1, and #2. It is CLEAResult's intention to follow these activities in the order presented. Organizations that enroll in the SEM portion of the Program by November of 2023 will have the option to continue into SEM Cycle 2, Year 3, following the guidance described above in "Site-Specific Activity #10: Cycle 1 Completion and Next Steps, Year 2 Support." Organizations that enroll after November 2023 will only have time to complete SEM Cycle 1.

Phase	Educational Activity	Site-Specific Activity
Phase 5		1- Kick-off Meeting, Year 3 2- Energy Management System Assessment (EMA), Year 3
	1- General Information 2- Planning, Year 3	
		3- Planning Support, Year 3
	3- Operational Controls	
		4- OPTIONAL: Treasure Hunt, Year 3 5- Operational Control Support
Phase 6	4- Employee Engagement, Year 3	
		6- Employee Engagement Support, Year 3
	5- Planning, Year 4	
		7- Planning Support, Year 4
Phase 7	6- EMIS, Year 4	
		8- Optional Treasure Hunt, Year 4 9- OPTIONAL: EMIS Support, Year 4
	7- Employee Engagement, Year 4	
		10- Employee Engagement Support, Year 4
Phase 8		11- EMA, Year 4 12- Cycle 2 Completion and Next Steps Support
	8- Celebration and Next Steps, Year 4	

Table 6- Cycle 2 Sequence

Site-Specific Activity #1: Kick-off Meeting, Year 3

The Kick-off Meeting begins the participant's engagement with the SEM offering in Cycle 2. This meeting has multiple purposes:

1. Introducing the Executive Sponsor and Energy Champion to the requirements and objectives of Cycle 2, including energy saving and EnMS goals, and ensuring they understand the differences between Cycle 1 and Cycle 2.
2. Ensuring the Executive Sponsor understands the role and requirements of top management in Cycle 2, including Task 4- Management Commitment and Task 5- Energy Policy. Specifically, the Executive Sponsor is responsible for ensuring the objectives, resources (e.g., Energy Team, budgets), and energy policy in this cycle reflect the organization's needs.
3. Articulating the participant's commitment to the SEM offering, including resources and targets necessary for meeting this cycle's objectives.
4. Discussing with the Data Owner any changes needed in the Energy Data Collection Plan.

As with the other site-specific activities, the Kick-off Meeting is meant to be held with an individual site and not in a group or cohort environment.

Site-Specific Activity #2: Energy Management Assessment, Year 3

The objective of the Energy Management Assessment (EMA), Year 3 is to provide the program a baseline of the site's energy management practices relative to the business practices that will be introduced in Cycle 2. The EMA shall consist of questions for the tasks listed below from the 50001 Ready Energy Management Assessment:

Task #	Navigator Task Name
Task 4	**Management Commitment**
Task 5	**Energy Policy**
Task 14	**Competence and Training**
Task 15	**Awareness and Communication**
Task 17	**Operational Controls**
Task 18	**Considerations in Design**
Task 19	**Considerations in Procurement**

Table 7- Tasks for Questions to be asked in EMA, Year 3

The EMA is not necessarily intended to be a participant-facing assessment, the primary purpose is to document the participant's existing capabilities and to be able to assess their EnMS progress through Cycle 2. At this point the EMA is used for program purposes but eventually it will support Task 20 - Monitoring and Measurement of the EnMS. The SEM Coach should ask the EMA questions for these tasks to the Energy Champion or the Energy Team and can optionally share the EMA summary with the Energy Champion or the Energy Team.

Site-Specific Activity #3: Planning Support, Year 3

The objective of this activity is to review key items that might affect each site's approach for Cycle 2 and make any necessary changes to business practices. The Energy Team will review their Cycle 1 actions (e.g., implemented projects, energy savings, objectives, performance indicators, SEUs, and data collected) and determine if any significant changes need to be made for Cycle 2 based on the Navigator Tasks discussed in Educational Module #2- Planning, Year 3.

This activity repeats the experience and expectation set up in Cycle 1 for reviewing objectives for the cycle and for annual planning that will be repeated and expanded on through this cycle and Cycle 3. Although the Energy Team should eventually lead their own planning sessions and develop the processes to support them, in this second planning session the SEM Coach should still provide significant support but should start helping the Energy Champion lead planning discussions.

The SEM Coach and Energy Champion should use this planning session to determine if a Treasure Hunt is needed, or not, to identify opportunities to meet the Cycle's objectives.

OPTIONAL Site-Specific Activity #4: Treasure Hunt, Year 3

As previously stated, the objective of any Treasure Hunt is to identify energy waste and energy saving opportunities so that participants can make changes that save energy, which is an element of Task 10- Improvement Opportunities. A successful outcome of this Treasure Hunt is the identification and prioritization of opportunities to meet Cycle 2 and beyond (e.g., potential Cycle 3) objectives. A primary focus of this Treasure Hunt is to identify operational controls opportunities that may not have been identified previously and to begin to define, with the participant, the internal processes that can ensure the participant has the processes and understanding to lead future Treasure Hunts.

The SEM Coach will plan and facilitate this event, in coordination with the Energy Champion. The SEM Coach will work with the Energy Champion in advance to determine the scope of the Treasure Hunt. After the Treasure Hunt concludes, the SEM Coach shall help the site's Energy Team estimate energy savings for projects identified during the Treasure Hunt.

After the Treasure Hunt, all projects identified will be documented in the Opportunity Register. The SEM Coach will ensure that capital projects identified be documented in accordance with any additional PA requirements, which may require documentation outside of the opportunity register.

As with other Treasure Hunts, after the Treasure Hunt the participant should select projects to implement and develop action plans to ensure they are implemented.

Site-Specific Activity #5: Operational Controls Support

Operational controls are a key component in both saving energy and maintaining energy savings as they can help a site set and maintain optimum running conditions and maintenance practices. Operational control support should focus on the processes or equipment that consume a significant amount of energy (Significant Energy Users) and have a risk of significant deviation in energy performance and support the concepts taught in Educational Module #3- Operational Controls.

Support can include activities such as:

1. Assistance in analyzing and prioritizing the equipment or processes to target in the identification of operational control opportunities.
2. Analysis of existing operating set points and operational procedures.
3. Analysis of maintenance criteria, controls, and procedures.
4. Consideration of optimization and tradeoffs between various IDSM programs.

Participants should at least include operational controls as either independent energy improvement opportunities or as a component of other existing energy improvement opportunities. Operational controls can be supported by a well-defined and implemented EMIS and some operational control opportunities may need to be implemented after EMIS implementation (if the participant is implementing an EMIS).

Site-Specific Activity #6: Employee Engagement Support, Year 3

Employee engagement is one of the most important activities in Cycle 2 as it helps ensure that staff throughout the site have the awareness and competence to support the objectives and targets of the energy management system. The objectives of this activity are to help the participant

1. Develop and deliver a plan to communicate the objectives of the EnMS
2. Identify employees who might need training and develop a plan for that training.

Through this support activity, the SEM Coach will play a key role in helping find or develop competence and training actions, such as existing or customized training courses, that might help fill competency gaps. Whether to provide additional support resources or funding, such as bringing in equipment or process experts or providing customized courses for one or a group of participants, is at the PA's discretion.

Cycle 2 Workshops

As described before, workshops provide the requirements for educational activities, which can be provided in a variety of ways, including face-to-face, on-line, or a combination of the two. In Cycle 2 there are eight modules but CLEAResult will only deliver four of them based on the contract ending in 2025. It is recommended that each workshop summarize the completed Workshops and Site-Specific Activities and preview upcoming Workshops and Site-Specific Activities. As with Cycle 1, references to Navigator tasks are given to provide context for the PA and SEM Coach and are not a requirement to show the participant the details of the task or of Navigator itself.

Workshop #1: General Introduction

The objective of this workshop is to give participants an introduction of the Cycle 2 approach to the general topics introduced in Cycle 1:

1. The program itself and its structure through the three cycles, program expectations in Cycle 2, the scope of what is included and not included in the program in this cycle, and the resources the program provides.
2. The approach to the EnMS, what the vision and goal for the EnMS is in this cycle, why it changes, how it will be developed, and how that continues into cycle 3.
3. What the approach to saving energy is in Cycle 2, how it differs from Cycle 1, and how it will progress in Cycle 3.
4. What the SEM offering does or does not support in relation to energy performance metrics beyond efficiency (i.e., IDSM) in this cycle.
5. How the program does or does not support GHG emission reduction efforts in this cycle.

These topics are part of every workshop, and it is important that participants understand the key changes from Cycle 1 to Cycle 2.

Workshop #2: Planning for Cycle 2

The objective of this workshop is for the participant to develop a plan of action for Cycle 2. The participant should reflect on their SEM offering experience thus far, as they have engaged in the program for two years at this point. With an eye on the future, they will consider what has worked, what has not and where they want to go from here, both with their EnMS and their energy saving opportunities. Participants should learn how to review their Cycle 1 progress as well as any issues or changes that have developed as they create a plan for meeting their Cycle 2 objectives. Tasks introduced in this module are:

- Task 4- Management Commitment
- Task 5- Energy Policy

Other related tasks are:

- Task 1- An EnMS and your Organization
- Task 3- Scope and Boundaries
- Task 6- Energy Team and Resources
- Task 8- Data Collection and Analysis
- Task 9- Significant Energy Uses
- Task 10- Improvement Opportunities
- Task 11- EnPIs and Baselines
- Task 12- Objectives and Targets
- Task 13- Action Plans for Continual Improvement

Workshop #3: Operational Controls

The objective of this module is to help participants understand how to review and update standard operating procedures (SOPs) and operational and maintenance controls to consider energy performance.

In this module participants should understand that operational and maintenance controls can take a variety of forms. They can include, for example, documented procedures and work instructions, physical controls, use of licensed or other qualified personnel, or combinations of these. This module should provide examples that are relevant to the participant and provide strategies for reviewing and updating SOPs and operational and maintenance controls.

Tasks introduced in this module are:

- Task 17- Operational Controls

Workshop #4: Employee Engagement, Year 3

The objectives of this module are to provide strategies and tactics for 1) accomplishing energy awareness among employees, and 2) identifying employees who might need training and providing that training. Participants should learn approaches to building

support for EnMS objectives and targets, evaluate which employees may have gaps in their competence, and should be given practical approaches to begin planning their next steps in these important aspects.

Module #4 helps participants understand that the EnMS is most successful in the long-term when key employees are fully engaged and competent. The module should provide strategies for sparking interest and getting buy-in. It also helps participants recognize challenges and solutions for getting employees involved in the EnMS.

Tasks introduced in this module are:

- Task 15- Awareness and Communication
- Task 14- Competence and Training

Milestones

Participant incentive payments for SEM will be of two kinds:

- Milestone incentive payments: Milestone incentives will be paid to participants based on progress made in the program, primarily for meeting deadlines for providing energy and relevant variable data. Milestones payments will depend on each individual participant organizations enrollment and progress through the program and thus will vary by each participant. Each participant will be eligible for a one-time payment of $2,000 and a maximum of eight additional payments of $1,000 each per the criteria in the below table.
- Performance incentive payments: Performance incentives will be paid to participants based on energy savings calculated through the energy consumption adjustment model. This incentive will be paid out after each year of enrollment in the SEM offering; a maximum of three total times.

Milestone Payments

As per the schedule defined below.

Program Cycle	Milestone	Quantity	Rate
Cycle 1 & 2: Year 1-3	Initial: Energy and Relevant variable Data and Workshop Attendance	1/participant	$2,000/participant
	Subsequent: Updated Data and Opportunity Register (approximately 3 times a year)	8/participant	$1,000/participant

Incentives for SEM Behavioral, Retro-Commissioning and Operational (BRO) measures

Measure	Unit	Rate
BRO	kWh	$0.03

4. SEM M&V Activity Descriptions

See section C.7 Evaluation, Measurement, and Verification (EM&V) under SEM M&V Activities

5. Summaries and Reports for HEEP SEM Offering

CLEAResult will prepare an annual report, also known as the SEM Reporting Period Performance Report, for each participant at the end of each program year. These reports will contain the baseline model, CUSUM graph, savings and incentives earned, statistical rational, and calculations. If a model is not viable, the report will contain the rational, calculations, and data for individual activities leading to energy savings and incentives earned.

In addition to the annual reports, CLEAResult will provide monthly progress reports, as models become available, summarizing savings achieved for each participant, and for the program. Progress reports will be obtained by reviewing the energy models. Given that the energy models are dynamic and subject to change and constant updates, progress reports should be viewed as approximation of savings. Progress reports will be available sometime after the start of the program when energy models have been developed, or reset, and are actively being updated.

The following summaries must be documented and per the California SEM M&V Guide, all six are required to be submitted with the SEM Reporting Period Performance Report. Not all summaries are developed each SEM offering Cycle or SEM offering Year, depending on the status of each participant.

These six summaries come directly from the California SEM Design Guide For: Cycle 1, 2, and 3, and thus do not align perfectly with AL 4772-E-A required questions related to detailed written descriptions or Program Reports.

Educational Module/Workshop Summary Requirements

The Educational Module/Workshop Summary allows both the HEEP program and evaluators to understand who attended and what happened at each activity related to a module/workshop. The SEM Coach shall provide a Summary for each activity related to each module/workshop. The summary shall include:

- General information: including the name, the location, the time, and the date of the activity and which module/workshop it supports
- Attendees: all attendees, separated by participant attendees, utility attendees, CLEAResult attendees, and other attendees (such as presenters)
- Summary of the activity: including a summary of the type of activity (e.g., workshop, on-line webinar, pre-recorded class, etc.), attendance, presenters, agenda, key activities, materials provided to the participants
- Presentations: including a summary of the presentations given and key questions asked.

- Group Activities: including a summary of any group activities conducted during the activity and the outcome of the activities.
- Conclusion: including a summary of any prizes, incentive payments, or awards handed out during the activity. Also, including any homework or next steps assigned to participants.
- Feedback: a summary of the evaluation of the activity provided by participants, including any specific feedback given. The feedback form must have the activity name on it, the date, and an optional name field for the participant to fill out. Unless a different approach has been agreed to by the PA, the feedback form shall include a rating from 1-5 (five being the best rating) on:
    - Whether the activity met expectations for gaining new information on the topic.
    - Whether the coaches presented information in an effective way. If a workbook was provided, whether the workbook for the session is something the participant will refer to in working with their energy team.
    - Whether the preparation homework for the session helped the participant prepare for the activity and apply new principles at their site.
    - Whether the participant left the activity with specific ideas for how to improve their approach to the SEM offering.
    - How the participant would rate their overall experience in the activity.

The feedback shall also include an area for the participant to comment on any item that they rated three or lower, to comment on anything they would have liked to have spent more time on, and to provide any comments they would like to add. Providing the feedback form to participants will be mandatory. CLEAResult SEM coaches will make every effort to collect feedback although some participants may choose not to submit it.

Scoping Summary Requirements

The Scoping Summary is focused primarily on energy efficiency history and plans, and allows both the SEM offering implementers and evaluators to understand the conditions that existed at each site prior to SEM engagement. There shall be one summary per site, developed once during SEM offering Year 1, which shall include:

1. General Information: including the location, the date, and the attendees of the Kick-off Meeting.
2. Company Overview and Background: describing relevant details that might influence the SEM offering, such as ownership structure, management structure, corporate energy or sustainability programs, quality or certification programs.
3. SEM Readiness: describing the site's ability and willingness to dedicate staff to the engagement, who the Energy Champion and Executive Sponsor would be,

any major process changes that are planned, experience with Lean, Six Sigma, etc., sustainability or energy goals and teams.

4. Energy Efficiency History and Plans: this section is the highest priority in the Scoping Summary. It shall describe any relevant relationship with utility programs (account executive, 3rd party contractors, etc.), project activity and history (details for these may need to be provided by the PA or the participant), pending projects, and planned major capital projects. It should also contain any measures the SEM Coach recommend be included or excluded along with existing plans with the respective utility or 3rd parties. To ensure continuity, any pending and planned energy efficiency projects must be documented in the Opportunity Register in accordance with requirements outlined in the California SEM M&V Guide.
5. Energy Data: including estimated annual energy consumption (kWh, Therm, other), utility rate schedule, $/energy source (kWh, Therm, other).
6. Recommended Next Steps: Recommendations on next steps the program should take with this participant.

SEU Selection Summary Requirements

Selecting SEUs allow both the participant and the SEM offering to focus its efforts. The SEU Selection Summary is included in the Energy Map and is updated as needed. The SEU Selection Summary shall include:

1. General Information: including the individuals who selected the SEUs.
2. List of SEUs: A list of the SEUs selected by the site and any details that help identify the SEU.
3. Criteria for SEU selection: The criteria used to select the SEUs and any details that help repeat the SEU selection process.

EMA Summary Requirements

The EMA shall consist of questions relative to the tasks introduced or improved in the Cycle. The questions shall be based on the 50001 Ready Energy Management Assessment. The summary shall include:

1. General Information: including the date, and the individuals answering the questions of the EMA.
2. Task and subtask score: the score for each task and subtask included in the EMA and the scores and dates for that task and subtask in past EMAs.
3. Overall average percentage score: the average percentage score for all tasks included in the EMA and the average percentage scores on past EMAs.

Treasure Hunt Summary Requirements

The Treasure Hunt Summary provides details on the outcomes of the Treasure Hunt. The SEM Coach shall provide a separate Treasure Hunt Summary for each site for each Treasure Hunt held. The summary shall include:

1. General Information: including the location, the date, and the attendees.
2. Attendees: including all participants in the Treasure Hunt (including any guests and implementation contractor technical support).
3. Process: a summary of the process followed during the Treasure Hunt.
4. Next Steps: this section will highlight next steps relative to the Treasure Hunt. For example, if another Treasure Hunt is necessary in order to identify projects to meet the cycle's goals, or if the participant will need support developing action plans.

Cycle Decision and Transition Summary Requirements

The Cycle Decision and Transition Summary provides an overview of the site's intention as they complete each cycle. The summary shall include:

1. General Information: including the location, the time, and the date, and the attendees.
2. For Cycle 1 and Cycle 2
    a. Cycle Decision: the site's decision on whether to continue with the next cycle of the SEM offering, who made or communicated the decision and key reasons for that decision.
    b. Conditions to Advancing: If the participant is continuing to the next cycle, the conditions, if any, the program (SEM Coach or PA) is putting on the participant's continuation in the program (e.g., attendance to a percentage of educational activities, Energy Team involvement, minimum energy savings, etc.)
3. Key issues: Any key issues the Energy Team and SEM Coach identified that could affect the site's ability to manage energy, whether or not the site is advancing to the next cycle.
4. Next steps (for facilities that are not continuing onto Cycle 2):
    a. Improvement opportunities: a summary of what will happen with the major improvement opportunities that have not yet been implemented, the resources or programs that will support the site, etc.
    b. EnMS: a summary of what the site plans to do with their EnMS (e.g. maintain with internal resources, not maintain, hire external resources to help improve, seek ISO 50001 certification, etc.)

C. Supporting Documents

1. Program Manuals and Program Rules

A summary of the program process and rules are described below. As required, a complete program manual will be uploaded in the California Energy Data and Reporting System (CEDARS). The manual clarifies the eligibility requirements and rules of the program for implementers and customers. Program rules will comply with CPUC policies and rules.

Eligible Measures

CLEAResult's HEEP Program offers a comprehensive mix of energy efficiency and demand measures, summarized in the "Incentive Tables, Workpapers, and Software Tools" section of this Implementation Plan. This list includes, but is not limited to, the following categories:

- Commercial refrigeration
- Heating, Ventilation, and Air Conditioning (HVAC)
- Commercial ovens
- Demand Control Ventilation (DCV)
- Economizer
- Commercial pools
- Pipe Insulation
- Steam Traps
- Water Heaters
- Controls
- Interior, Advanced Lighting
- Comprehensive retrofits
- Behavioral, Retro commissioning, and Operational (BRO)

Customer Eligibility Requirements

Customers served by the program must directly take or receive electricity or gas services from within the IOU's service territories and pay the Public Purpose Programs Charge. Eligible customers conduct business under a NAICS Code included below which broadly covers all sites that are educational institutions and constitutes part of any of the following institutions: the University of California (UC), the California State University (CSU) or the California Community Colleges (CCC).

Sector	Segment	NAICS Code	Description of Segment

Higher Education Institution Customer	UC, CSU Campuses	6113,611310	Colleges, Universities and Professional Schools
Higher Education Institution Customer	CCC Campuses	6112, 611210, 6114, 611410, 611420, 611430	Junior Colleges, Business, Training and Trade Schools

Contractor Eligibility Requirements

See Section B.9 Workforce Standards.

Participating Contractors, Manufacturers, Retailers, Distributors, and Partners

Not applicable.

Additional Services

Not applicable

Audits

Facility assessments and scoping audits, either in-person or virtual as conditions dictate and performed by a CLEAResult team member or partner with the appropriate clearances, will be tailored to the participant's business needs, building characteristics and existing energy efficiency knowledge. Data gathered during these assessments allow CLEAResult to confirm recommended project potential, identify the appropriate incentive or energy management track, and increase program influence. There are no funding or direct incentives offered to customers for audits within The Program.

See section B.11 for SEM Treasure Hunt (Audit) procedures

Sub-Program Quality Assurance Provisions

The program will use a comprehensive quality management process that features immediate feedback and assistance to all participants. The process includes Quality Assurance (QA) that focuses on staff training, consistent processes, and data review, as well as Quality Control (QC) that focuses program resources on those projects and participating vendors that need the most attention.

Quality Assurance

The program will train program staff and participants on program processes and standardized work specifications by program measure.

- The Program will proactively seek feedback from all stakeholders, customers, and vendors, to ensure that the program is continuously improving in its approach to market and provision of QA/QC
- The Program will address any complaints regarding a specific project, or company.

- The Program will track all customer and participating vendor complaints from initiation to resolution and notify SCE where there is a pending dispute or recurring/systemic issues.

Data Review

Program staff will utilize program-specific checklists to verify completeness, accuracy, and eligibility of each application. The data review is composed of:

- Documentation supporting pre-implementation energy use associated with the measure(s) included in the application.
- Dated, itemized invoices and proof of payment, including:
  - Equipment quantities, model numbers, material costs and shipping address to verify purchase of equipment associated with incentive.
  - Installation, consulting, and other services necessary to deliver identify, scope, plan, install and verify installation of measures.
- Manufacturers' specification sheets for each qualifying equipment type to verify the equipment meets the minimum efficiency standards necessary to deliver the energy savings estimated in the application.
- Energy savings calculations, and (as needed) pre/post-implementation data for equipment and systems affected.

Quality Control

The Program requires on-going quality control activities to ensure that each project has been designed and installed properly and documented accurately. This is necessary in order to ensure that quality work is performed for the customer and that well documented savings are provided for the Program. The QC process helps ensure savings integrity to maintain high realization rates. This includes:

- Verification of the energy baseline created to define the savings available from the proposed measure(s). This includes confirmation of existing energy use patterns over a defined time period, facility/ process hours of operation and any weather/temperature impacts.
- Pre and post-installation field inspections based on defined sampling criteria.
- Verification of data submitted through routine checks to ensure data consistency and integrity.
- Feedback of data analysis to program participants, and feedback collected through customer surveys.

Administrative Review

- Program staff will perform administrative review on 100% of all applications for customer incentives to ensure eligibility and qualification.

Technical "Desk" Review

- Program staff will perform a "desk" review on 100% of all applications for customer incentives to ensure technical eligibility and qualification. Additionally, these reviews will validate energy savings estimates.

Pre- and Post-Inspection Assignments & Rates

- All funded projects will be subject to random inspection based on the sampling rate defined below. Inspections may be completed on-site or remotely when needed.
- CLEAResult representatives utilize standardized tools to facilitate clear customer or industry standard practice documentation. To proactively maintain a high level of quality, savings accuracy data and methodologies are tracked, and in-field verification of installation and post-M&V results are confirmed as part of the QA process.
- Prior to a narrative or project package submittal to the utility, CLEAResult's Engineering QA / Policy team reviews measure categories, baseline methodologies, influence documentation, M&V plan, calculation approach, and savings estimates/results to ensure proper documentation and calculation techniques have been employed. The language in the custom project narratives is appraised for clarity. During the post-installation phase, evaluations are performed to verify measures were installed as scoped, and to confirm continued adherence to applicable policy and regulatory rules. Internal checklists guarantee the use of uniform nomenclature and consistent packaging of pertinent project documentation

Other Program Metrics

See Section B.5 Metrics

2. Program Theory [4] and Program Logic Model [5]

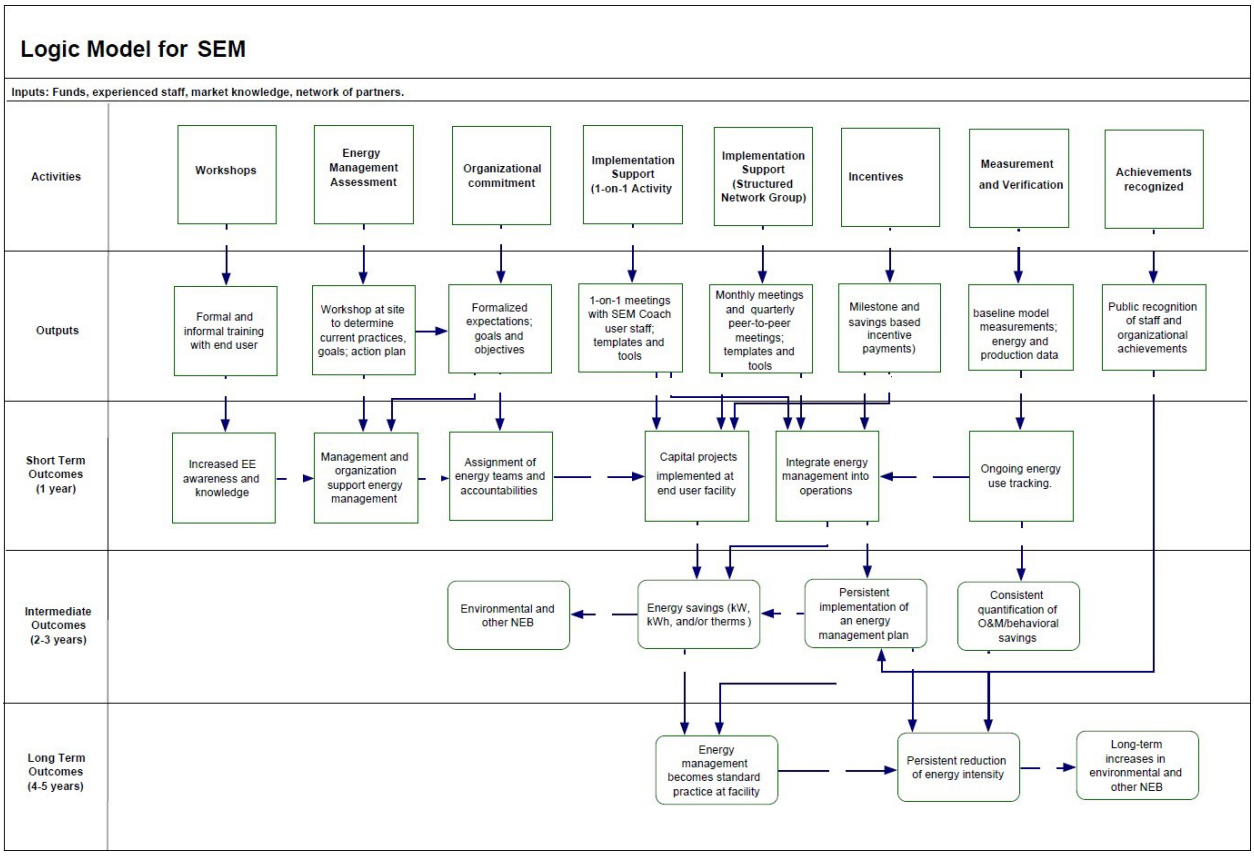
Higher Education Energy Performance Program Logic Model

[4] The expected causal relationships between program goals and program activities in a way that allows the reader to understand why the proposed program activities are expected to result in the accomplishment of the program goals. A well-developed program theory can (and should) also describe the barriers that will be overcome in order to accomplish the goals and clearly describe how the program activities are expected to overcome those barriers. *California Evaluation Framework*, June 2004.

[5] The graphical representation of the program theory showing the flow between activities, their outputs, and subsequent short-term, intermediate, and long-term outcomes. *California Evaluation Framework*, June 2004.

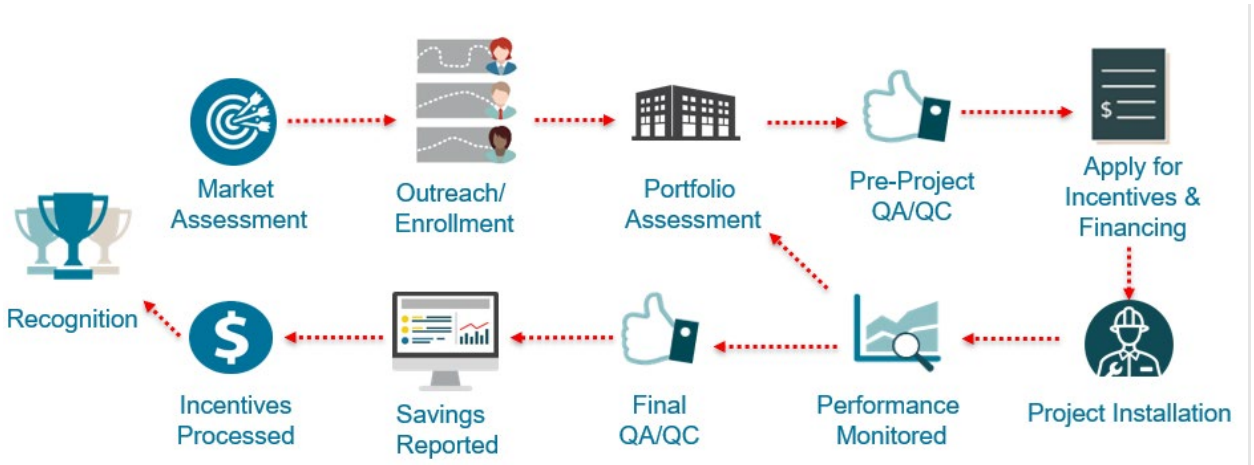
Barriers	Confusing program offerings and complex processes	Lack of Technical Expertise	Rigid financing and procurement hurdles	Lack of institutional commitment	Diverse sector is difficult to serve cost effectively
Activities	Dedicated public sector customer portal and single point of program contact	Technical assistance, onsite or virtual assessments, potential for SEM coaching	Integration of direct incentives, on-bill financing, and alternative funding	Clear communication of expectations and recruitment of executive sponsor	Regionally focused outreach and flexible program design
Output	Reduced market confusion	Project Opportunities Identified	Flexible participation options yielding net positive economic benefits	Customer program/project champion identified	Opportunity to install measures and complete program and/or select to engage in the SEM approach to pursue deeper savings
Short Term Outcomes	Greater program interest and improved customers satisfaction	Low-cost behavioral and operational savings	Deemed and custom incentives paired with OBF drive equipment retrofits	Clear communication of support for participation across customer functions	Participants directed to the correct
Intermediate Outcomes	Improved project conversion rate	Meter-based incentive unlock additional savings potential		Tracking and M&V show clear progress and benefits for public recognition	Cohort participants share best practices
Long Term Outcomes	Improved cross-cutting participation through IDSM support	Expansion of DR-enabled technologies and equipment drive expansion of IDSM in public sector		Program recommendations established as institutional policy and standard practice	Participants incorporate best practices from across the public subsectors

SEM Offering Theory & Logic Model



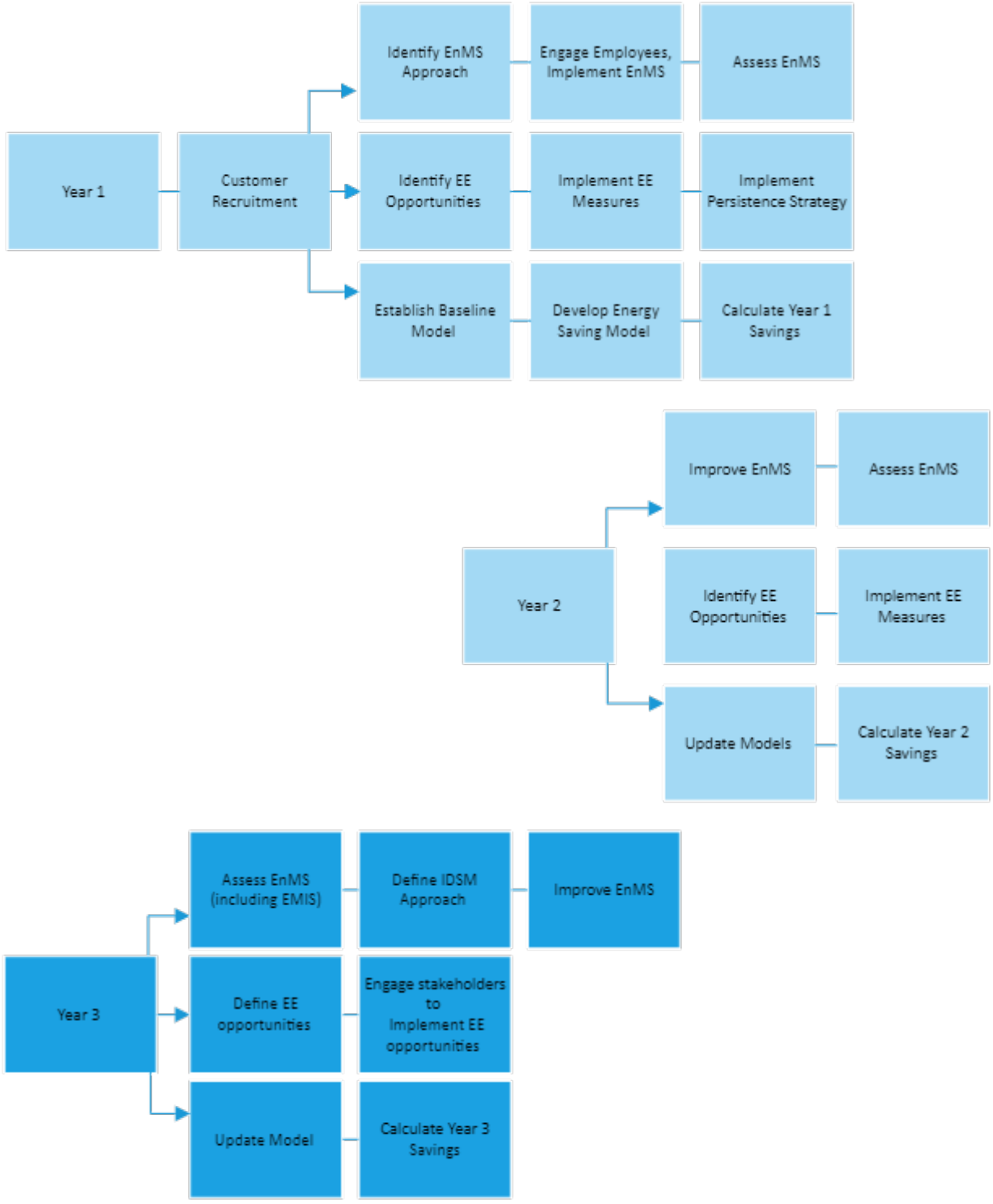
3. Process Flow Chart

This process flow chart applies to the Custom, Deemed, and NMEC incentive pathways.



SEM Process Flow Chart

This process flow chart applies to the SEM portion of the Program and specific activities associated with SEM.



4. Incentive Tables, Workpapers, Software Tools[6]

The table below lists the approved deemed electric and natural gas savings measures, which include but are not limited to the following:

#	Measure Code	Measure ID	Incentive Level
1	TBD (Statewide Gas Only)	SWFS001C	$566 / Each
2	TBD (Statewide Gas Only)	SWFS001D	$566 / Each
3	TBD (Statewide Gas Only)	SWPR003A	$210 / Each
4	TBD (Statewide Gas Only)	SWRE001A	$2 / Area-ft2
5	TBD (Statewide Gas Only)	SWRE003A	$4 / Cap-kBTUh
6	TBD (Statewide Gas Only)	SWWH005A	$2 / Cap-kBTUh
7	TBD (Statewide Gas Only)	SWWH005B	$2 / Cap-kBTUh
8	TBD (Statewide Gas Only)	SWWH005C	$2 / Cap-kBTUh
9	TBD (Statewide Gas Only)	SWWH005D	$2 / Cap-kBTUh
10	TBD (Statewide Gas Only)	SWWH007G	$5 / Cap-kBTUh
11	TBD (Statewide Gas Only)	SWWH007H	$5 / Cap-kBTUh
12	TBD (Statewide Gas Only)	SWWH017A	$14 / Len-ft

[6] Per D.19-08-009, for fuel substitution measures where the incentive exceeds the Incremental Measure Cost (IMC), the CPUC requires submission of a workpaper addendum using a separate template. Third-party implementers can request the template from their Contract Manager. SCE Program Managers should refer to the E-PPICs Smart Sheet.

13	TBD (Statewide Gas Only)	SWWH017AA	$14 / Len-ft
14	TBD (Statewide Gas Only)	SWWH017AB	$14 / Len-ft
15	TBD (Statewide Gas Only)	SWWH017AC	$14 / Len-ft
16	TBD (Statewide Gas Only)	SWWH017AD	$14 / Len-ft
17	TBD (Statewide Gas Only)	SWWH017AE	$14 / Len-ft
18	TBD (Statewide Gas Only)	SWWH017AF	$14 / Len-ft
19	TBD (Statewide Gas Only)	SWWH017AG	$14 / Len-ft
20	TBD (Statewide Gas Only)	SWWH017AH	$14 / Len-ft
21	TBD (Statewide Gas Only)	SWWH017AI	$14 / Len-ft
22	TBD (Statewide Gas Only)	SWWH017AJ	$14 / Len-ft
23	TBD (Statewide Gas Only)	SWWH017B	$14 / Len-ft
24	TBD (Statewide Gas Only)	SWWH017C	$14 / Len-ft
25	TBD (Statewide Gas Only)	SWWH017D	$14 / Len-ft
26	TBD (Statewide Gas Only)	SWWH017E	$14 / Len-ft
27	TBD (Statewide Gas Only)	SWWH017F	$14 / Len-ft
28	TBD (Statewide Gas Only)	SWWH017G	$14 / Len-ft

29	TBD (Statewide Gas Only)	SWWH017H	$14 / Len-ft
30	TBD (Statewide Gas Only)	SWWH017I	$14 / Len-ft
31	TBD (Statewide Gas Only)	SWWH017J	$14 / Len-ft
32	TBD (Statewide Gas Only)	SWWH017K	$14 / Len-ft
33	TBD (Statewide Gas Only)	SWWH017L	$14 / Len-ft
34	TBD (Statewide Gas Only)	SWWH017M	$14 / Len-ft
35	TBD (Statewide Gas Only)	SWWH017N	$14 / Len-ft
36	TBD (Statewide Gas Only)	SWWH017O	$14 / Len-ft
37	TBD (Statewide Gas Only)	SWWH017P	$14 / Len-ft
38	TBD (Statewide Gas Only)	SWWH017Q	$14 / Len-ft
39	TBD (Statewide Gas Only)	SWWH017R	$14 / Len-ft
40	TBD (Statewide Gas Only)	SWWH017S	$14 / Len-ft
41	TBD (Statewide Gas Only)	SWWH017T	$14 / Len-ft
42	TBD (Statewide Gas Only)	SWWH017U	$14 / Len-ft
43	TBD (Statewide Gas Only)	SWWH017V	$14 / Len-ft
44	TBD (Statewide Gas Only)	SWWH017W	$14 / Len-ft

45	TBD (Statewide Gas Only)	SWWH017X	$14 / Len-ft
46	TBD (Statewide Gas Only)	SWWH017Y	$14 / Len-ft
47	TBD (Statewide Gas Only)	SWWH017Z	$14 / Len-ft
48	AC-11355	SWSV005A	$51 / Cap-Tons
49	AC-11379	SWSV005B	$51 / Cap-Tons
50	AC-11407	SWSV005C	$51 / Cap-Tons
51	AC-11408	SWSV005D	$51 / Cap-Tons
52	AC-11419	SWSV005E	$51 / Cap-Tons
53	AC-11423	SWSV005F	$51 / Cap-Tons
54	AC-11438	SWSV005G	$51 / Cap-Tons
55	AC-11441	SWSV005H	$51 / Cap-Tons
56	AC-11452	SWSV010A	$12 / Cap-Tons
57	AC-11458	SWSV010B	$12 / Cap-Tons
58	AC-11463	SWSV010C	$12 / Cap-Tons
59	AC-11477	SWSV010D	$12 / Cap-Tons
60	AC-11479	SWSV010E	$12 / Cap-Tons
61	AC-11504	SWSV010F	$12 / Cap-Tons
62	AC-11505	SWSV010G	$12 / Cap-Tons
63	AC-11510	SWSV010H	$12 / Cap-Tons
64	AC-12899	SWHC023R	$210 / Cap-Tons
65	AC-14815	SWHC023D	$210 / Cap-Tons
66	AC-18726	SWHC023G	$210 / Cap-Tons
67	AC-20033	SWHC005A	$24 / Cap-Tons
68	AC-20034	SWHC005B	$24 / Cap-Tons
69	AC-20035	SWHC005C	$24 / Cap-Tons
70	AC-20036	SWHC005D	$24 / Cap-Tons
71	AC-20037	SWHC005E	$24 / Cap-Tons
72	AC-20038	SWHC005F	$24 / Cap-Tons
73	AC-20039	SWHC005G	$24 / Cap-Tons
74	AC-20040	SWHC005H	$24 / Cap-Tons
75	AC-20041	SWHC005I	$24 / Cap-Tons
76	AC-20043	SWHC005J	$24 / Cap-Tons
77	AC-20074	SWHC005K	$24 / Cap-Tons
78	AC-20076	SWHC005L	$24 / Cap-Tons
79	AC-20078	SWHC005M	$24 / Cap-Tons
80	AC-20080	SWHC005N	$24 / Cap-Tons

81	AC-20082	SWHC005O	$24 / Cap-Tons
82	AC-20084	SWHC005P	$24 / Cap-Tons
83	AC-20086	SWHC005Q	$24 / Cap-Tons
84	AC-20089	SWHC005R	$24 / Cap-Tons
85	AC-20091	SWHC005S	$24 / Cap-Tons
86	AC-20093	SWHC005T	$24 / Cap-Tons
87	AC-20094	NE-HVAC-Chlr-AirCldScrewChlr-gte150tons-11.1EER-15.4IPLV	$60 / Cap-Tons
88	AC-20095	NE-HVAC-Chlr-AirCldScrewChlr-gte150tons-12.1EER-16.9IPLV	$60 / Cap-Tons
89	AC-20096	NE-HVAC-Chlr-AirCldScrewChlr-lt150tons-11.1EER-15.1IPLV	$60 / Cap-Tons
90	AC-20097	NE-HVAC-Chlr-AirCldScrewChlr-lt150tons-12.1EER-16.6IPLV	$60 / Cap-Tons
91	AC-20769	SWHC023S	$210 / Cap-Tons
92	AC-20770	SWHC023T	$210 / Cap-Tons
93	AC-20771	SWHC023U	$210 / Cap-Tons
94	AC-20772	SWHC023V	$210 / Cap-Tons
95	AC-20773	SWHC023W	$210 / Cap-Tons
96	AC-20774	SWHC023X	$210 / Cap-Tons
97	AC-20775	SWSV002A	$9 / Cap-Tons
98	AC-20776	SWSV002B	$9 / Cap-Tons
99	AC-21082	SWSV002E	$9 / Cap-Tons
100	AC-21083	SWSV002F	$9 / Cap-Tons
101	AC-21113	SWHC020A	$60 / Cap-Tons
102	AC-21114	SWHC020B	$60 / Cap-Tons
103	AC-21115	SWHC020C	$60 / Cap-Tons
104	AC-21116	SWHC020D	$60 / Cap-Tons
105	AC-21137	SWHC005A	$24 / Cap-Tons
106	AC-21138	SWHC005B	$24 / Cap-Tons
107	AC-21139	SWHC005C	$24 / Cap-Tons
108	AC-21140	SWHC005D	$24 / Cap-Tons
109	AC-21141	SWHC005E	$24 / Cap-Tons
110	AC-21142	SWHC005F	$24 / Cap-Tons
111	AC-21143	SWHC005G	$24 / Cap-Tons
112	AC-21144	SWHC005H	$24 / Cap-Tons
113	AC-21145	SWHC005I	$24 / Cap-Tons
114	AC-21146	SWHC005J	$24 / Cap-Tons
115	AC-21147	SWHC005K	$24 / Cap-Tons
116	AC-21148	SWHC005L	$24 / Cap-Tons
117	AC-21149	SWHC005M	$24 / Cap-Tons
118	AC-21150	SWHC005N	$24 / Cap-Tons

119	AC-21151	SWHC005O	$24 / Cap-Tons
120	AC-21152	SWHC005P	$24 / Cap-Tons
121	AC-21153	SWHC005Q	$24 / Cap-Tons
122	AC-21154	SWHC005R	$24 / Cap-Tons
123	AC-21155	SWHC005S	$24 / Cap-Tons
124	AC-21156	SWHC005T	$24 / Cap-Tons
125	AC-21291	SWHC018A	$202 / Rated-HP
126	AC-21293	SWHC006A	$48 / Cap-Tons
127	AC-21294	SWHC006B	$48 / Cap-Tons
128	AC-21295	SWHC006C	$48 / Cap-Tons
129	AC-21296	SWHC006D	$48 / Cap-Tons
130	AC-21297	SWHC006E	$48 / Cap-Tons
131	AC-21298	SWHC006F	$48 / Cap-Tons
132	AC-21329	SWHC024B	$0.47 / Cap-Tons
133	AC-21558	SWHC042A	$143 / Cap-Tons
134	AC-21567	SWHC042B	$143 / Cap-Tons
135	AC-28655	SWHC023Q	$210 / Cap-Tons
136	AC-30287	SWHC023E	$210 / Cap-Tons
137	AC-32399	SWHC023I	$210 / Cap-Tons
138	AC-32686	SWHC023M	$210 / Cap-Tons
139	AC-36894	SWHC023H	$210 / Cap-Tons
140	AC-42889	SWHC023J	$210 / Cap-Tons
141	AC-46275	SWHC024A	$0.47 / Cap-Tons
142	AC-52735	SWHC023L	$210 / Cap-Tons
143	AC-62985	SWHC023O	$210 / Cap-Tons
144	AC-63277	SWHC023C	$210 / Cap-Tons
145	AC-67253	SWHC023F	$210 / Cap-Tons
146	AC-70123	SWHC023N	$210 / Cap-Tons
147	AC-71385	SWHC023P	$210 / Cap-Tons
148	AC-72014	SWHC023A	$210 / Cap-Tons
149	AC-88048	SWHC023K	$210 / Cap-Tons
150	AC-97565	SWHC023B	$210 / Cap-Tons
151	FS-17337	SWFS012B	$2,358 / Rated-HP
152	FS-20154	SWFS012A	$2,358 / Rated-HP
153	FS-59869	SWFS001B	$566 / Each
154	FS-68320	SWFS001A	$566 / Each
155	LT-85945	SWAP011F	$183 / Each
156	RF-48900	SWAP011A	$183 / Each
157	RF-56733	SWAP011B	$183 / Each
158	RF-65065	SWAP011C	$183 / Each
159	RF-70008	SWAP011D	$183 / Each

160	RF-75217	SWAP011E	$183 / Each
161	TBD (Statewide Gas Only)	SWFS001C	$566 / Each
162	TBD (Statewide Gas Only)	SWFS001D	$566 / Each
163	TBD (Statewide Gas Only)	SWPR003A	$210 / Each
164	TBD (Statewide Gas Only)	SWRE001A	$2 / Area-ft2
165	TBD (Statewide Gas Only)	SWRE003A	$4 / Cap-kBTUh
166	TBD (Statewide Gas Only)	SWWH005A	$2 / Cap-kBTUh
167	TBD (Statewide Gas Only)	SWWH005B	$2 / Cap-kBTUh
168	TBD (Statewide Gas Only)	SWWH005C	$2 / Cap-kBTUh
169	TBD (Statewide Gas Only)	SWWH005D	$2 / Cap-kBTUh
170	TBD (Statewide Gas Only)	SWWH007G	$5 / Cap-kBTUh
171	TBD (Statewide Gas Only)	SWWH007H	$5 / Cap-kBTUh
172	TBD (Statewide Gas Only)	SWWH017A	$14 / Len-ft
173	TBD (Statewide Gas Only)	SWWH017AA	$14 / Len-ft
174	TBD (Statewide Gas Only)	SWWH017AB	$14 / Len-ft
175	TBD (Statewide Gas Only)	SWWH017AC	$14 / Len-ft

176	TBD (Statewide Gas Only)	SWWH017AD	$14 / Len-ft
177	TBD (Statewide Gas Only)	SWWH017AE	$14 / Len-ft
178	TBD (Statewide Gas Only)	SWWH017AF	$14 / Len-ft
179	TBD (Statewide Gas Only)	SWWH017AG	$14 / Len-ft
180	TBD (Statewide Gas Only)	SWWH017AH	$14 / Len-ft
181	TBD (Statewide Gas Only)	SWWH017AI	$14 / Len-ft
182	TBD (Statewide Gas Only)	SWWH017AJ	$14 / Len-ft
183	TBD (Statewide Gas Only)	SWWH017B	$14 / Len-ft
184	TBD (Statewide Gas Only)	SWWH017C	$14 / Len-ft
185	TBD (Statewide Gas Only)	SWWH017D	$14 / Len-ft
186	TBD (Statewide Gas Only)	SWWH017E	$14 / Len-ft
187	TBD (Statewide Gas Only)	SWWH017F	$14 / Len-ft
188	TBD (Statewide Gas Only)	SWWH017G	$14 / Len-ft
189	TBD (Statewide Gas Only)	SWWH017H	$14 / Len-ft
190	TBD (Statewide Gas Only)	SWWH017I	$14 / Len-ft
191	TBD (Statewide Gas Only)	SWWH017J	$14 / Len-ft

192	TBD (Statewide Gas Only)	SWWH017K	$14 / Len-ft
193	TBD (Statewide Gas Only)	SWWH017L	$14 / Len-ft
194	TBD (Statewide Gas Only)	SWWH017M	$14 / Len-ft
195	TBD (Statewide Gas Only)	SWWH017N	$14 / Len-ft
196	TBD (Statewide Gas Only)	SWWH017O	$14 / Len-ft
197	TBD (Statewide Gas Only)	SWWH017P	$14 / Len-ft
198	TBD (Statewide Gas Only)	SWWH017Q	$14 / Len-ft
199	TBD (Statewide Gas Only)	SWWH017R	$14 / Len-ft
200	TBD (Statewide Gas Only)	SWWH017S	$14 / Len-ft
201	TBD (Statewide Gas Only)	SWWH017T	$14 / Len-ft
202	TBD (Statewide Gas Only)	SWWH017U	$14 / Len-ft
203	TBD (Statewide Gas Only)	SWWH017V	$14 / Len-ft
204	TBD (Statewide Gas Only)	SWWH017W	$14 / Len-ft
205	TBD (Statewide Gas Only)	SWWH017X	$14 / Len-ft
206	TBD (Statewide Gas Only)	SWWH017Y	$14 / Len-ft
207	TBD (Statewide Gas Only)	SWWH017Z	$14 / Len-ft

The table below lists the associated workpaper name, description, and location for the approved measures and may be updated throughout the course of the program:

#	Workpaper Name	Short Description	URL link or location name
1	SWPR003-01	STEAM TRAP, COMMERCIAL	CPUC-approved deemed workpapers: Ex Ante Database Archive (deeresources.net)
2	SWHC006-01	DEMAND CONTROLLED VENTILATION FOR SINGLE ZONE HVAC	CPUC-approved deemed workpapers: Ex Ante Database Archive (deeresources.net)
3	SWHC018-02	VARIABLE SPEED DRIVE FOR HVAC FAN CONTROLS	CPUC-approved deemed workpapers: Ex Ante Database Archive (deeresources.net)
4	SWHC023-02	ENHANCED VENTILATION FOR PACKAGED HVAC	CPUC-approved deemed workpapers: Ex Ante Database Archive (deeresources.net)
5	SWSV005-01	ECONOMIZER REPAIR	CPUC-approved deemed workpapers: Ex Ante Database Archive (deeresources.net)
6	SWSV010-01	ECONOMIZER CONTROLS, COMMERCIAL	CPUC-approved deemed workpapers: Ex Ante Database Archive (deeresources.net)
7	SWFS012-01	EXHAUST HOOD DEMAND CONTROL VENTILATION FOR PACKAGED HVAC	CPUC-approved deemed workpapers: Ex Ante Database Archive (deeresources.net)
8	SWRE001-01	POOL COVER, COMMERCIAL	CPUC-approved deemed workpapers: Ex Ante Database Archive (deeresources.net)
9	SWRE003-01	HEATER FOR POOL OR SPA, COMMERCIAL	CPUC-approved deemed workpapers: Ex Ante Database Archive (deeresources.net)

10	SWWH005-03	BOILER, COMMERCIAL	CPUC-approved deemed workpapers: Ex Ante Database Archive (deeresources.net)
11	SWWH007-04	STORAGE WATER HEATER, COMMERCIAL	CPUC-approved deemed workpapers: Ex Ante Database Archive (deeresources.net)
12	SWFS001-02	COMMERCIAL CONVECTION OVEN – ELECTRIC & GAS	CPUC-approved deemed workpapers: Ex Ante Database Archive (deeresources.net)
13	SWSV002-01	REFRIGERANT CHARGE, COMMERCIAL	CPUC-approved deemed workpapers: Ex Ante Database Archive (deeresources.net)
14	SWHC005-01	WATER-COOLED CHILLER	CPUC-approved deemed workpapers: Ex Ante Database Archive (deeresources.net)
15	SWHC020-01	AIR COOLED CHILLER	CPUC-approved deemed workpapers: Ex Ante Database Archive (deeresources.net)
16	SWHC042-01	EVAPORATIVE PRE- COOLER SYSTEM AND CONTROLS FOR PACKAGED HVAC UNIT	CPUC-approved deemed workpapers: Ex Ante Database Archive (deeresources.net)
17	SWAP011-01	VENDING AND BEVERAGE MERCHANDISE CONTROLLER	CPUC-approved deemed workpapers: Ex Ante Database Archive (deeresources.net)
18	SWHC024-01	COGGED V-BELT FOR HVAC FAN, COMMERCIAL	CPUC-approved deemed workpapers: Ex Ante Database Archive (deeresources.net)
19	SWWH017-02	HOT WATER PIPE INSULATION, NONRESIDENTIAL AND MULTIFAMILY	CPUC-approved deemed workpapers: Ex Ante Database Archive (deeresources.net)

The table below lists the approved custom-calculated and NMEC measure codes, which include but are not limited to:

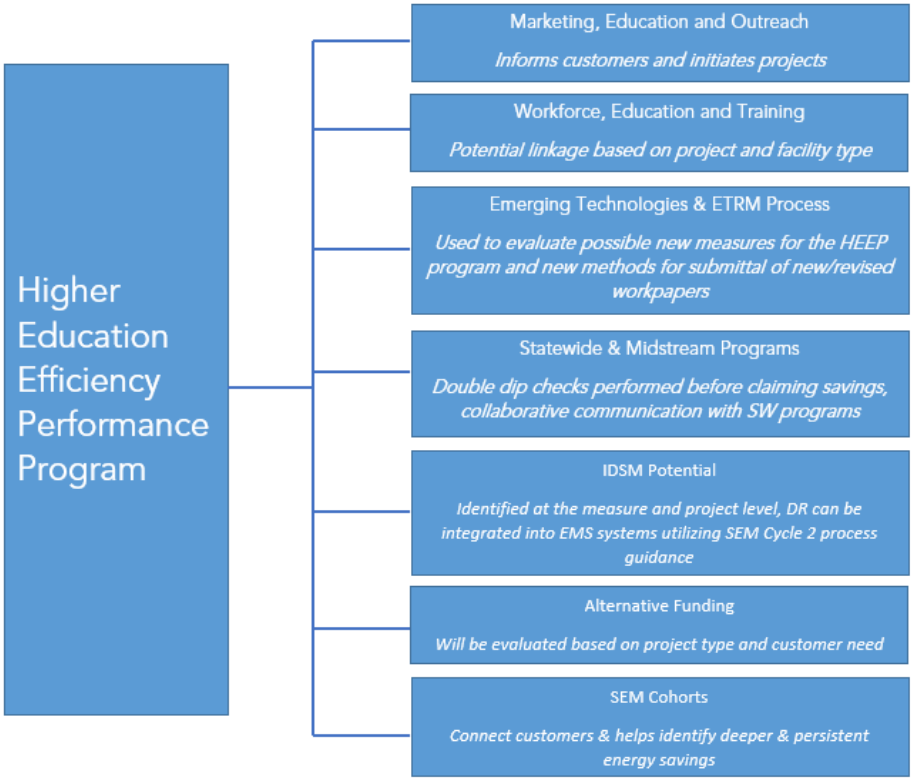
[Insert table]

Refer to Section B.11, Additional Information, for the description of measures for the SEM offering.

5. Quantitative Program Targets

See Section A.11 Campaign Goals and Timeline and Section B.5 Metrics

6. Diagram of Program



7. Evaluation, Measurement, and Verification (EM&V):

Program Measurement and Verification Guide Summary

This program M&V Guide provides an overview of the energy efficiency program measurement and verification of energy savings from identified and implemented

energy efficiency projects. The guide describes the process and procedures for measurement and verification of these energy savings in each of the following (4) program platforms:

- Deemed
- Custom
- Normalized Metered Energy Consumption (NMEC)
- Strategic Energy Management (SEM)

Deemed M&V Activities

Program staff will utilize program- specific checklists to verify completeness, accuracy, and eligibility of each application. The data review is composed of:

- Documentation supporting pre- implementation energy use associated with the measure(s) included in the application.
- Dated, itemized invoices and proof of payment, including:
- Equipment quantities, model numbers, material costs and shipping address to verify purchase of equipment associated with incentive.
- Installation, consulting and other services necessary to deliver/identify, scope, plan, install and verify installation of measures.
- Manufacturers' specification sheets for each qualifying equipment type to verify the equipment meets the minimum efficiency standards necessary to deliver the energy savings estimated in the application.

M&V activities for deemed measure packages shall include review of deemed program offering with the Statewide Deemed Workpaper Rulebook (Version 4.0, as of 7/23/2021). This activity shall ensure compliance that all deemed measures are supported by CPUC approved measure packages. Frequency shall be no less than an annual review, with a mandatory review where previous versions are updated or superseded. In addition, any CPUC communications impacting annual DEER and measure packages along with evaluation studies shall be reviewed for impact on approved savings calculation, cost, eligibility, and other measure attributes.

Custom M&V Activities

Custom Project Incentives - Qualification

The Custom Project Incentive Qualification steps below generally inform how the program will determine if a project qualifies. These steps are not intended to be all-inclusive or applicable to all aspects of a project; rather, this protocol will guide field staff to ask the necessary questions and gather the appropriate data to qualify custom projects. This protocol references the International Performance Measurement and Verification Protocol (IPMVP), which is the primary standard for M&V activities in most jurisdictions.

Every Custom project will include an Engineering Review Form which outlines the scope of work, methodology, assumptions, measure life, and technical contact information required for evaluation.

Formal M&V reports will be developed to document and verify all pre-approved and implemented custom projects. M&V reports will follow the IPMVP standard. Responsibility for M&V Plans and Options lie with the participating Customer, with instructions and direction from CLEAResult (Program Implementer).

Custom projects shall adhere to guidance documents outlined in the CPUC Custom Projects Review Process, which incorporates details on the Commission's policies and procedures to be utilized in the development of custom projects & measures. Each custom project measure application shall be reviewed to be in compliance with guidance provided in the Statewide Custom Project Guidance Document (version 1.4, as of 6/02/2021) to assure M&V activities meets the expectations of a complete, quality assured project application.

Each custom energy efficiency project package shall contain a custom project feasibility study developed by CLEAResult that shall include the custom M&V plan. Upon package submission, a technical review ensues through the SCE Technical Review team. Revisions and resubmissions may take place during this technical review process to ensure adequate details are documented in the package that includes the M&V plan. Upon conclusion of the technical review or concurrently during the technical review where desired, CPUC may conduct their Custom Project Review Process. This independent CPUC review is initiated by the upload of the custom energy efficiency package to the CMPA list. CPUC shall provide their recommendation to approve the package prior to proceeding to implementation of the custom project.

This document is an accompaniment and to be used in conjunction with the SCE Implementation and Program Manual. The steps outlined below are intended to illustrate the Program Implementor (CLEAResult) quality assurance steps within the M&V Plan initiation and execution. All custom project packages (including M&V) shall be subject to SCE Technical Review and independent CPUC custom project review process.

Measurement and Verification Steps within Custom Incentive Application process:

- M&V Plan gets initiated with Application Pre- Approval
- Custom Application is received, with proposed M&V option and plan
- M&V Plan is either approved, or revision required and resubmitted for approval by the CLEAResult Program engineering team to ensure quality assurance and compliance with the Statewide Custom Project Guidance Document.
- Customer (with vendors or Program Implementor) gather baseline data and post-installation data described in the M&V Plan
- Post Installation M&V plan implemented and confirmation of completion lies with Program Implementer

- Custom project incentive payment request (post- installation) is received and reviewed, and either:
    - Accepted and approved, as M&V requirements have been met
    - Revisions or additional data requested, and the CLEAResult Program engineering team supports in providing recommendations to the participating Customer to satisfy M&V requirements

CUSTOM PROJECT QUALIFICATION STEPS

1. Verify Project Eligibility:

Customers and Program Allies applying for Custom Project Incentives must:

- Propose to install measures within a customer-owned facility or facilities within the SCE service territory.
- Provide proof of financial solvency
- Commit to applying best efforts to meet measure installation milestones and in-service dates specified in the project application, pre- approval notifications and applicable pre- and post- site inspections
- Ensure that all measures are installed and operated in a manner that will achieve their estimated, Effective Useful Life (EUL)
- Agree to the pre and post installation requirements of the Measurement and Verification (M&V) Plan including data collection, reporting and allowing timely facility access to SCE and its contractors for purpose of site inspection, measure monitoring and installation verification.
- Agree to adhere to The Program terms and conditions, including Custom Project Incentive requirements, as specified and agreed to in the application approval process.
- Agree to release energy bills for the previous 12- 24 months to The Program throughout the Program duration.
- Agree to provide detailed energy use data to support the establishment of baseline and post implementation energy usages.
- Agree to commit operation staff time to support the project and provide facilities, operations and equipment documentation, building and control system access and energy use and cost data relevant to the project.
- Agree to provide other applicable supporting documentation like drawings, equipment lists, equipment datasheets, etc.

2. Estimate Savings:

- Create a savings estimate to determine project cost- effectiveness. This may involve utility bill analysis, field measurements (e.g., sub- metering), or contractor estimates, as reviewed by CLEAResult engineering staff and verified with the facility through interview and/or field measurement.
- Confirm the energy usage accounts for which the savings will be claimed. Verify that the estimated savings represent a reasonable portion of the total energy usage associated with the confirmed usage accounts. Net energy savings will be determined using the latest non-IOU fuel source and fuel substitution guidelines (Energy Efficiency Savings Eligibility at Sites with non- IOU Supplied Energy Sources — Guidance Document from CPUC website).
- Visit the site, as necessary, to verify baseline conditions and assumptions, such as equipment specifications, operating conditions, current control mechanisms, operating schedule, and planned scope of work.

3. Verify M&V Feasibility:
    - Estimate the M&V time requirement, both pre and post.
    - Verify that the project start date and duration align with M&V requirements
    - Discuss how savings could be measured, by reviewing:
        - What type of data is available (production, energy use)
        - What is the expected energy savings
        - Is there an Energy Management System which has the capability to produce CSV reports? If so, can trends be set up to establish baseline and post- retrofit data points for the equipment affected?
        - Is it possible to directly measure the loads that will be impacted?
        - How is the load impacted by weather, production, occupancy, or other factors?
    - Verify site access for M&V activities.
        - Is a knowledgeable escort available for staff while onsite? Mechanical rooms and roof access are often locked.
        - Is an electrician available on site to install electrical monitoring equipment?
        - Is a controls expert (internal) or controls contractor (external) available to support operations management exploration and to set up trends?
        - Is a background check or safety training required?
        - What safety equipment is needed for site visits?
        - Are there any special site access safety trainings required?

- Verify the availability of documentation needed for M&V activities. Possibilities include:
    - Monthly utility bills, daily meter readings, or interval data
    - Daily or monthly production data (if an industrial facility)
    - Mechanical plans and specifications
    - Building or floor plans, and / or as built plans including additions/renovations
    - Process conditions and specifications
    - Previous energy studies
- Verify that all parties are willing to accept the risk that M&V results may turn out lower than expected.
- Define project responsibilities: who installs loggers, performs analysis, writes reports, etc.
    - Define equipment needed for M&V activities, including loggers and personal protective equipment (PPE).

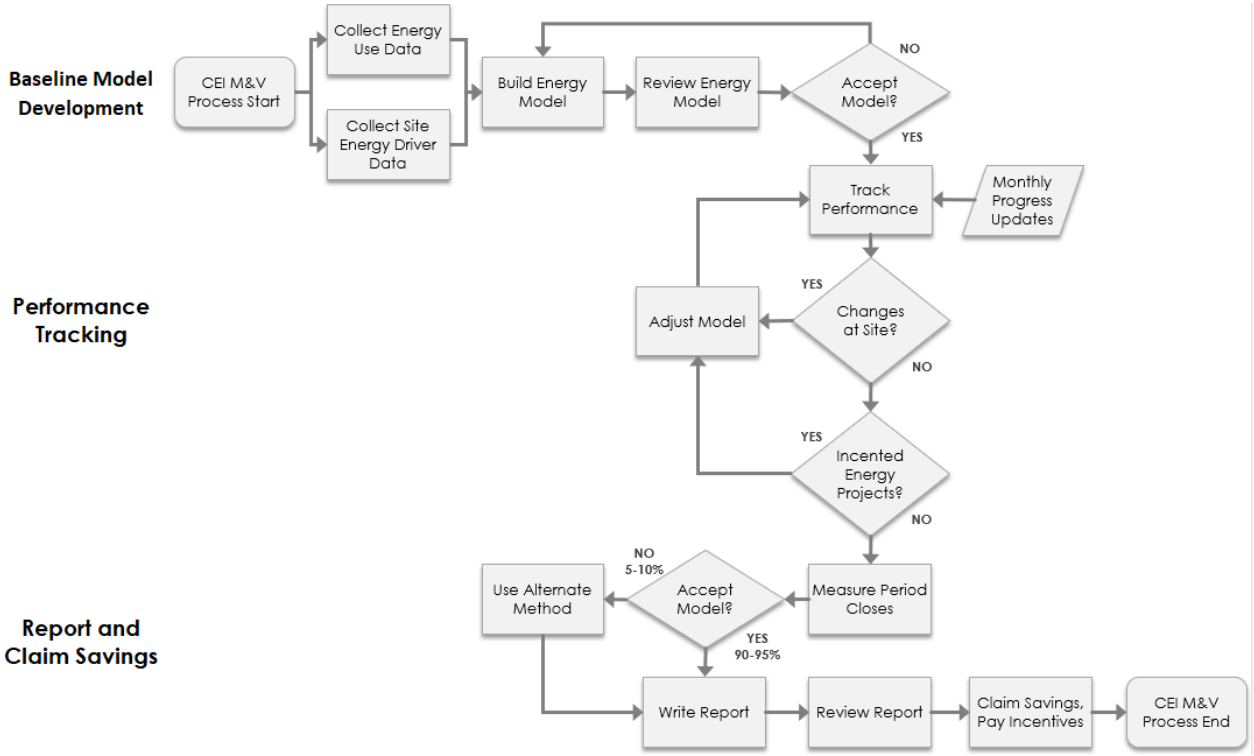
4. Draft M&V Plan
    - Determine the IPMVP Option to be used as the basis for the M&V Plan:
        - IPMVP Option A – Savings from an isolated measure are determined by field measurement of key performance parameters (e.g., measuring the operating hours of a lighting system)
        - IPMVP Option B – Savings from an isolated measure are determined by field measurement of the entire affected system (e.g., logging the energy use of a chiller and any influencing parameters)
        - IPMVP Option C – Savings are determined at the facility level by using monthly utility bills or interval data
        - IPMVP Option D – Savings are determined through an energy usage simulation (an energy model)
    - Document the following in coordination with the facility owner or facility staff:
        - Definition of project site
        - Description of existing equipment and operation
        - The scope of the project and how savings are accomplished
        - Any sources used and/or assumptions made
        - Baseline adjustments or sampling techniques, if any
        - Which end- use equipment will be monitored and how

    - The duration of the pre and post measurements including the measurement interval
    - The analysis methodology
    - The results that will be reported
  - Define a time frame for the implementation of the M&V plan.
    - Options A and B may require two weeks or more of pre and post retrofit data logging
    - Option C usually requires at least a year of pre- retrofit data and a few months of post- retrofit data
    - Option D requires staff who have the knowledge and availability to provide data to build the model
5. Get M&V Plan Approved
   - Submit M&V plan to the M&V Lead at CLEAResult and customer for approval per process detailed in Article 5 and Exhibit D.
6. Execute M&V Plan
   - Perform all pre- retrofit measurements and logging identified in the M&V Plan. This to be completed by the Customer / Program Implementer, as required for baseline energy use.
   - After installation, perform all post- installation measurements and logging identified in the M&V Plan. This to be completed by Customer/Program Implementer.
7. Draft M&V Report
   - Analyze field measurements and data collected.
   - Write M&V report of findings.
   - Submit M&V report to an M&V CLEAResult evaluator for final review.
8. Get M&V Report Approval & Claim Savings
   - Submit M&V report to the M&V Lead for approval.
   - Submit M&V report to the SCE team for approval.
   - Notify the customer of the savings results.
   - Process incentive check.

SEM M&V Activities

The primary objective of the M&V activities is to estimate the energy impacts of the SEM offering. This M&V plan provides information on the M&V activities including data

collection, data analysis, adjustments, and reporting. The following flow chart provides a high- level overview for the major activities. The California SEM M&V Guide was utilized for reference to create this M&V plan and any updates to the M&V guide will be incorporated into future M&V plans. The figure below shows the general process flow of SEM data collection and model creation. All SEM model creation and validation will follow the California SEM M&V Guide Version 3.02 as described throughout that guidance document.



SEM Data Collection

The program's M&V approach is based on the California SEM M&V Guide Version 3.02. The guide defines the measurement boundary as the whole facility and requires measurement utilizing revenue grade meters; whole- building utility energy meters qualify as revenue grade meters. The program will also monitor static factors such as equipment and operations within the measurement boundary to identify if any non-routine adjustments are required.

There are two types of data collection during the program. First, the team will collect energy data and other quantitative data to estimate the kWh energy impacts of the program. Second, the team will track qualitative observations related to the SEM activities and feedback from participant buildings to inform the results of the quantitative assessment.

Quantitative SEM Data Collection

The table below outlines the data collection requirements for the participant sites. The program will review data on an ongoing basis to determine if any additional data or refinements are necessary.

Data Collection Requirements for Participant Buildings

Data Description	Desired Interval	Pre-SEM Data Collection	Post-SEM Data Collection	Data Source	Update Frequency
Interval meter data (primary)	15 min. kWh	1-2 years	Program duration	Green Button or Participant Records	Monthly
Monthly billing data (if interval is not available)	Monthly	1-2 years	Program duration	Green Button or Participant Records	Monthly
Weather data	Daily	Covering the interval data timeframe	Program duration	Officially recognized internet weather data site(s)	Monthly
Participant business characteristics including address, business type, building age, major equipment, square footage, enrollment date, dates of behavioral intervention, and operating hours	Multiple	n/a	Program duration	CLEAResult and customer	Minimum – beginning of the program and once at the end ideal – monthly
Production at industrial sites, occupancy data for commercial buildings	Same as energy use date, if available	Same as energy use date, if available	Same as energy use date, if available	Customer records	Monthly or as needed
Customer ID, meter number(s), services address(es)	One time	n/a	n/a	Participant	Upon enrollment

Participation data from other programs, including dates and estimated savings of energy savings measures	During and the end of the NMEC measurement year	n/a	n/a	CLEAResult	Minimum - at beginning and end of measurement period Ideal – monthly

Equipment and Instrumentation

No additional metering equipment is required at the participating sites. For sites with existing interval meters, the program will use the corresponding interval data. For sites without interval meters the team will utilize monthly billing data. Customer- owned submeters installed prior or during the SEM engagement may be used if the site is complex enough to warrant sub- metering breakout or metering with revenue grade meters (as outlined in the IPMVP) to collect the necessary data.

Qualitative SEM Data Collection

In addition to meter data and other quantitative indicators of energy use, the program will collect data from the participants (the individual sites enrolled) to document energy efficiency awareness and practices before and during the program. Data collection is designed to capture any changes in production, owner and occupant behavior, attitude, or actions that affect energy consumption. Data will be collected from multiple points including regular feedback from energy champions, facility managers, self-reporting tools, and electronic and phone surveys.

The data collection will include documentation of:

- Production changes including production mix or addition of new products
- Schedule changes including shutdowns or unusual events
- Any retrofits or maintenance activities
- System setting changes such as set points and heating or cooling schedules
- Occupancy changes such as tenant, production, or staffing changes
- Specific questions regarding participating employees' understanding of energy efficiency and any activities performed to save energy before the program
- Strategies the organization employed to save energy with the objective of identifying behavior changes and equipment upgrades
- Energy champion and executive sponsor responses when asked if they observed any other impacts on their operations, such as increased customer traffic or a change in overall employee engagement.

The goal of the qualitative data collection is to help inform how much the program influences awareness and behavior. In addition, the qualitative data will provide context for the source of energy savings by telling a story with corroborating evidence about

what activities led to the savings. Depending on the level of detail collected from participants, the program may be able to show resolution around what activities or actions happened within a specific timeframe that may correlate with a measurable drop in normalized energy intensity.

SEM Data Analysis

The boundary of all measures is the whole facility, which could mean a single facility or group of buildings depending upon available utility information. Statistical analysis will be done using statistical software such as JMP®, eSight® or other. The choice of software depends on the complexity of the model. JMP® is typically used for complex facilities that require a high level of statistical and engineering analysis, and eSight® is typically used for facilities with simplistic operational profiles; JMP® models are transferred into Excel for ease of use for participants. The following is an overview of the data analysis activities to estimate the energy impacts of the program:

- Identify available metering. As participants enroll into the program, they will need to identify what type of utility data (monthly or interval) is available, as this will determine what type of analysis will be performed.
- Assess baseline data for validity. As participants' models are developed, the program will conduct an analysis to determine if adequate baseline data exists for the analysis and if any data is missing. If adequate data is not available, the CLEAResult team may make recommendations for additional data collection or alternative M&V approaches.
- As necessary, aggregate meter level data to business or site level data. Using the customer level ID or similar utility site identifier, the program will aggregate individual meters into whole businesses or whole building, as appropriate. In situations where the individual meters have misaligned meter read dates for similar monthly billing periods, the whole business or whole building meter level data will be aggregated based on the monthly billing periods from the individual meter with the largest energy consumption.
- Estimate Program Energy Savings. The analysis will use an avoided energy use method where a baseline statistical model is created, ideally using two full years of monitored data prior to implementation. Then the actual monitored data recorded during the program are used in a standard least squared regression to create an adjusted baseline. The difference between the adjusted baseline and measurement period energy use is the avoided energy use, or the SEM energy savings, shown below:

Avoided energy use (SEM Energy Savings)

Measurement period energy use - Baseline model prediction

± Non routine adjustments

Based on this formula, SEM energy savings includes any activity, project, or change within the measurement boundary at a participant facility resulting in energy savings.

There are several exceptions to projects captured within the measurement boundary that would not be allocated to SEM offering savings:

- Energy projects incentivized through other SCE offerings
- Fuel switching (from electricity to natural gas)
- Installing alternative energy generation equipment such as solar, combined heat and power, wind, etc.

For all participants:

Preliminary modeling employing stepwise regression is used to evaluate the statistical significance of various independent variables in relation to energy usage. This is followed by successive manual changes to the model's specification to identify a model with good predictive performance and a reasonable number of predictors given the sample size. The distribution of each variable in the model is examined for suitability in regression modeling. A time series plot of each variable is analyzed to identify trends and relationships between data sets. The strength of association between variables is evaluated using bivariate correlations as well as partial correlations and associated scatter plots.

The performance of the model is assessed through a variety of statistical measures including overall fit (R2), coefficient of variance, autocorrelation of the regression residuals, X-Y plot of actual vs. predicted values and a time series plot of actual vs. predicted values is superimposed. If necessary, CLEAResult will incorporate routine and non- routine adjustments to improve model performance (see adjustments section below).

The program reviews each model per CLEAResult's internal QA/QC document, and reports the final:

- data issues,
- model specification,
- sign and significance (including t- statistic) of the coefficients,
- residual plots, and
- statistical metrics: R2, adjusted R2, F- ratio probability, sample size (N), ratio of N to predictors, first- order autocorrelation, CV/RMSE, net determination bias, and the maximum CUSUM as a percent of annual energy use.

For participants with interval data:

The interval for the final model will be determined based on a combination of timing with concurrent program year, preference from the participant, and quality of the data at the chosen interval. To estimate the electric savings ordinary least- squares regression statistical technique will be used to create baseline models. Models will be created through investigating independent variables including production, dry bulb and wet bulb temperature, relative humidity, hours of operation, day of week, time of day,

process loads, sales/transaction data, or occupancy. In addition, binary indicator variables informed by qualitative data collection will be considered where applicable. Step- wise regression analysis techniques will be used to iteratively compare all logical combinations of independent variables. Autocorrelation will be considered and tested to determine if the model autocorrelation will affect the final savings analysis.

For participants with monthly data:

In models where the billing period varies, the analysis may employ a weighted least-squares regression technique based on ASHRAE Guideline 14- 2014, section 2.3 for Day Adjusted Models.

Models will be created through investigating independent variables including, but not limited to, production, dry bulb and wet bulb temperature, relative humidity, hours of operation, day of week, time of day, process loads, sales/transaction data, or occupancy. In addition, binary indicator variables informed by qualitative data collection will be considered where applicable. All non- indicator variables will be divided by the number of days in the monthly billing period.

Depending on the actions taken by the participants with only monthly data available, there may not be high enough savings to provide a statistically significant measurement of savings using monthly data. Not all projects, however, require such a high level of statistical confidence in the savings. In these cases, the savings estimates using monthly data is the best option available and the program team will work to achieve the highest accuracy using all data available.

SEM Model Validity

Before energy baseline models are approved to track energy performance, they are subject to multiple reviews. The first review is performed by CLEAResult against a stringent set of statistical criteria and analysis listed below and as outlined in the California SEM M&V Guide Version 3.02; future revisions to the California SEM M&V guidelines will be utilized as appropriate.

Overall SEM Model		
Performance Statistic	**Typical Limits**	**Explanation**
R2	> 0.75	The proportion of energy use during the baseline period that can be explained by movements of the model's predictors. An R2 of 0.95 means that 95% of period- to- period variations in energy use in the baseline period are explained by the model's predictors.
Coefficient of Variance of RMSE	<0.2	CV of RMSE is RMSE divided by average energy use over the baseline period. The lower the CV, the smaller the regression residuals (prediction errors) are relative to predicted energy.

Autocorrelation	<0.5	Autocorrelation is a measurement (ranging from -1 to +1) of the serial correlation of regression residuals. High autocorrelation can cause a model to over-predict or underpredict for stretches of time and is more common in high frequency (e.g., daily) models. Autocorrelation leads to underestimated standard errors of the regression coefficients, so a model's t-values need to be large (well above 2.0) to assure their relevance when autocorrelation is high (e.g., above 0.5).
Net Determination Bias	<0.005%	Net determination bias measures the model's tendency to over- or under- estimate energy savings.
SEM Model Predictors		
Item	Typical Limits	Explanation
t- stat	|t| > 2.0	The ratio of a predictor's estimated coefficient to its standard error. Large t-ratios (>2.0) suggest that the variable is a useful predictor.
p- value	p < 0.05	Small p- values (<0.05) indicate a predictor is statistically significant (unlikely to be zero).
SEM CUSUM Baseline		
Item	Typical Limits	Explanation
Maximum Variance (Daily/Weekly Models)	<|1%- 1.5%|	This maximum variation in the CUSUM during the baseline period shows the noise in the model baseline. This is a good indicator of the "sensitivity" of the model at detecting future changes (i.e., savings). While not all models will meet this guideline, if savings achieved by the site greatly exceeds the baseline noise, this method give a high confidence in the measured savings.
Maximum Variance (Monthly Models)	<|1%- 2.5%|	For instance, if the baseline variation is 3% but the site saves 8%, the savings trend will extend well outside the normal baseline and therefore savings can be claimed. If a model follows the typical limits of CUSUM variance, SEM savings can be easily detected even as low as 1.5 % savings.

Valid hypothesis models will be prepared for review by the CPUC as they become ready and meet all statistical and engineering criteria outlined in the California SEM M&V Guide Version 3.02. In instances where there is a significant time delay in gathering

utility or customer data, this timeline may be extended past the recommended timeline. SEM energy modeling is reliant on accurate data and customer and sometimes this data is difficult for customers to acquire which can result in significant delays in the modeling process; data delays can be the result of Green Button or participant supplied data. For example, if a participant is required to obtain a formal release to distribute business or Green Button data, that process can significantly delay data acquisition. A revised schedule for those participants can be prepared and reviewed with the CPUC and technical review staff.

Energy baseline models are also subject to review by the participant. During this, the participant is asked to examine the model to assure they understand how it works and to confirm that each predictor makes sense within the context of the site's energy profile. Once the implementer and participant approve the model, it is then presented to SCE for review. SCE may want to engage third party with statistical expertise, such as their evaluation contractor, to assist in this review.

Anomalies / Adjustments for Energy Consumption Changes

If significant changes are made to the site during the measurement period, such as added/removed space, equipment, or changes to operations such as tenants moving in/out or production changes, the modelers will investigate ways to account for the effects of the change. Changes will be tracked throughout the program and incorporated in the model prediction where possible.

If participants undergo an energy saving project incentivized through another SCE program, then reported realized savings from that project will be removed from the SEM savings. If a reported capital project appears to have been over- or under-estimated, the SEM team will review the project with the capital project implementation team to determine the accuracy of claimed savings. The program will receive periodic reports from CLEAResult project tracking on incentivized projects and associated savings calculations.

Assessing participants on an individualized basis provides the most accurate approach to accounting for the impacts of operational changes at a facility due to COVID-19. One key indicator in determining the appropriate approach is noticeable changes in the monitoring trend starting mid to late March 2020. While there are nuances related to when savings are claimed (i.e., year in the program, and measure life, etc.), customers can generally fall into three categories:

- No COVID-19 related changes at the site
- COVID-19 impacts that can be remediated utilizing baseline variables
- COVID-19 impacts that require adjustments

For the first case, no additional action is required. For the second, the baseline variables need to be set to reflect the operational state that aligns with the COVID-19 time period; for example, if the site had a period of low occupancy in the baseline period and the COVID-19 level occupancy is the same as that time period, that variable

can be used to account for this operational state. For those instances where the model trend deviation is COVID-19 related, the following adjustment scenarios can be utilized:

- Remove the COVID-19 impact period and project the prior achieved savings trend through the excluded months
- Quantify the COVID-19 impacts statistically by indicating for them in the measurement period and adjust the model with the quantified change
- Quantify the COVID-19 impacts using engineering calculations

Alternative Savings Analysis

If the standard modeling method does not lead to an valid model (valid models are defined by the statistical criteria outlined in the California SEM M&V Guide Version 3.02; models may be abandoned as described in the California SEM M&V Guide Version 3.02) that meets the goals of calculating energy savings and providing feedback to the SEM participants, alternative modeling methods may be used to measure savings from the SEM pathway following the guidance in California SEM M&V Guide Version 3.02. Alternate modeling methodologies will be described in the M&V report for each participant where alternate modeling is required and will be presented during Technical Review. The following modeling methodology will be considered:

- Intervention step models
- Regression modeling over both the baseline and the measurement period, which allows changes that occur after the baseline period to be incorporated in the analysis.
- This method is used when a participant makes large or drastic changes during involvement with the SEM offering and the baseline time period cannot be compared to the measurement period.
- Mean model
- Applied when there is insufficient variation in the energy use at the site to create a standard regression model.
- Calculating Savings with the Opportunity Register

If none of the other modeling methods produce a model capable of measuring savings at a site, the savings will be calculated with bottom-up savings analysis as described in California SEM M&V Guide Version 3.02.

Non-IOU Fuel Source

Per the California SEM M&V Guide Version 3.02, when any energy supplier other than the PA is involved (including solar and self-generation), incentives are paid based only on the energy savings that are reflected on the electric grid or natural gas system. When an SEM participant utilizes a non-IOU fuel source, a non-IOU fuel source analysis has been performed. The non-IOU fuel source analysis process is as follows:

Perform means comparison test to indicate if there are statistically significant increases in total generation between the two periods (baseline and reporting)

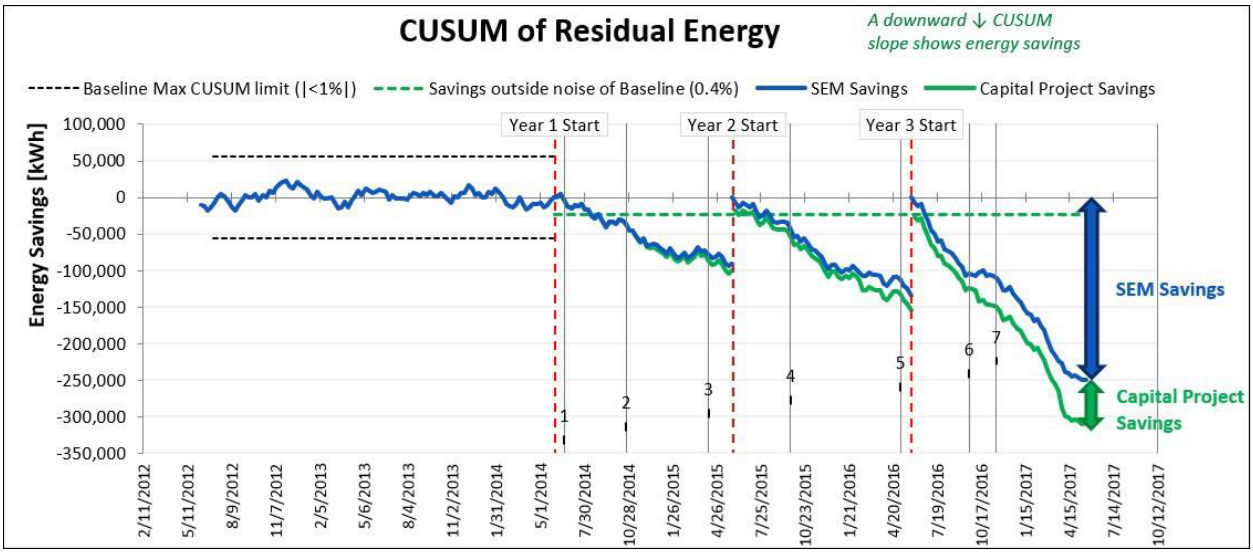
If statistically significant increases between the two periods are found, each datapoint in the reporting period will be evaluated and excluded from the energy savings analysis based on the following criteria:

- The residual is negative (i.e., energy savings exists), and
- The total energy generation is greater than or equal to 100% of the total site consumption.

Claiming SEM Savings

SEM Energy Savings

California has elected to assign a five-year measure life for savings achieved through the SEM program. Facility-wide savings achieved will be shown graphically using a Cumulative Sum (CUSUM) graph, which sums the difference between the actual energy use and the predicted energy use over time. The diagram below illustrates how SEM savings will be quantified to determine program savings and incentive payments. These savings will be applied towards meeting SEM program goals and will be submitted to state regulators towards overall program energy reduction targets. Note that yearly savings are calculated from the original baseline set prior to a participant entering the program less any savings incentivized through other SCE programs (capital project savings), SEM incented project savings, and non-SEM program savings; incented savings will be any savings above that previously achieved by the participant. Removal of non-SEM energy savings is outlined in the California SEM M&V Guide Version 3.02.



For Year 1 – 90,862 kWh measured savings – 90,862 kWh claimed savings submitted to CPUC
For Year 2 – 135,531 kWh measured savings – 44,669 kWh claimed savings submitted to CPUC

For Year 3 – 263,757 kWh measured savings – 128,226 kWh claimed savings submitted to CPUC

Negative SEM Savings

Negative savings will be addressed in accordance to the California SEM M&V Guide Version 3.02

SEM Results Reporting

CLEAResult will maintain the energy models each year the program is offered and will prepare an annual report for each participant at the end of each program year which includes a copy of the final model with all raw data included. These reports will contain the data cleaning as outlined in section 6 of the California SEM M&V Guidelines v 3.02, baseline model, CUSUM graph, savings and incentives earned, statistical rational, and calculations. If a model is not viable, the report will contain the bottom-up savings analysis as described in California SEM M&V Guide Version 3.02 and will be submitted for technical review. Savings from the SEM initiative will be reported under the SCE energy efficiency program.

In addition to the annual reports, CLEAResult will provide monthly progress reports, as models become available, summarizing savings achieved for each participant, and for the program. Progress reports will be obtained by reviewing the energy models. Given that the energy models are dynamic and subject to change and constant updates, progress reports should be viewed as approximation of savings. Progress reports will be available sometime after the start of the program when energy models have been developed, or reset, and are actively being updated.

8. Normalized Metered Energy Consumption (NMEC):

Site Level NMEC M&V Activities

NMEC projects in the Program shall calculate savings using site-level NMEC methodology. Under this approach, NMEC methods used to determine savings for each project conform to site specific conditions and savings drivers. NMEC methods are used to develop energy savings specific to a participating site. CPUC and SCE guidance, including the California NMEC Rulebook, specify the following measure and verification (M&V) structure for NMEC savings claims.

Appropriateness of Metered-based Platform

The primary objective of the measurement and verification (M&V) activities are to estimate the energy impacts of the site-level NMEC meter-based projects. This M&V plan provides information on the M&V activities including data collection, data analysis, adjustments, and reporting. California NMEC Rulebook on NMEC Savings Claims were utilized for reference to create this M&V plan and any updates to design guides will be incorporated into future M&V plans.

Methodology

The boundary of all measures is the whole facility, which could mean a single facility or group of buildings depending upon available information. We will complete statistical analysis using software such as JMP®, Energy Center® or other; all underlying data for model development, including the model's functional form, will be provided to the evaluation team for review in the evaluation process. The choice of software used depends on the complexity of the model. JMP is typically used for complex facilities that require a high level of statistical and engineering analysis, and Energy Center (or other similar software packages) is typically used for facilities with less complex operational profiles; JMP models are transferred into Excel for ease of use for participants and access to all underlying model data for evaluation. The following is an overview of the data analysis activities to estimate the energy impacts of the program:

1. Identify available metering. As participants enroll into the program, they will need to identify what type of utility data (monthly or interval) is available, as this will determine what type of analysis will be performed
2. Assess baseline data for validity. As participants' models are developed, the program will conduct an analysis to determine if adequate baseline data exists for the analysis and if any data is missing. If adequate data is not available, the CLEAResult team may make recommendations for additional data collection or alternative M&V approaches.
3. As necessary, aggregate meter level data to business or site level data. Using the customer level ID or similar utility site identifier, the program will aggregate individual meters into whole businesses or whole building, as appropriate. In situations where the individual meters have misaligned meter read dates for similar monthly billing periods, the whole business or whole building meter level data will be aggregated based on the monthly billing periods from the individual meter with the largest energy consumption.
4. Estimate Program Energy Savings. The analysis will use an avoided energy use method where a baseline statistical model is created, ideally using two full years of monitored data prior to implementation. Then the actual monitored data recorded during the program are used in a standard least squared regression to create an adjusted baseline. The difference between the adjusted baseline and measurement period energy use is the avoided energy use, or the NMEC energy savings, shown as follows:

Avoided energy use (NMEC Energy Savings) = Measurement period energy use – Baseline model prediction ± Non routine adjustments

Based on this formula, NMEC energy savings includes any activity, project, or change within the measurement boundary at a participant facility resulting in energy savings. There are several exceptions to projects captured within the measurement boundary that would not be allocated to NMEC program savings:

- Energy projects incentivized through other SCE offerings
- Fuel switching (from electricity to natural gas)

- Installing alternative energy generation equipment such as solar, combined heat and power, wind, etc.

If the standard modeling methodology does not lead to an effective model that meets the goals of calculating energy savings and providing feedback to the NMEC approach participants, alternative modeling methods may be used to measure savings from the NMEC approach projects. The following modeling methodology will be considered:

- Intervention step models
    - Regression modeling over both the baseline and the measurement period, which allows changes that occur after the baseline period to be incorporated in the analysis
    - This method is used when a participant makes large or drastic changes during involvement with the NMEC approach project, and the baseline time period cannot be compared to the measurement period
- Mean model
    - Applied when there is insufficient variation in the energy use at the site to create a standard regression model. This methodology will closely monitor fluctuations in energy usage and facility operations (production, occupancy, etc.) to determine if it is appliable.
- Project based engineering calculations
    - If none of the other modeling methods produce a model capable of measuring savings at a site, the savings will be calculated with engineering calculations using values from data logging where necessary

Data Collection

The program's NMEC M&V approach is based on International Performance Measurement and Verification Protocol (IPMVP) Option C – Whole Facility guidelines and ASHRAE Guideline 14:2014. The IPMVP Option C guidelines defines the measurement boundary as the whole facility and requires measurement utilizing revenue grade meters; whole- building utility energy meters qualify as revenue grade meters. The program will also monitor static factors such as equipment and operations within the measurement boundary to identify if any non- routine adjustments are required.

There are two types of data collection during the program. First, the team will collect energy data and other quantitative data to estimate the kWh energy impacts of the program. Second, the team will track qualitative observations related to the NMEC activities and feedback from participant buildings to inform the results of the quantitative assessment.

Quantitative NMEC Data Collection

The figure below outlines the data collection requirements for the participant sites. The program will review data on an ongoing basis to determine if any additional data or refinements are necessary.

Data Description	Desired Interval	Pre-NMEC Data Collection	Post-NMEC Data Collection	Data Source	Update Frequency
Interval meter data (primary)	15 min. kWh	1-2 years	Program duration	Green Button or Participant Records	Monthly
Monthly billing data (if interval is not available)	Monthly	1-2 years	Program duration	Green Button or Participant Records	Monthly
Weather data	Daily	Covering the interval data timeframe	Program duration	Officially recognized internet weather data site(s)	Monthly
Participant business characteristics including address, business type, building age, major equipment, square footage, enrollment date, dates of behavioral intervention, and operating hours	Multiple	n/a	Program duration	CLEAResult and customer	Minimum – beginning of the program and once at the end ideal – monthly
Production at industrial sites, occupancy data for commercial buildings	Same as energy use date, if available	Same as energy use date, if available	Same as energy use date, if available	Customer records	Monthly or as needed

Customer ID, meter number(s), services address(es)	One time	n/a	n/a	Participant	Upon enrollment
Participation data from other programs, including dates and estimated savings of energy savings measures	During and the end of the NMEC measurement year	n/a	n/a	CLEAResult	Minimum - at beginning and end of measurement period Ideal – monthly

Equipment and Instrumentation

No additional metering equipment is required at the participating sites. For sites with existing interval meters, the program will use the corresponding interval data. For sites without interval meters the team will utilize monthly billing data. Customer- owned submeters installed prior or during the NMEC engagement may be used if the site is complex enough to warrant submetering breakout or metering with revenue grade meters (as outlined in the IPMVP) to collect the necessary data.

Qualitative Data Collection

In addition to meter data and other quantitative indicators of energy use, the program will collect data from the participants (the individual sites enrolled) to document energy efficiency awareness and practices before and during the program. Data collection is designed to capture any changes in production, owner and occupant behavior, attitude, or actions that affect energy consumption. Data will be collected from multiple points including regular feedback from energy champions, facility managers, self-reporting tools, and electronic and phone surveys.

The data collection will include documentation of:

- Production changes including production mix or addition of new products
- Schedule changes including shutdowns or unusual events
- Any retrofits or maintenance activities
- System setting changes such as set points and heating or cooling schedules
- Occupancy changes such as tenant, production, or staffing changes
- Specific questions regarding participating employees' understanding of energy efficiency and any activities performed to save energy before the program

- Strategies the organization employed to save energy with the objective of identifying behavior changes and equipment upgrades
- Energy champion and executive sponsor responses when asked if they observed any other impacts on their operations, such as increased customer traffic or a change in overall employee engagement.

The goal of the qualitative data collection is to help inform how much the program influences awareness and behavior. In addition, the qualitative data will provide context for the source of energy savings by telling a story with corroborating evidence about what activities led to the savings. Depending on the level of detail collected from participants, the program may be able to show resolution around what activities or actions happened within a specific timeframe that may correlate with a measurable drop in normalized energy intensity.

Data Analysis

The boundary of all measures is the whole facility, which could mean a single facility or group of buildings depending upon available utility information. Statistical analysis will be done using statistical software such as JMP®, eSight® or other. The choice of software depends on the complexity of the model. JMP® is typically used for complex facilities that require a high level of statistical and engineering analysis, and eSight® is typically used for facilities with simplistic operational profiles; JMP® models are transferred into Excel for ease of use for participants. The following is an overview of the data analysis activities to estimate the energy impacts of the program:

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- Estimate Program Energy Savings. The analysis will use an avoided energy use method where a baseline statistical model is created, ideally using two full years of monitored data prior to implementation. Then the actual monitored data recorded during the program are used in a standard least squared regression to create an adjusted baseline. The difference between the adjusted baseline and

measurement period energy use is the avoided energy use, or the NMEC energy savings, shown below:

Avoided energy use (NMEC Energy Savings)

Measurement period energy use - Baseline model prediction

± Non routine adjustments

Based on this formula, NMEC energy savings includes any activity, project, or change within the measurement boundary at a participant facility resulting in energy savings. There are several exceptions to projects captured within the measurement boundary that would not be allocated to NMEC program savings:

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<u>For all participants:</u>

Preliminary modeling employing stepwise regression is used to evaluate the statistical significance of various independent variables in relation to energy usage. This is followed by successive manual changes to the model's specification to identify a model with good predictive performance and a reasonable number of predictors given the sample size. The distribution of each variable in the model is examined for suitability in regression modeling. A time series plot of each variable is analyzed to identify trends and relationships between data sets. The strength of association between variables is evaluated using bivariate correlations as well as partial correlations and associated scatter plots.

The performance of the model is assessed through a variety of statistical measures including overall fit (R2), coefficient of variance, autocorrelation of the regression residuals, X-Y plot of actual vs. predicted values and a time series plot of actual vs. predicted values and a time series plot of actual vs. predicted values is superimposed. If necessary, CLEAResult will incorporate routine and non- routine adjustments to improve model performance (see adjustments section below).

The program reviews each model per CLEAResult's internal QA/QC document, and reports the final:

- data issues,
- model specification,
- sign and significance (including t- statistic) of the coefficients,
- residual plots, and

- statistical metrics: R2, adjusted R2, F- ratio probability, sample size (N), ratio of N to predictors, first- order autocorrelation, CV/RMSE, and net determination bias.

For participants with interval data:

The interval for the final model will be determined based on a combination of timing with concurrent program year, preference from the participant, and quality of the data at the chosen interval. To estimate the electric savings ordinary least- squares regression statistical technique will be used to create baseline models. Models will be created through investigating independent variables including production, dry bulb and wet bulb temperature, relative humidity, hours of operation, day of week, time of day, process loads, sales/transaction data, or occupancy. In addition, binary indicator variables informed by qualitative data collection will be considered where applicable. Step- wise regression analysis techniques will be used to iteratively compare all logical combinations of independent variables. Autocorrelation will be considered and tested to determine if the model autocorrelation will affect the final savings analysis.

For participants with monthly data:

In models where the billing period varies, the analysis may employ a weighted least-squares regression technique based on ASHRAE Guideline 14- 2014, section 2.3 for Day Adjusted Models.

Models will be created through investigating independent variables including, but not limited to, production, dry bulb and wet bulb temperature, relative humidity, hours of operation, day of week, time of day, process loads, sales/transaction data, or occupancy. In addition, binary indicator variables informed by qualitative data collection will be considered where applicable. All non- indicator variables will be divided by the number of days in the monthly billing period.

Depending on the actions taken by the participants with only monthly data available, there may not be high enough savings to provide a statistically significant measurement of savings using monthly data. Not all projects, however, require such a high level of statistical confidence in the savings. In these cases, the savings estimates using monthly data is the best option available and the program team will work to achieve the highest accuracy using all data available.

Monitoring / Model Validity

Before energy baseline models are approved to track energy performance, they are subject to multiple reviews. The first review is performed by CLEAResult against a stringent set of statistical criteria and analysis as follows:

Overall NMEC Model

Performance Statistic	Typical Limits	Explanation
R^2	> 0.75	The proportion of energy use during the baseline period that can be explained by movements of the model's predictors. An R^2 of 0.95 means that 95% of period- to- period variations in energy use in the baseline period are explained by the model's predictors.
Coefficient of Variance of RMSE	<0.2	CV of RMSE is RMSE divided by average energy use over the baseline period. The lower the CV, the smaller the regression residuals (prediction errors) are relative to predicted energy.
Autocorrelation	<0.5	Autocorrelation is a measurement (ranging from -1 to +1) of the serial correlation of regression residuals. High autocorrelation can cause a model to over-predict or under-predict for stretches of time and is more common in high frequency (e.g., daily) models. Autocorrelation leads to underestimated standard errors of the regression coefficients, so a model's t-values need to be large (well above 2.0) to assure their relevance when autocorrelation is high (e.g., above 0.5).
Net Determination Bias	<0.005%	Net determination bias measures the model's tendency to over- or under- estimate energy savings.

NMEC Model Predictors

Item	Typical Limits	Explanation
t- stat	|t| > 2.0	The ratio of a predictor's estimated coefficient to its standard error. Large t- ratios (>2.0) suggest that the variable is a useful predictor.
p- value	p < 0.05	Small p- values (<0.05) indicate a predictor is statistically significant (unlikely to be zero).

Energy baseline models are also subject to review by the participant. During this, the participant is asked to examine the model to assure they understand how it works and to confirm that each predictor makes sense within the context of the site's energy profile. Once the implementer and participant approve the model, it is then presented to SCE for review. SCE may want to engage third party with statistical expertise, such as their evaluation contractor, to assist in this review.

Expected Useful Life (EUL)

The project feasibility study (PFS) will outline the recommend energy efficiency measures and parameters for each NMEC project. Each measure included in the PFS will include estimated useful life (EUL) that shall be determined or approximated from Database for Energy Efficient Resources (DEER) records. The PFS will determine a weighted useful life for the recommended measures. After installation, this weighted useful life will be updated based on the actual measure installed and reported with the final installation report.

Example NMEC weighted average EULs have been calculated as follows:

$$EUL = \frac{\sum_1^n FirstYearSavings_n * EUL_n}{\sum_1^n FirstYearSavings_n}$$

Where:

FirstYearSavingsn is the first year electric or gas savings of the nth measure implemented within the measurement boundary

EULn is the EUL of the most similar measure from the list

Sample NMEC project:

Sector	Measure Application Type(MAT)	Representative Interventions	Expected Useful Life (EUL)	Savings 1st-Yr-Gross kWh
Commercial	Behavioral, Retro-commissioning and Operations (BRO)	Building automation system reprogramming	3	80,000
	Add-On Equipment (AOE)	Demand control ventilation on HVAC	5	5,000
	Normal Replacement (NR) and Add-On Equipment (AOE)	Advanced lighting fixture and controls retrofit	8 and 2.7	45,000 and 5,000
	Normal Replacement (NR)	Retrofit high/low bay fixtures	12	10,000

For example, if the Building Automation System (BAS) reprogramming and advanced lighting and controls interventions above were implemented within the same building, using the typical site savings, then the weighted EUL is be calculated as:

$$EUL = \frac{3 * 80000 + 8 * 45000 + 2.7 * 5000}{130000} = \frac{613,500\ kWh - years}{130,000\ kWh}$$
$$= 4.7\ years$$

Anomalies / Adjustments for Energy Consumption Changes

If significant changes are made to the site during the measurement period, such as added/removed space, equipment, or changes to operations such as tenants moving in/out or production changes, the modelers will investigate ways to account for the

effects of the change. Changes will be tracked throughout the program and incorporated in the model prediction where possible.

If participants undergo an energy saving project incentivized through another SCE program, then reported realized savings from that project will be removed from the NMEC savings. If a reported capital project appears to have been over- or under-estimated, the NMEC program team will review the project with the capital project implementation team to determine the accuracy of claimed savings. The program will receive periodic reports from CLEAResult project tracking on incentivized projects and associated savings calculations.

Assessing participants on an individualized basis provides the most accurate approach to accounting for the impacts of operational changes at a facility due to COVID-19. One key indicator in determining the appropriate approach is noticeable changes in the monitoring trend starting mid to late March 2020. While there are nuances related to when savings are claimed (i.e., year in the program, and measure life, etc.), customers can generally fall into three categories:

- No COVID-19 related changes at the site
- COVID-19 impacts that can be remediated utilizing baseline variables
- COVID-19 impacts that require adjustments

For the first case, no additional action is required. For the second, the baseline variables need to be set to reflect the operational state that aligns with the COVID-19 time period; for example, if the site had a period of low occupancy in the baseline period and the COVID-19 level occupancy is the same as that time period, that variable can be used to account for this operational state. For those instances where the model trend deviation is COVID-19 related, the following adjustment scenarios can be utilized:

- Remove the COVID-19 impact period and project the prior achieved savings trend through the excluded months
- Quantify the COVID-19 impacts statistically by indicating for them in the measurement period and adjust the model with the quantified change
- Quantify the COVID-19 impacts using engineering calculations

Influences and Assumptions

All projects must be actively influenced by the Program and successfully verified in their Project Eligibility. Customers and Program Allies applying for incentives must:

- Propose to install measures within a customer owned facility or facilities within the SCE service territory
- Provide proof of financial solvency
- Commit to applying best efforts to meet measure installation milestones and in-service dates specified in the project application, pre-approval notifications and applicable pre- and post-site inspections

- Ensure that all measures are installed and operated in a manner that will achieve their estimated EUL
- Agree to the pre and post installation requirements of the Measurement and Verification (M&V) Plan including data collection, reporting and allowing timely facility access to SCE and its contractors for purpose of site inspection, measure monitoring and installation verification
- Agree to adhere to the Program terms and conditions, including Custom Project Incentive requirements, as specified and agreed to in the application approval process
- Agree to release energy bills for the previous 12-24 months to the Program and throughout the Program duration
- Agree to provide detailed energy use data to support the establishment of energy calculation baselines and post-implementation conditions
- Agree to commit facilities operations staff time to support the project and provide facilities, operations and equipment documentation, building and control system access and energy use and cost data relevant to the project
- Agree to provide other applicable supporting documentation like drawings, equipment lists, equipment datasheets, etc.

In addition, the goal of the qualitative data collection described in the data collection plan is to help inform how much the program influences awareness and behavior. The qualitative data will provide context for the source of energy savings by telling a story with corroborating evidence about what activities led to the savings. Depending on the level of detail collected from participants, the program may be able to show resolution around what activities or actions happened within a specific timeframe that may correlate with a measurable drop in normalized energy intensity.

The Program will use a net-to-gross (NTG) ratio of 0.95 for all NMEC projects per CPUC Resolution E-4952.

De Minimis Savings Justification

CLEAResult employs regression analysis to quantify NMEC savings. Expected savings using the regression analysis approach measure improvements in electrical or natural gas energy intensity. By creating a regression model using daily/weekly/monthly periods the energy savings are normalized for variables such as production or weather, therefore, savings were calculated regardless of variable changes from the baseline period. In most cases, energy savings increased over time as efficiency behavior changed and as projects were implemented.

In situations where expected savings are less than 10% of the Site's annual consumption, considerations shall be made to model the savings that qualify within the maximum variation in the CUSUM. Additional datasets such as hourly periods can be collected, reviewed, and modeled to investigate if the CV of RMSE reported from the hourly model can track higher than that of the daily model that results in reducing

savings uncertainty. Additionally, a fractional savings uncertainty test can be applied to the daily/weekly/monthly model to determine if the savings are outside of the relative model noise.

M&V Personnel

Majority of the M&V plan and analysis for NMEC will be performed by CLEAResult engineers, statistical analysts, and energy advisors. If needed, CLEAResult SEM coaches and account managers may provide support for NMEC activities.

Customer Compensation, Incentives

Where applicable, NMEC financial incentives will be calculated per the incentives rates specified in the Implementation Plan, subject to applicable cost caps. Incentive rates will vary based on project specifics, such lifecycle savings estimates or HTR status, in alignment with D.18-05-041.

Most incentives will be based on actual energy savings, as determined during the performance period and verified by the Installation Report. Depending project details, such as the confidence interval of the savings model or unique customer considerations, the incentive will be distributed either in full upon review and approval of the installation report based on a portion of meter data, or a partial payment will be made upon installation with the remainder distributed upon review of the full M&V period. If full payment is distributed upon installation for a particular project, CLEAResult does not intend to true up the customer incentive on the full M&V period.

APPENDIX. List of Acronyms and Abbreviations

Term	Definition
C&S	Codes & Standards
CALCTP	California Advanced Lighting Controls Training Program
CEDARS	California Energy Data and Reporting System
CPUC	California Public Utilities Commission
DAC	Disadvantaged Communities
DEER	Database for Energy Efficient Resources
DSM	Demand-Side Management
EE	Energy Efficiency
EE PRG	Energy Efficiency Procurement Review Group
EM&V	Evaluation, Measurement & Verification
ET	Emerging Technologies

Term	Definition
EUL	Effective Useful Life
FSU	Fractional Savings Uncertainty
HTR	Hard-to-Reach
HVAC	Heating, Ventilation, & Air Conditioning
IOU	Investor-Owned Utility
IP	Implementation Plan
kW, kWh	kilowatts, kilowatt-hours
M&V	Measurement & Verification (or, sometimes, Validation)
NMEC	Normalized Metered Energy Consumption
PA	Program Administrator
PAC	Program Administrator Cost
RFA	Request for Abstract
RFP	Request for Proposal
TRC	Total Resource Cost
WE&T	Workforce Education & Training