Southern California Regional Energy Network

Public Agency Streamlined Savings Pathway (SSP)

Program Implementation Plan

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Program Overview

The Southern California Regional Energy Network (SoCalREN) Streamlined Savings Pathway (SSP) fills public sector market gaps by providing public agencies with an expedited pathway to implement comprehensive energy efficiency projects. SSP also provides a pathway to access "stranded" savings at below-code facilities that are unable to participate in existing energy efficiency programs that require bringing these facilities above Title 24 standards. It does this by using normalized metered energy consumption to measure energy savings at the meter, unlocking new project opportunities that go beyond the energy efficiency measure typically incentivized by custom or deemed incentive programs. SSP offers monetary incentives for qualifying energy efficiency upgrades based on delivered TSB, lifecycle energy savings, and/or greenhouse gas (GHG) emission reductions. Enhanced incentives will be offered to encourage and facilitate energy savings in underserved and hard-to-reach communities. Agencies participating in SSP will receive technical expertise and project management services throughout their projects and at no cost through the Project Delivery Program, a non-resource program. Cumulatively, the joint offerings of the SoCalREN PDP and SSP Programs unlock a streamlined and expedited energy efficiency project delivery experience for the public sector, empowering and equipping public agencies to leap into the clean energy future.

Program Budget and Savings Information

The budget and savings information for the Program are presented in the tables below.

Table 1. Program Budget and Savings Information

1	Program Name		Streamlined Savings Pathway (SSP)		
2	Program ID number		SCR-PUBL-B4		
3	Program Implementer		SoCalREN + Third-Party (ICF, Willdan)		
4	Portfolio Administrator		County of Los Angeles/SoCalREN		
5	Program Implementer Type		REN, Third-Party		
6	Portfolio Segment		Resource Acquisition		
7	Total Program Budget		$7,642,095.80		
8	Program Budget by Year	**2024**	**2025**	**2026**	**2027**
		$653,895.59	$1,745,371.72	$3,649,957	$4,326,809
9	Program Duration				
10	Total System Benefit (TSB)	**2024**	**2025**	**2026**	**2027**
		$1,319,278	$2,628,834	$3,847,560	$2,855,787
11	CO2	**2024**	**2025**	**2026**	**2027**
	Lifecycle Gross	N/A	N/A	N/A	N/A
	First-Year Gross	N/A	N/A	N/A	N/A
	First-Year Net	N/A	N/A	N/A	N/A
12	kW	**2024**	**2025**	**2026**	**2027**
	Lifecycle Gross	N/A	N/A	N/A	N/A
	First-Year Gross	441.63	742.83	978.71	465.67

	First-Year Net	299.38	478.62	587.23	279.40
13	kWh	**2024**	**2025**	**2026**	**2027**
	Lifecycle Gross	-2,945,362.82	38,752,221.98	39,584,239.15	25,681,040.30
	First-Year Gross	-360,948.60	3,904,894.86	4,270,029.13	2,833,791.37
	First-Year Net	-695,454.89	1,896,893.57	2,183,342.51	1,327,657.30
14	Therms	**2024**	**2025**	**2026**	**2027**
	Lifecycle Gross	1,629,943.19	1,543,114.23	1,968,383.85	1,473,447.15
	First-Year Gross	205,260.12	192,270.94	245,259.14	148,815.86
	First-Year Net	171,447.48	161,576.32	184,026.47	125,570.70
15	Pgm. Cost Effectiveness TRC	**2024**	**2025**	**2026**	**2027**
	TRC by Year	0.71	0.55	0.62	0.49
	Total TRC				
16	Pgm. Cost Effectiveness PAC	**2024**	**2025**	**2026**	**2027**
	PAC by Year	1.46	1.37	1.05	0.72
	Total PAC				
17	Market Sector			Public	
18	Program Type			Resource Acquisition	
19	Delivery Type			Downstream	
20	Intervention Strategies			Incentive, Direct Install	
21	M&V Methods			Other—EM&V	

Implementation Plan Narrative

1. Program Description

SoCalREN's SSP will drive the implementation of energy efficiency projects that yield electricity and gas savings through an expedited and streamlined process. The program fills public sector market gaps by addressing the cost of delay, lack of available funding, and limited program offerings focusing on underserved and hard-to-reach1 public agencies. Starting in 2025, a site-level normalized metered energy consumption (NMEC) strategy will be added under the SSP umbrella to allow customers to use another pathway to develop projects: capturing savings that are no longer incentivized by Custom programs or are considered Industry Standard Practice (ISP). As of August 2026, the SSP will add a pathway for water and wastewater customers to the existing umbrella of deemed and custom offerings. SSP will allow SoCalREN to continue serving customers and deliver on its mission to help public agencies increase energy efficiency adoption and lead their communities on a pathway to a clean energy future.

The SSP is designed as a downstream offering that will provide deemed, custom, and NMEC incentive opportunities based on project TSB, lifecycle energy savings, and/or lifecycle greenhouse gas (GHG) emission reductions. The program seeks to provide expedited project application reviews and to encourage and facilitate energy savings in underserved and hard-to-reach communities. This offering will support agencies' resiliency efforts and will enable SoCalREN to further contribute to California's SB 350 goals, which seek to double energy efficiency savings in electricity final end uses by 2030. In alignment with statewide energy efficiency goals, the public agency SSP aims to achieve the following objectives:

1. Generate persistent and long-term electric savings (kWh and kW), gas savings (therms) and GHG emissions reductions to support program and state goals.
2. Pursue projects that may not be eligible for above-code incentives, but still have a minimum of 10% energy savings potential and will support program and state goals.
3. Increase energy efficiency program participation in underserved communities by offering enhanced monetary incentives to fund energy upgrades.
4. Mitigate the cost of project implementation delays for public agencies through an expedited incentive application review process. SSP will offer an estimated 10-business day turnaround for initial application processing, followed by an estimated 30-business day turnaround for application technical review.
5. Reduce project delays and complexities by leveraging in-house technical expertise and existing agency relationships.

The SSP reduces project delays and complexities for public agencies by implementing strict timelines for project application technical review and approval, and by leveraging start-to-finish technical services and financial analysis support at no-cost from a SoCalREN single point of contact who guides public agencies through SoCalREN's portfolio of energy programs. In addition, monetary incentives based on avoided GHG emissions over the life of the project, with enhanced incentive rates offered to underserved customers, support increased energy efficiency program participation.

For public agencies that utilize the NMEC strategy, the program will work with facility staff after project implementation to develop a maintenance plan for retrocommissioning measures to ensure equipment is performing as expected. The program will provide public agencies on the NMEC track with quarterly

savings reports and technical support to ensure savings persist into the future. SSP will offer monetary incentives based on post-installation energy performance.

Water and wastewater agencies often require a tailored pathway because their energy efficiency projects are tied to water production, distribution, and treatment systems, can involve long development and implementation timelines, and may require multiple years to fully develop and install. For these agencies, the water infrastructure pathway will support deemed and custom solutions for projects such as wastewater mixing, ultraviolet controls, pump sequencing, and other water system or treatment process improvements. The pathway will also help address segment-specific barriers, including risk aversion, limited staff availability, limited funding, infrastructure longevity, and complex decision-making processes.

2. Performance Tracking

Program Performance Metrics

The SSP program will use the following metrics to track progress.

Table 2. Program Performance Metrics and Annual Targets

Year	Number of Completed Projects	TSB Claimed	Lifecycle GHG Emissions Avoided (MTCO2e)
2024	28	$1,319,278	6,185
2025	42	$2,628,834	9,277
2026	62	$3,847,560	13,915
2027	94	$2,855,787	20,873

Quantitative Program Indicators

Table 3. Program Indicators

#	Metric	Method	Frequency
1	Number of agencies Introduced to Program services	Program engagement presentations and Project Proposals delivered outlining SSP opportunities	Annually
2	Number of underserved and non-underserved agencies participating in Program	Projects submitted to the program	Annually
3	Number of applications submitted and reviewed	Projects submitted for technical review	Annually
4	Number of applications approved	Count submitted to CPUC	Quarterly

#	Metric	Method	Frequency
5	Count and types of facilities (e.g. school, streetlights) for which projects were completed	Count submitted to CPUC	Quarterly
6	Number of completed projects approved	Count with post-installation technical review completed	Annually
7	Amount of incentive dollars issued	Dollars disbursed to agencies	Quarterly
8	GHG emissions avoided	Calculated lifecycle reductions	Quarterly
9	kWh savings	Gross and net annual and lifecycle kWh	Quarterly
10	kW Savings	Gross and net annual and lifecycle kW	Quarterly
11	Therms Savings	Gross annual therms	Quarterly
NMEC Strategy-Specific			
12	Average percentage of annual electric and gas savings at the meter	Average percentage submitted to CPUC	Annually
13	Number of projects evaluated for NMEC pathway fit	Count of project proposals delivered analyzing NMEC viability	Annually
14	Number of projects recommended to follow NMEC path	Count of Project Proposals delivered with NMEC pathway recommended	Annually
15	Number of projects eligible for NMEC	Count of projects screened for NMEC eligibility	Annually
16	Number of regular energy reports presented to agency	Count of reports presented	Annually
WIP added Metrics for 2026 only			
17	Number of transferred WIP Projects to SSP Reporting	Approved WIP Projects for installation and WIP incentive dollars	Annually
18	Existing WIP Incentive Commitments	Dollar value of commitments honored	Annually

3. Program Delivery and Customer Services

The SoCalREN SSP will offer the following innovative services to public agencies to accelerate the implementation of energy efficiency projects: expedited in-house SoCalREN project application review process, monetary incentives based on lifecycle GHG reductions, and enhanced incentive rates for underserved and hard-to-reach customers. The SSP will prioritize facilities and infrastructure with high-value, comprehensive energy efficiency project opportunities within underserved communities. Projects funneled through the SSP will receive technical expertise and project management services at no cost through the SoCalREN PDP. An assigned SoCalREN Project Manager, acting as a customer's single point of contact, will guide public agencies through all public sector offerings to mitigate customer confusion and ensure seamless service delivery across all programs. Projects submitted to the SSP will be reviewed and approved by a subcontracted engineering consultant held to strict timeline agreements for technical review. Custom SSP projects will be submitted through the Custom Measure and Project Archive (CMPA) process.

By leveraging the complementary technical support services provided by the PDP, the SSP will give public agencies streamlined access to cost and energy savings. Program strategies for expedited support include: exclusion of early screening phase typically required by third party and statewide core programs, 10-business day in-house processing and initial review of incentive applications, 30-business day technical review by contracted engineering consultant, and start-to-finish project management support from a SoCalREN Project Manager.

The SSP will be a resource program; therefore, energy efficiency savings from these projects will contribute to SoCalREN portfolio savings goals, Total System Benefit (TSB), and grid demand forecasting and resource planning. Unlike traditional IOU and third-party programs that offer flat rate incentives for first-year electric and gas savings, incentive rates will be higher for underserved agencies given their heightened need for financial support.

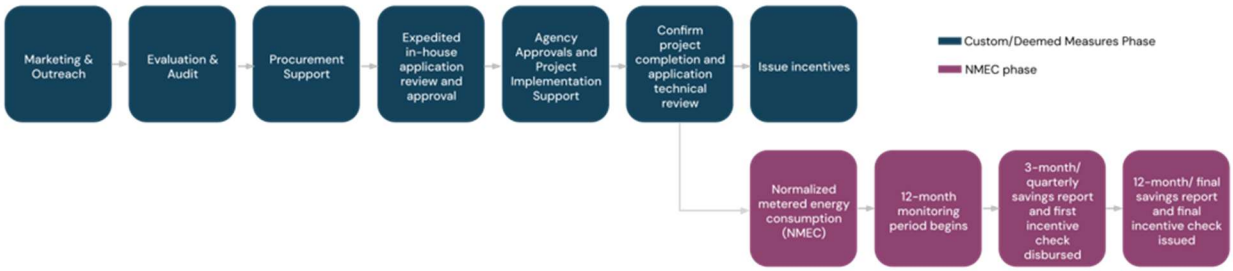
The SSP will engage enrolled and unenrolled public agencies eligible for SoCalREN's programs, leveraging existing relationships and data analysis tools to identify opportunities for successful projects. The Program will conduct marketing and outreach to communicate the benefits of the SSP and what it means for each customer.

The SSP will deliver savings using downstream and direct install intervention strategies where all services are offered through a third-party implementer. Potential SSP projects are funneled to SSP by SoCalREN's PDP, which identifies measure opportunities through either conducting a new energy efficiency audit or utilizing an existing audit of buildings and facilities.

The SoCalREN PDP will complete engineering calculations to determine expected cost savings and energy savings for the project lifecycle based on energy consumption data and savings from the existing baseline associated with the measures included in the project scope. Once an agency confirms the project scope and selects to move forward with incentives through SSP, an incentive application is developed. Once submitted to SSP, applications will receive an initial review within 10 business days and a completed technical review within 30 business days following the initial review. After project approval and construction completion, the SSP will conduct a post-inspection (as needed) to verify implemented measures, update energy models and engineering calculations, determine final claimable lifetime savings and avoided GHG emissions, and finalize an incentive amount to be disbursed to the customer. If the

project goes through the NMEC track, after post-inspection, a one-year monitoring period will commence to ensure the persistence of savings. The program will provide these NMEC projects with quarterly savings reports and technical support to ensure savings persist into the future. SSP will offer monetary incentives based on post-installation energy performance.

Figure 1. Streamlined Savings Pathway Participation Process



Agencies participating in the SSP will benefit from a customized and comprehensive approach to technical assistance and project management through SoCalREN's non-resource PDP. Services offered through these programs include project scoping, financial analysis, financial support services, procurement assistance, energy modeling, and engineering calculations. In addition to the services previously mentioned, NMEC track projects will also receive services such as maintenance plans for retro-commissioning measures and quarterly savings reports. SoCalREN third-party engineers will support SSP projects from start to finish and help ensure their success. All of these services will be provided to agencies at no cost.

SSP will include a heat pump water heater (HPWH) offering that aims to build toward California's state climate goals by removing public agency barriers to decarbonizing their buildings. These barriers include educational barriers, funding gaps, contractor procurement barriers, and internal agency hurdles. Additionally, participants will have the option to have SoCalREN pay the incentives directly to the contractor once the project is completed. This will allow participating public agencies to forgo reserving large amounts of internal funds to complete the project that would eventually be reimbursed with the SoCalREN cash incentives.

Beginning in Q3 2026, Water infrastructure track projects will receive services such as lifecycle cost analysis and capital planning support, including assistance identifying project funding options, developing new measure packages and customized measures for water systems, and prioritizing energy efficiency scopes within customers' capital budgeting processes.

Target Markets and Served Populations

SoCalREN's SSP will target enrolled and unenrolled public agencies within SoCalREN's eligible service territory. Enrollment in the SoCalREN PDP is a prerequisite for participation in SSP. There are over 700 agencies in the SoCalREN territory that are eligible to enroll and participate in SSP. This includes cities, counties, tribes, school districts, water districts, sanitation districts, joint power authorities, and other special districts. There will also be a targeted effort to focus on and deliver services to underserved communities.

Measures and Treatment

The SSP is a resource program that will promote long-term energy savings from energy efficiency projects, resulting in reduced GHG emissions, cost savings, and increased energy savings for public agencies. Eligible energy efficiency measures will include downstream deemed, custom, and whole building NMEC measures. Reported energy savings claims will be based on the adopted California Electronic Technical Reference Manual (eTRM) and approved work papers for deemed measures, calculated savings will be used for eligible custom measures, and actual post-installation energy performance will be used for NMEC.

Target end uses and measures may include, but are not limited to, those outlined in the table below. Additional measures will be evaluated and added to the program offerings as necessary.

Table 4. Eligible Measures

End Use	Eligible Measures
HVAC	• Demand control ventilation • HVAC controls and occupancy sensors • Supply fan variable frequency drive (VFD) • Packaged units • RTU/AHU/c • Chiller optimization or replacement • Economizer add-on equipment and controls • Evaporative precooler • Supply air reset • Temperature deck reset • Condenser water reset • DCV SDEC and CO2 sensor • AC unit VFD • HVAC equipment replacement • HVAC tune up • Furnace replacements
Pumping	• Pump overhauls • Pump replacements • Pump sequencing/scheduling • Pump VFD
Process Optimization	• Optimize fluid flow system • Optimize zone pressure • Aeration Blower VFD • Chemically-enhanced primary sedimentation (CEPS) • Ammonia-based aeration controls • Blower sequencing/scheduling • Return activated sludge (RAS)/waste activated sludge (WAS) optimization • UV tertiary treatment upgrade • Ultra-fine pore diffuser retrofit • Wastewater controls automation

End Use	Eligible Measures
Service and Domestic Hot Water	• Heat pump water heaters • Gas water heaters
Building Weatherization	• Cool roofs • High-efficiency windows

4. Program Design and Best Practices

Market Barriers

Program offerings that focus on underserved public agencies are limited. Underserved public agencies may face significant capital barriers when considering energy efficiency upgrades. While the SSP enables all public agencies to pursue energy projects that result in energy, cost, and GHG savings for their communities, underserved agencies will be called to action through the provision of a higher incentive rate.

Limited statewide program services for savings below code. Programs throughout the state have generally focused on upgrades that are above code or standard practice, leaving energy savings unrealized. SSP's NMEC strategy will provide the necessary resources to get these projects completed and to meet or exceed code or standard practice. Addressing this barrier will help agencies realize additional energy and cost savings.

Lengthy project review and approval times. Traditionally, the program offerings available to public agencies have lengthy review and processing times, which can lead to a significant cost of delay for the project. The SSP will expedite processing times by leveraging subcontracted engineering consultants to review and approve project applications. The program will adhere to strict timeline agreements for technical review, allowing public agencies to realize energy and cost savings sooner.

Lack of available funding and financing. Financing capital upgrades often requires multiple funding strategies. Third-party programs offer limited funding and financing support to the public sector. SPP's monetary incentives will provide needed funding, alongside the SoCalREN PDP no-cost services that allow agencies to continue developing and implementing energy saving projects.

Lack of resources and technical expertise in the public sector to pursue EE programs. Public sector customers often lack the in-house resources and technical expertise to apply for and secure funding and financing for energy efficiency projects. The SoCalREN PDP can provide critical resources to assist enrolled agencies with identifying viable projects and applying for SSP monetary incentives.

Best Practices

- Increased incentive values for underserved agencies.
- Incentives rates based on lifetime GHG emissions, which encourages investment in long-term emissions reductions.
- Measure meter energy usage before and after installation. Normalize data as needed to support maintenance and monitoring activities managed by facility staff.

- Focus on asset and building controls upgrades including interior lighting, exterior lighting, HVAC, and EMS systems to capture savings up to and above code.
- Offer customized project management and technical expertise as needed for each project to maximize outcomes and minimize program cost.
- Gather and ensure accuracy of project data including inventory, equipment specifications, and maintenance protocols to support ongoing project performance and savings persistence.
- Expedited reviews of program applications to mitigate the cost of delay and ensure savings are realized as soon as possible. Applications will receive a preliminary review within 10 business days from application submission, and will receive an in-depth technical review within 30 business days from the preliminary review.
- Support comprehensive whole building energy efficiency projects, combining elements of mechanical replacement, retrocommissioning, weatherization, and lighting where possible to optimize financials and support project approval.
- Screen projects for all available funding and financing combinations, including SSP incentives and SoCalREN Revolving Savings Fund loan offerings, as applicable.
- For NMEC projects, offer performance-based incentives that encourage deep energy retrofits.
- A dedicated SoCalREN Project Manager is assigned to each enrolled agency and guides the agency through project identification, viability assessment, and funding/financing applications across the suite of SoCalREN Public Agency Programs.

5. Innovation

Expedited program application reviews & approvals

In coordination with SoCalREN's non-resource PDP, project identification, scoping, application submissions, reviews, and approvals are comprehensively housed under the SoCalREN Public Agency program portfolio. This comprehensive, start-to-finish support and streamlining of services ensures a smooth project delivery process for participating agencies and reduces the administrative hurdles associated with project handoff to outside parties. Projects participating in the SSP will have a dedicated SoCalREN Project Manager coordinating complimentary services between the SoCalREN non-resource programs and the SSP to present a comprehensive, turnkey solution to the agency.

Deep energy and cost savings

Traditional efficiency program design is limited in that it has focused its resources on asset upgrades that are above code or standard practice. SSP's NMEC strategy recognizes that there are significant energy savings below code that have been left unrealized. SSP provides the necessary resources to facilitate these projects and get them completed in order to meet and go beyond code or standard practice. Addressing this barrier removes obstacles faced by agencies in project delivery and helps them realize deep energy and cost savings.

6. To-Code Savings Claims

SSP's NMEC strategy uses normalized metered energy consumption (NMEC) models for pre-and post-installation periods to evaluate savings on an ex-post basis at the project level. The program compares this data to an existing conditions baseline and reports full measure costs in accordance with Commission

Resolution E-4818 and D.16-08-019. A weighted project-level effective useful life (EUL) is assigned based on measure-level savings since EUL estimates as required by the CPUC's NMEC Rulebook v 2.0.2

7. Pilots

No pilots are currently planned.

8. Workforce Education and Training

This section is not applicable.

9. Workforce Standards[1]

SSP will provide due diligence to ensure that energy efficiency projects supported by the program adhere to the Workforce Standards for Heating, Ventilation, and Air Conditioning (HVAC) and Advanced Lighting Control Programs as applicable. The program will integrate compliance checks during the project lifecycle to ensure projects installed comply with CPUC Workforce Standards as stipulated in D.18-10-008. The SSP will ensure the following requirements are met:

- Installation, modification, or maintenance of incentivized HVAC measures of $3,000 or more will be required to be installed by workers or technicians who meet at least one of the following:
    - Enrolled in and/or completed an accredited HVAC internship;
    - Completed more than five years of work experience at the Journey level per California Department of Industrial Relations definition, passed competency tests, and received specific credentialed training;
    - Has a C-20 HVAC contractor license issued by the California Contractors State License Board (CSLB), and;
    - The standards outlined in D. 18-10-0082 will be required for Direct Install projects.
- Installation of incentivized lighting control measures of $2,000 or more will be required to be installed by technicians who have completed the California Advanced Lighting Controls Training Program (CALCTP) or an International Association of Lighting Management Companies (NALMCO) Certified Lighting Controls Professional (CLCP) certification.
- Installation of incentivized water heater measures will be required to be installed by technicians who hold both a:
    - C36 Plumbing license issued by the California Contractors State License Board (CSLB)
    - C10 Electrical license issued by the CSLB

SSP will ensure compliance by requesting that agencies confirm the requirements will be met on both the application and installation review package materials.

10. Disadvantaged Worker Plan[2]

This section is not applicable. Each public agency follows their own procurement requirements.

11. Additional Information

No additional information is required.

[1] D.18-10-008, Ordering Paragraph 1-2 and Attachment B, Section A-B, page B-1.
[2] D.18-10-008, Attachment B, Section D, page B-9.

Supporting Documents

1. Program Manual and Program Rules

A short description of supporting materials is provided below. Greater detail is provided in the Program Manual.

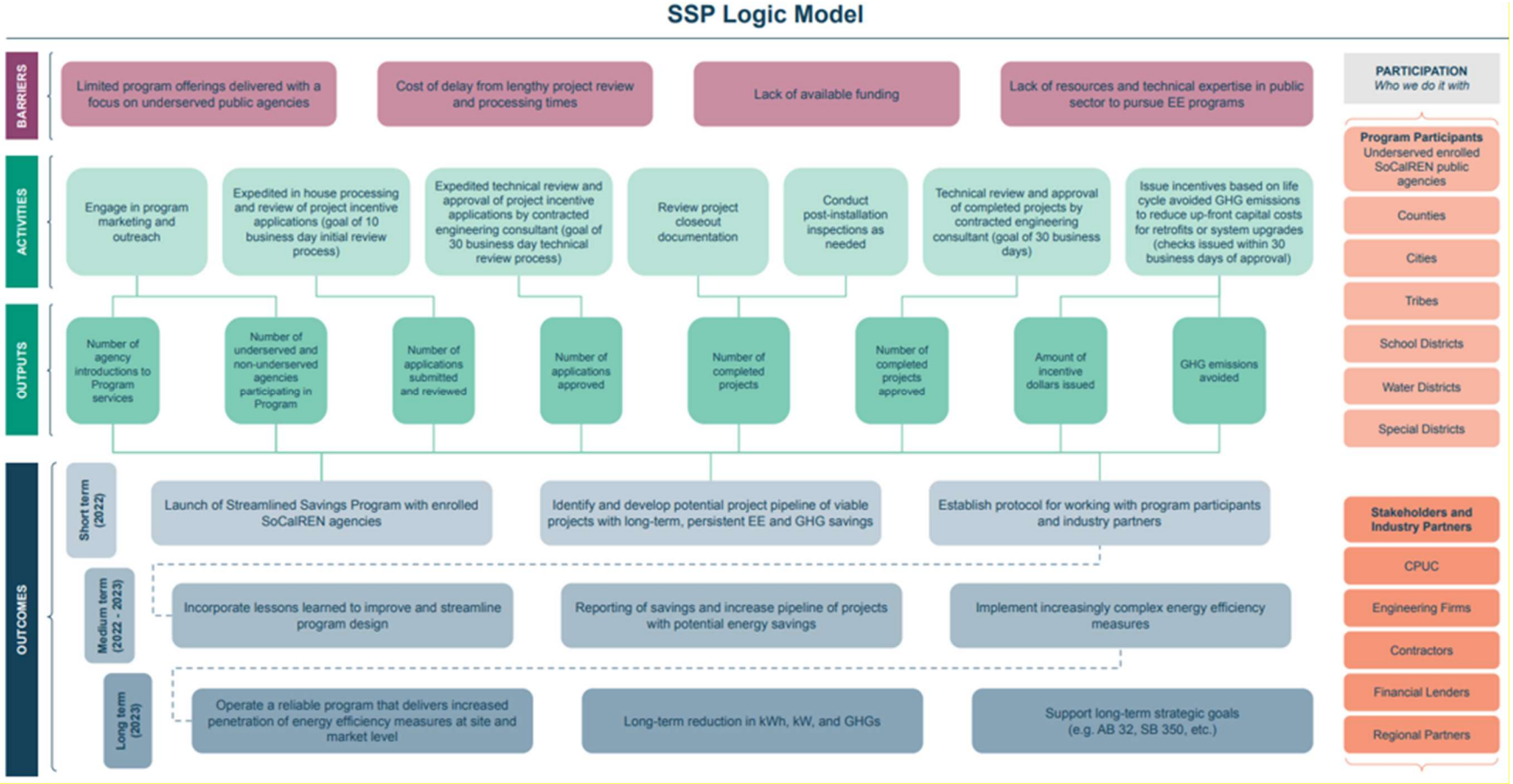
Table 5. Program Manual Required Information Summary

#	Information Required	Short Description
1	**Eligible Measures or Measure Eligibility**	Eligible measures pursued by public agencies through SoCalREN's SSP Program will adhere to Program Administrators' rules regarding measure eligibility. All savings will be transparent in supporting calculations as submitted to the Program Administrators.
2	**Customer Eligibility Requirements**	The SSP Program will work with public agencies (e.g., cities, counties, school districts, tribes and special districts) serviced by SCE and/or SoCalGas that pay Public Purpose Program charges.
3	**Contractor Eligibility Requirements**	The SSP Program will work with the contractor selected by the agency to ensure all incentive eligibility requirements are addressed and met.
4	**Participating Contractors, Manufacturers, Retailers, Distributors**	The Program will work with Contractors as described above.
5	**Additional Services**	Participants are provided with information about other potential program participation options.
6	**Audits**	Pre and post installation audits will be conducted in a manner that aligns with SoCalREN incentive eligibility requirements.
7	**Program Quality Assurance Provisions**	Quality assurance checks will be implemented throughout the process at various milestones to maintain data accuracy and customer satisfaction.

#	Information Required	Short Description
8	**Other Program Metrics**	The program tracks a number of metrics from energy and environmental impacts to number of agencies participating.

2. Program Theory[3] and Program Logic Model[4]

Figure 2. SSP Program Theory and Logic Model

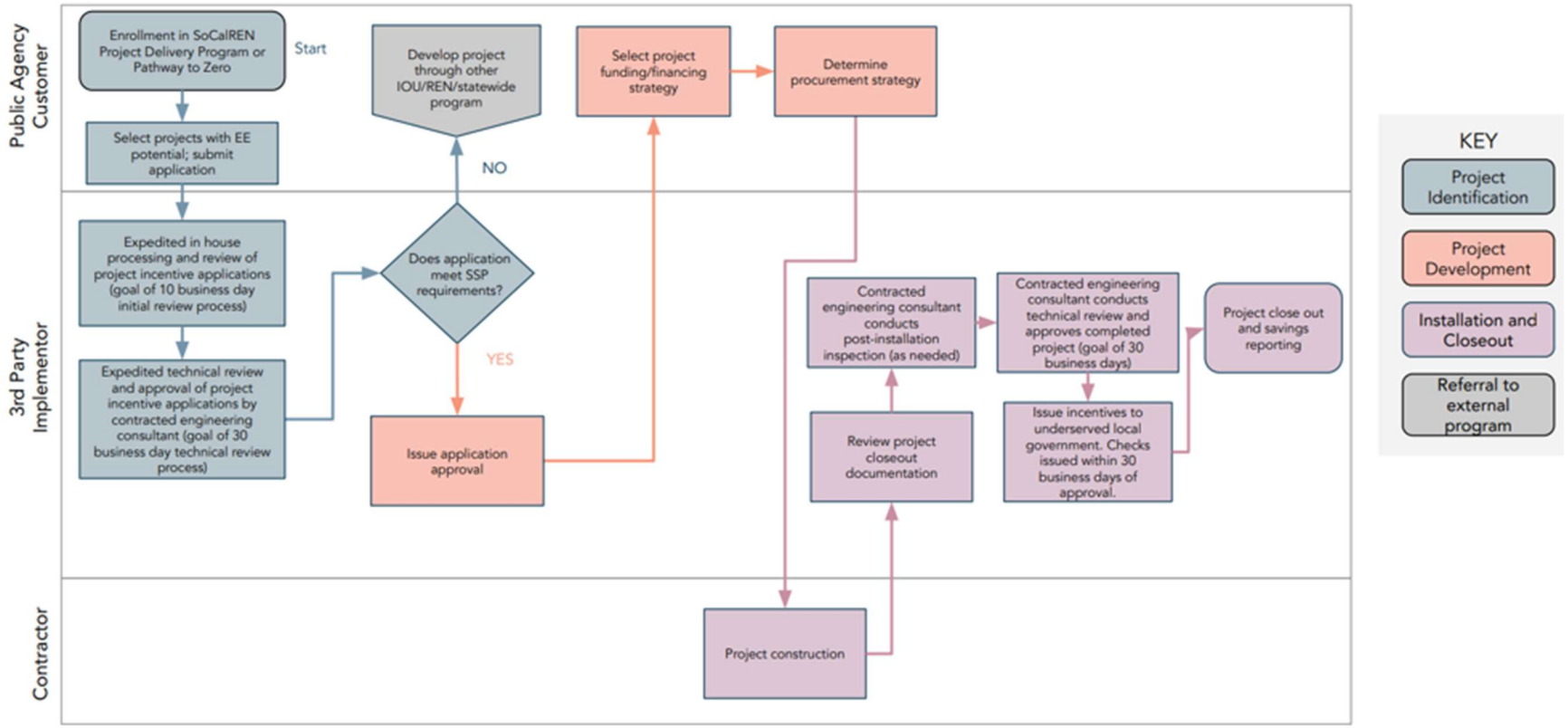


3 The expected causal relationships between program goals and program activities in a way that allows the reader to understand why the proposed program activities are expected to result in the accomplishment of the program goals. A well-developed program theory can (and should) also describe the barriers 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.

4 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.

3. Process Flow Chart

Figure 3. SSP Process Flow Chart



4. Measures and Incentives

Table 6. Target Measures and Relevant Workpapers

End Use	Eligible Measures	Relevant Workpapers
HVAC	• Demand control ventilation • HVAC controls and occupancy sensors • Supply fan variable frequency drive (VFD) • Packaged units • RTU/AHU/c • Chiller optimization or replacement • Economizer add-on equipment and controls • Evaporative precooler • Supply air reset • Temperature deck reset • Condenser water reset • DCV SDEC and CO2 sensor • AC unit VFD • HVAC equipment replacement • HVAC tune up • Furnace replacements	• SWHC006-01 (demand control ventilation) • SWHC023-02 (enhanced ventilation) • SWHC042-02 (evaporative pre-coolers) • SWHC018-02 (HVAC fan controls VSD) • SWHC011-03 (furnace)
Pumping	• Pump overhauls • Pump replacements • Pump sequencing/scheduling • Pump VFD	• SWWP004-01 (pump upgrade) • SWWP002-02 (VFD on well pump) • SWWP005 (VFD on Irrigation pump) • SWPR004 (Circulating Block Heater)
Process Optimization	• Optimize fluid flow system • Optimize zone pressure • Aeration Blower VFD • Chemically-enhanced primary sedimentation (CEPS) • Ammonia-based aeration controls • Blower sequencing/scheduling • Return activated sludge (RAS)/waste activated sludge (WAS) optimization • UV tertiary treatment upgrade • Ultra-fine pore diffuser retrofit • Wastewater controls automation	

End Use	Eligible Measures	Relevant Workpapers
Service and Domestic Hot Water	• Heat pump water heaters • Gas water heaters	• SWWH027-03 (small - fuel substitution) • SWWH028-02 (large - fuel substitution) • SWWH031-02 (electric only) • SWWH007-05 (gas storage water heater) • SWWH017 (hot water pipe insulation) • SWWH018 (hot water tank insulation) • SWWH008 (Boiler, Process)
Building Weatherization	• Cool roofs • High-efficiency windows	

Projects that undergo the NMEC pathway will use the Commission direction in Resolution E-4952 for Database of Energy Efficiency Resources (DEER) 2019 and 2020 updated assumptions, methods and values for savings estimates and future planning, implementation and reporting where applicable. If public sector buildings have unique operating characteristics that deviate from DEER, the program will follow the NMEC procedures for savings documentation. The program will follow the NMEC procedures for claims.

Software tools below may be used for CPUC savings calculations and to ensure that market-based solutions, including but financing needs and data workflows, are compatible with program savings calculations. Listed below is a summary of tools that are under consideration for SSP.

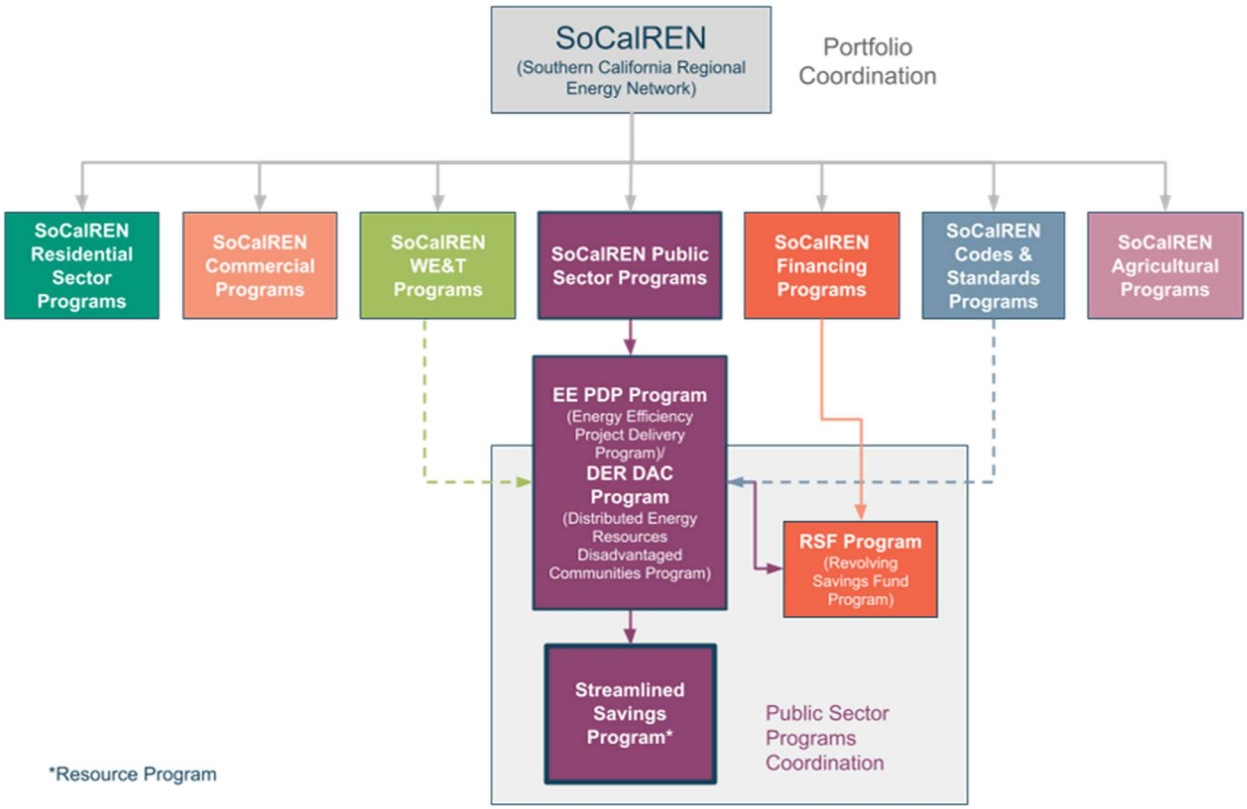
Table 7. SSP Program NMEC Tools

Tool	Short Description	URL
OpenStudio	Open source Energy Modeling Software supported by DOE	www.openstudio.net
ECAM	Energy Charting and Metrics tool: ECAM is a Microsoft Excel-based tool that facilitates the examination of energy information from buildings to complete pre and post energy efficiency project regression analyses of utility interval meter data against outdoor air temperature.	www.cacx.org/PIER/ecam
ASHRAE Inverse Modeling Tool Kit	An industry recognized toolkit for creating multivariate regression models to calculate savings from energy related upgrades.	www.techstreet.co/ashrae

Tool	Short Description	URL
CalTrack	CalTRACK methods describe a process of arriving at a calculation of avoided energy use.	www.caltrack.org

5. Diagram of Program

Figure 4. Diagram of Program



6. Program Measurement and Verification (M&V)

Program level evaluation, measurement, and verification (EM&V) activities may be conducted at various intervals during the program cycle to inform program improvements and future program design. The SSP implementation process involves the following steps to ensure program services and data points are tracked and quality controlled so that data can be readily accessed for EM&V studies:

1. **Data Management in secure SoCalREN customer relationship management (CRM) platform:** Agency-level and project-level data and milestones are tracked in a centralized cloud-based platform. This centralized data hub allows for the development of detailed reports and dashboards to track progress towards program goals and key performance indicators.
2. **Deliverable quality control checks:** All project deliverables and project application materials are put through rigorous internal quality control checks prior to being delivered to clients, third-party technical reviewers, or the CPUC.
3. **Contracted engineering consultant technical review:** After the program conducts an internal review of each project application package to ensure completeness and quality control, each project application undergoes a robust technical review from a contracted engineering consultant with extensive experience in utility and incentive program application reviews.
4. **Quarterly review of progress toward key performance indicators:** Utilizing the data stored in the SoCalREN CRM, program progress toward key performance indicators (KPIs) will be evaluated at least quarterly to track progress and identify areas for program improvement.
5. **Project closeout surveys and customer feedback solicitation:** Customer feedback is collected in the form of a survey upon completion of every project. Feedback is solicited on the program services utilized, the standard of customer service, and recommendations for program improvements. Further, the SoCalREN Public Agency Programs deliver annual customer surveys to collect portfolio level feedback. This allows for iterative program enhancements to the suite of SoCalREN Public Agency Programs, including SSP.

7. Normalized Metered Energy Consumption (NMEC)

Program Measurement & Verification Overview

Measurement & Verification (M&V) is the process of using measurements to reliably quantify savings from a resource savings project within a facility, a process, a building, or a building subsystem. The resource saved for an SSP NMEC project is energy (electric kWh or natural gas therms) and/or demand (electric kW).

M&V is used to verify that an energy efficiency project is achieving its intended savings. Energy savings represents the absence of energy use and cannot be directly measured. Therefore, the M&V approach describes how savings are determined from measurements of energy use before and after implementation of a project, with appropriate adjustments made for changes in conditions. Such adjustments may be routine and expected, while others are non-routine and unexpected, due to factors unrelated to the project.

This M&V Plan conforms to CPUC guidance as codified in its Rulebook for Programs and Projects Based on Normalized Metered Energy Consumption (NMEC Rulebook 2.0), issued on January 7, 2020. SSP has a site-level NMEC program. Project site (or qualifying submeter) energy use models that meet goodness-of-fit criteria will be treated as NMEC.

Site-Level NMEC Overview

The NMEC Rulebook 2.0 provides the following definition for site-level NMEC approaches:

- Savings are determined on a site-by-site basis and claimed at the level of the individual site or project.
- The method used to estimate savings is developed based on building and/or site-specific characteristics and reflect the unique drivers of savings at the site or project.
- The method may include adjustments for site-specific non-routine events (NREs) that occurred at the site during the baseline, reporting, or installation period.

SSP will conduct site-level NMEC M&V following the framework in the International Performance Measurement and Verification Protocol (IPMVP), using the Option C-Whole Facility method. However, CPUC direction would take precedence over any variance to IPMVP methodology. All projects will be subject to CPUC review and dispositions.

This document covers the Program-level M&V. For each site-level NMEC project, a supplemental site-level M&V plan will be provided. These site-level M&V plans will include the site-specific details indicated above.

Methodology, Analytical Methods, and Software

The initial step in the NMEC approach is to create a mathematical model of the energy consumption at the project site (or submeter). This is a regression model that relates energy consumption (the dependent variable) to one or more independent variables. The specifics of the regression model are determined by observing actual data. In the case of the baseline model, this data comes from the historical performance of the site.

In most cases, weather (outdoor dry-bulb temperature) is the primary independent variable for site-level NMEC models. Secondary variables (such as day-of-week, occupancy rate, or other variables describing

operational variation) are added if they demonstrate significant explanatory power on energy use. After collecting 12-months of baseline data, one of three regression models is selected, based on data availability.

- Model #1: Daily Energy and Daily Weather Data (with Optional Daily Secondary Variable): Single variable (or optional two variable) least squares linear regression will be performed using 365 data points.
- Model #2: Hourly Energy and Hourly Weather Data: Time of Week and Temperature (TOWT): Temperature regression with time-of-week as a proxy for occupancy. Separate models fit within temperature buckets in each month. This allows analysis of sites with custom operation schedules.
- Model #3: Monthly Energy, Weather, and Secondary Variable Data: For sites that demonstrate strong correlations with a secondary variable, but have only monthly secondary data available, daily usage and weather data are totaled into monthly data. Two-variable least-squares linear regressions are performed using monthly data (minimum 12 data points).

NMEC modeling calculations will follow recognized CalTRACK 2.0 and LBNL NMEC procedures. These modeling calculations will have the following characteristics:

- Automated collection of utility AMI (or sub-meter) data, weather data import, and NMEC calculations compliant with NMEC guidance. Automation saves engineering effort.
- Scalable and not cost prohibitive for most customers and projects.
- Provision of monitoring capability (necessary for NMEC) and trigger notifications of potential sub-performance or NREs (persistence of savings).
- Calculation of statistical fitness metrics to validate appropriateness of a meter-based approach.

IPMVP Option and Measurement Boundary

IPMVP Option C, Whole Facility will be used for savings determination. Option C was selected because SSP promotes upgrade projects that encompass multiple energy efficiency measures (EEMs) and may have interactive effects.

In most cases, utility meters will be used to provide reference consumption data for energy savings calculations. These meters account for all energy use of the facilities. If a facility is served by more than one meter, then all EEMs must be properly attributed to the meter that tracks the associated load. Alternatively, meter-level consumption can be summed to the whole building or site level so long as all meters are included that serve loads affected by the adopted EEMs. In some cases, if a system submeter of appropriate accuracy is present, the submeter may be used for analysis.

Data Collection Plan

The site-level NMEC approach allows for customization of M&V approaches based on site-specific characteristics and unique drivers of savings. SSP will create project-level M&V plans that describe project-specific data collection for each site-level NMEC project. Below is general program level guidance for site-level NMEC data collection.

For the purposes of NMEC savings evaluation, models of energy use at site level meters will be created for the baseline period (pre-implementation) and reporting period (post implementation) using 12 months

of input data as required by NMEC guidelines. Data requirements for site-level NMEC energy use models include:

- Utility Data: Electricity (15-minute or hourly), Natural Gas (daily)
- Other Independent Variables (e.g., occupancy rates)
- Equipment Operating Parameters (e.g., chilled water and supply-air temperatures)
- Weather Data (hourly or daily dry-bulb ambient temperatures)

Monitoring and Documentation During the Reporting Period

Implementation staff will remotely observe energy consumption data for each site-level NMEC project over the reporting period. The purpose of these observations is to identify out-of-range performance or potential non-routine events (NREs) triggering investigation and corrective action. Performance indicating 10% or more savings variance will be considered a justifiable significant NRE triggering further evaluation (ASHRAE 14 Guideline).

Identifying and Adjusting for Non-Routine Events

NREs are unexpected changes in building operation that significantly impact energy use, skewing meter-based results. NREs may occur during baseline, implementation or post M&V periods, and may be one-time occurrences which must be isolated from the regression model, or recurring events requiring adjustments incorporated into the model.

Site-level NREs will be identified by observing baseline and reporting period energy use and identifying where savings deviate from ex-ante estimates by greater than 10% (ASHRAE 14 20 SoCalREN NMEC Program Implementation Plan Guideline). These deviations will be further evaluated, and corrective action will be taken in the form of adjustments to the savings models and/or modifications to the installed measures.

Significant NREs will be quantified regardless of whether they have a positive or negative impact on savings. Typical potential NREs include:

- Equipment outages or maintenance shutdowns
- Equipment replacements, additions, or removals unrelated to program measures
- Building use or tenancy changes, and
- Construction or facility closures.

Typical methods employed to prevent NREs from skewing NMEC results are:

1. Remove the data points from the regression data set during the NRE:
    a. Data points associated with NREs during the baseline period are removed if they constitute a small portion of the overall data, and remaining data points contribute to models exhibiting acceptable goodness of fit.
    b. Data points associated with NREs during the performance period are investigated if they cause project savings to move above or below a preset threshold. Before data-point removal, these projects undergo manual review and investigation by program engineering staff to determine the true nature of the NRE.

2. Quantify the impact of the NRE by performing measurements and calculations in compliance with custom calculation guidelines for each NRE. Calculated NRE adjustments are normalized.
3. For deviation caused by project related systems, reconfigure to operate as intended.

Determining Program Influence

NMEC projects will be screened for influence. The following documents will be submitted to demonstrate influence and are based on the most up-to-date Statewide Project Feasibility Study template:

- Timeline of customer-implementer meetings, deliverables, and decision-making milestones
- Description or documentation of customer's replacement and/or upgrade practices, plans, and budgets.
- Reports and business cases of options presented to the customer.
- Customer-implementer correspondence (e-mails, letters, meeting notes, letters, etc.)

Depth of Savings Thresholds and Model Accuracy

SSP will use a project threshold of 10% of the site's annual energy consumption as measured at the meter or submeter level to determine if a site-level NMEC approach is appropriate. Site level NMEC models' goodness-of-fit between energy use and the independent variables will meet thresholds suggested in the LBNL NMEC Guidance and ASHRAE Guideline 14.

Incentive Structure

Site-level NMEC savings will be claimed in accordance with CPUC guidelines. Once the performance period data collection period is over and true NMEC savings are calculated, the program savings will be trued-up against the prior savings claimed at the end of project installation. Incentives will be evaluated based on the realized savings and incentive rates.

Program Manual

1. Program Overview

The SoCalREN Public Agency Streamlined Savings Pathway provides public agencies with an expedited pathway to implement comprehensive energy efficiency projects. SSP offers deemed, custom, and normalized metered energy consumption incentive opportunities based on project Total System Benefit, lifecycle energy savings, and/or greenhouse gas emission reductions. Enhanced incentives encourage investment in underserved and hard-to-reach communities.

Participating agencies also receive no-cost technical expertise and project management through SoCalREN's Project Delivery Program, creating a streamlined process from project development through technical review, implementation, and incentive payment.

2. Eligible Measures

Eligible projects may include downstream deemed, custom, and whole-building NMEC measures. Target end uses and measures include:

- **HVAC:** Demand control ventilation, HVAC controls and occupancy sensors, variable-frequency drives, packaged units, chiller optimization or replacement, economizer controls, equipment replacement, tune-ups, and furnace replacements
- **Pumping:** Pump overhauls and replacements, sequencing and scheduling, and variable-frequency drives
- **Process optimization:** Fluid-flow and zone-pressure optimization, aeration blower controls, treatment-system upgrades, pumping optimization, and wastewater controls automation
- **Service and domestic hot water:** Heat pump water heaters and gas water heaters
- **Building weatherization:** Cool roofs and high-efficiency windows

Additional measures may be evaluated and added as appropriate. Savings claims are based on the California Electronic Technical Reference Manual and approved workpapers for deemed measures, calculated savings for eligible custom measures, and post-installation energy performance for NMEC measures.

3. Customer Eligibility Requirements

Eligible participants are public agencies located within SoCalREN's eligible service territory and enrolled in SoCalREN's Project Delivery Program. Eligible agency types include cities, counties, tribes, school districts, water districts, sanitation districts, and other special districts served by SCE and/or SoCalGas that pay Public Purpose Program charges.

SSP serves both underserved and non-underserved agencies, with targeted outreach and enhanced incentives for underserved and hard-to-reach communities. Projects using the site-level NMEC pathway must also meet applicable NMEC eligibility requirements, including a minimum project threshold of 10 percent of the site's annual energy consumption measured at the meter or submeter level.

4. Contractor Eligibility Requirements

Public agencies may use contractors selected through their own procurement processes. The program will work with the agency and its selected contractor to confirm that applicable incentive eligibility

requirements are met. Contractors must also satisfy applicable CPUC workforce standards for incentivized HVAC, advanced lighting controls, direct install, and water heating projects.

5. Participating Contractors, Manufacturers, Retailers, Distributors, and Partners

SSP coordinates with agency-selected contractors, SoCalREN Project Managers, third-party implementers, and contracted engineering consultants to support project implementation and technical review. For heat pump water heater projects, participating agencies may elect to have SoCalREN pay the incentive directly to the contractor after project completion.

6. Additional Services

Participating agencies receive no-cost technical assistance and project management through SoCalREN's Project Delivery Program. Available services include:

- Project scoping, energy modeling, and engineering calculations
- Financial analysis and incentive application development
- Procurement assistance and implementation support
- Start-to-finish coordination from an assigned SoCalREN Project Manager

NMEC projects also receive a maintenance plan for retrocommissioning measures, quarterly savings reports, and technical support intended to help maintain energy savings after installation.

7. Audits

Potential SSP projects may be identified through a new energy efficiency audit or an existing audit of the agency's buildings and facilities. Audit findings, energy consumption data, and the proposed project scope are used to develop engineering calculations for anticipated project costs and energy savings.

Following project completion, SSP may conduct a post-installation inspection to verify installed measures, update energy models and calculations, determine final claimable lifecycle savings and avoided greenhouse gas emissions, and finalize the incentive amount. NMEC projects are then monitored for one year to evaluate savings persistence.

8. Program Quality Assurance Provisions

Quality assurance activities are incorporated throughout project development, review, and closeout. These activities include:

- Tracking project data and milestones in SoCalREN's secure customer relationship management platform
- Internal quality control review of project deliverables and application materials
- Technical review by a contracted engineering consultant
- Post-installation inspections, as needed
- Quarterly review of key performance indicators
- Project closeout surveys and customer feedback

NMEC projects are also subject to project-specific measurement and verification plans, post-installation monitoring, savings-model review, and investigation of significant changes in energy performance.

9. Other Program Metrics

SSP tracks energy, environmental, participation, and project-delivery metrics, including:

- Completed projects and participating agencies
- Applications submitted and approved
- Total System Benefit claimed
- Incentive dollars issued
- Lifecycle greenhouse gas emissions avoided
- Annual and lifecycle electricity and natural gas savings

NMEC-specific metrics include projects evaluated, recommended, and determined eligible for the NMEC pathway; average annual savings measured at the meter; and recurring energy reports provided to participating agencies.