Mendota Group
The Power of Bright Ideas

# Southern California Gas Company Grid-Responsive Incentive Design Market Access Program (GRID-MAP)

# Implementation Plan

Version 1.0

September 2025

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## Program Overview

The Grid-Responsive Incentive Design Market Access Program ("GRID-MAP" or "the Program") is a resource acquisition energy efficiency (EE) program available to commercial and residential customers in Southern California Gas Company's (SoCalGas) service territory. The Program uses a market access program (MAP) approach that works with Aggregators to offer various services that best fit with what customers require to advance EE projects. GRID-MAP aligns incentives with grid needs using a rate structure based on Total System Benefit (TSB). Incentives are paid only for savings that are delivered to the utility system as determined by the population-based Normalized Metered Energy Consumption (NMEC) measurement approach and supplemented by site-based NMEC, as appropriate.[1]

## Program Budget and Savings

| Table 1: Program Budget and Savings | | |
|---|---|---|
| 1 | Program Name | Grid-Responsive Incentive Design Market Access Program (GRID-MAP) |
| 2 | Program ID number | SCG3971 |
| 3 | Program Implementer | Mendota Group, LLC ("Mendota Group") |
| 4 | Portfolio Administrator | Southern California Gas Company (SoCalGas) |
| 5 | Program Implementer Type (IOU Core, Third-Party Solicited, REN/CCA) | Third-Party Solicited |
| 6 | Portfolio Segment (Resource Acquisition, Equity, Market Support, or Codes and Standards)[2] | Resource Acquisition |
| 7 | Total Program Budget | $6,994,035.77 |
| 8 | Program Budget by Year | *Please refer to the California Energy Data and Reporting System (CEDARS) for program details.* |
| 9 | Program Duration (Start Date - End Date) | 9/15/25 → 12/31/27<br><br>Implementation activities are expected to end by December 31, 2027. Program shutdown activities shall continue through, and be completed by May 31, 2029, to allow for EM&V activities and NMEC performance monitoring to conclude |

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

| Table 1: Program Budget and Savings | | |
|---|---|---|
| 10 | Total System Benefit (TSB)<br>(Total Program TSB and TSB by Program Year) | *Please refer to the California Energy Data and Reporting System (CEDARS) for program details.* |
| 11 | $CO_2$ (Lifecycle, First Year, Net, Gross) | *Please refer to the California Energy Data and Reporting System (CEDARS) for Program details.* |
| 12 | KW (First Year, Net, Gross) | Net - 0<br>Gross - 0 |
| 12 | kWh (Lifecycle, First Year, Net, Gross) | Lifecycle (Net) - 0<br>Lifecycle (Gross) - 0<br>First Year (Net) - 0<br>First Year (Gross) - 0 |
| 13 | Therms (Lifecycle, First Year, Net, Gross) | Lifecycle (Net) – 5,674,343<br>Lifecycle (Gross) – 6,578,780<br>First Year (Net) - 416,535<br>First Year (Gross) - 479,438 |
| 14 | Program Cost Effectiveness: Total Resource Cost (TRC): (Total TRC and TRC by Year) | *Please refer to the California Energy Data and Reporting System (CEDARS) for program details.* |
| 15 | Program Cost Effectiveness: Program Administrator Cost (PAC): (Total PAC and PAC by Year) | *Please refer to the California Energy Data and Reporting System (CEDARS) for program details.* |
| 16 | Market Sector(s) (i.e., commercial, residential, , industrial, agricultural, public or cross-cutting) If multi-sector, provide estimated % of the total budget for each sector) | *Please refer to the California Energy Data and Reporting System (CEDARS) for program details.* |
| 17 | Program Type (i.e., Non-resource, Resource) | Resource |
| 18 | Delivery Type(s) (i.e., Upstream-Manufactured, Midstream-Distributor, Midstream-Retail, Downstream, Downstream - Direct Install,[3] Codes & Standards)[4] | Downstream |
| 19 | Intervention Strategies (e.g., Strategic Energy Management (SEM), Market Access Program (MAP), Direct Install, Incentive, Finance, Audit, Technical Assistance, Advocacy, Training, Marketing and Outreach, etc.) | Market Access Program (MAP), Incentive, and Financing |
| 20 | M&V Methods (e.g., Deemed, Custom, NMEC – Population, NMEC – Site, SEM M&V, Randomized Controlled Trial (RCT), Other (if applicable, describe Other M&V method)) | NMEC - Population<br>NMEC - Site |

## Implementation Plan Narrative

### 1. Program Description

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

The Grid - Responsive Incentive Design Market Access Program (GRID-MAP) is a resource acquisition EE program that provides all commercial and residential single family and multifamily customers with technical assistance and opportunities to increase the efficiency of the buildings in which they live and work. To achieve the TSB, energy savings the Program provides open access to qualified aggregators to facilitate wider contractor and customer participation and incorporates an incentive structure that is aligned with value to SoCalGas' system and based on NMEC savings methodologies, thus expanding the measures available for implementation. The Program also leverages a customized software platform to improve the Program's efficiency and effectiveness by allowing aggregators to scope projects, evaluate scenarios, submit applications and documents, and retrieve information online.

**2. Performance Tracking**

The Primary Performance Metrics, as specified in Table 1 above, are:

- Total System Benefit (TSB) ($)
- TRC ratio

The following Indicators are used to track Program progress:

- Actual/Forecasted TSB ($)
- Actual/Forecasted energy savings (Therms)
- Quarterly California Energy Data and Reporting System (CEDARS) Cost Effectiveness Tool (CET) results
- Total incentive budget reserved ($)
- Payments to Aggregators to date ($)
- Marketing campaign efficiency
- Customer satisfaction & survey feedback
- Hard to Reach (HTR) and Disadvantaged Communities (DAC) TSB penetration
- Inspection results

**3. Program Delivery and Customer Services**

The Program will be open to participation by SoCalGas' commercial and residential customers. The Program will enroll any qualified aggregator that meets the Program requirements and enters into an Aggregator Participation Agreement with Mendota Group. This open market approach will allow a wide range of solutions to identify EE projects that deliver measurable TSB. Consistent with Avoided Cost values, the incentives offered will be higher in winter.

Population-level NMEC rules will be used to verify savings, and a pay-for-performance payment structure based on those verified savings will be used to incentivize participation. In addition, the Program will offer an installation payment based on the estimated incentive determined at project installation. If a site's usage pattern makes it ineligible for population-

based NMEC measurement, the aggregator may be offered a site-based NMEC alternative if they meet all the site-based NMEC eligibility criteria.

GRID-MAP leverages a MAP model, which provides an opportunity for projects that incorporate a broad array of measures and services that successfully demonstrate TSB based on normalized, metered energy use during the performance period. Primary Program participants are termed Aggregators because they aggregate multiple energy saving projects as a means of diversifying their risk since projects receive payments based on TSB produced. This performance-based approach both encourages novel approaches to saving energy and promotes whole building energy solutions.

Aggregators employ a variety of strategies to encourage customer participation, with few limits on the mechanisms that can be used to advance projects. These mechanisms can include external financing, using incentives to reduce measure first cost, and combining with other Distributed Energy Resources (DERs) such as fuel cells, and solar space and water heating opportunities. Customers can also opt to self-aggregate, bearing the risks of underperformance themselves.

The Program design, based on the concept of aligning incentives with TSB, creates symmetry between contractor/customer incentives and the TSB each project produces. Incentives are directly tied to TSB and measures that produce more TSB receive higher incentives. This incentive design approach is consistent with the CPUC's Decision 23-06-055, Section 8.1, because it provides uniform payment terms for aggregators, incentive rates are based upon the TSB savings value, and savings are measured using population-level NMEC methods.

The Program is open to participation by SoCalGas commercial and residential customers. GRID-MAP will enroll any Aggregator that meets Program requirements and enters into an Aggregator Participation Agreement. Incentive levels are aligned with savings that provide the most value to the utility's natural gas system. Aggregators receive and upload information through the Program's online system. The custom-built application (GRID) enables Aggregators to estimate project incentives and better understand what makes a project successful. The Program website also includes Program-specific and general EE program information, training materials, and frequently asked questions. The Program uses the CalEnviroScreen mapping tool to identify projects in DACs.

The Program will primarily use Aggregators to perform outreach to customers and contractors. Customer outreach is thus not limited by one company's staffing levels or customer relationships. The aggregator-based outreach strategy will recruit more aggregators (including specific customers who may wish to self-aggregate). This recruitment approach expands the EE contractor base and increases competition by providing customers with additional choices in service providers, types of equipment, and project services. Aggregators will tailor offerings based on their expertise and customer needs. Although multiple Aggregators may contact the same customer, this can benefit customers through diversified offerings and lower implementation costs. The potential for multiple Aggregators to contact the same customer does not typically create customer confusion; however, Program staff will actively monitor this potential concern and address any issues that may arise.

In addition to the Aggregator network, Mendota Group will provide both active and passive Program marketing:

- GRID-MAP will create and provide Program documents (Program Manual, Implementation Plan, M&V Plan), marketing materials, and individual websites for the general public and contractors.
- Mendota Group will actively recruit Aggregators and customers through emails and phone calls to members of organizations that interact with sector customers.
- Program staff will actively engage with customers and support aggregators to explain how the Program works and the benefits of participation.
- Staff will identify conferences and other meetings to actively recruit contractors.

The Program will focus attention on HTR customer participation by offering higher incentive rates for HTR-qualifying projects. It will deliver a minimum of 5% of all projects to HTR customers annually. The Program will also emphasize installing projects for customers within identified DACs by offering higher incentive rates. The Program will deliver a minimum of 15% of all projects within DAC areas annually.

Although Aggregators are expected to offer technical and financial assistance (e.g. audits, project definition, installer selection, financing), GRID-MAP helps address customer capital concerns and enable Program participation by offering financing mechanisms, including SoCalGas' On-Bill Financing (OBF) and California Alternative Energy and Advanced Transportation Financing Authority's (CAEATFA) GoGreen Financing options.

The Program will create coordination plans to maximize mutually beneficial opportunities with SoCalGas' C-BEST, Large Commercial, Small Business Savings, and Comprehensive Multifamily Incentive (CoMFI) programs. These coordination plans will detail ways that programs can work with customers and trade allies to ensure they receive maximum benefit while minimizing overlap.

The Program ensures that customers do not receive incentives for the same measure through any other energy efficiency program, including programs offered by other utilities, the California Public Utilities Commission, or any other entity. To the extent that GRID-MAP measures overlap with statewide measures, Mendota Group will work with SoCalGas to establish a system that ensures savings from these measures are only counted once and that customers do not receive incentives from both GRID-MAP and the statewide program for the same savings claim. Program staff will continuously monitor measures offered and proposed to be offered by statewide programs to be aware of potential overlap and will adjust offerings as necessary throughout the implementation period. In the event a measure overlaps, the statewide program's measure takes precedence.

## 4. Program Design and Best Practices

The table below summarizes market barriers and the primary strategies to address them.

| Market Barriers | Strategies to Overcome Barriers |
|---|---|
| **Limited Incentives and Project Approval Risks**: Traditional incentives are insufficient to reduce project costs to levels required for customer approvals. The Custom Review process puts projects at risk. | NMEC enables claiming all metered savings and expedites the review process. |
| **Poor Workforce Participation**: Large implementers dominate EE programs, and the general contractor workforce does not participate. | The combination of the MAP design, GRID Application, and aggregator support provide both higher incentives and reduced effort to participate. |
| **Large Scale Needed**: Most 3P EE programs focus only on large projects yet many of SoCalGas' HTR customers are SMBs. This might be relevant to smaller properties such as independent retailers. | Population-Based NMEC is easily scalable and allows participation by small customers and Program aggregator support encourages small innovative projects. |
| **Misaligned Incentives**: Incentive designs ignore time-based value of energy. | TSB-Based incentives align payments for projects with system needs. |
| **Program Complexity**: EE programs tend to be complicated. Customers and contractors need a tool to make participation simple and quick. | The online GRID Platform provides a streamlined pathway for contractors to test measure mixes, see incentive estimates, upload required documents, submit projects, and track quarterly or semi-annual incentive payments. In addition, Mendota Group's dedicated and knowledgeable staff are available to assess and solve problems with contractors and customers. |
| **Lack of Capital**: Customers face capital constraints and incentives are insufficient to motivate energy-saving investments. | An installation payment addresses installer and customer cashflow issues. Higher incentives result from payment on full measured savings. The Program's design also leverages other sources, including financing. |
| **Cost-effectiveness Requirements**: Identified projects are not cost-effective based on TRC. | The Program provides a tiered incentive structure based on cost-effectiveness which pays higher incentives for projects that meet cost-effectiveness thresholds. For clarity, only cost-effective projects will be included. |
| **DAC, HTR and Underserved**: Serving these customers is more challenging and many programs do not adequately serve them. | The Program provides a DAC/HTR bonus to encourage installation of projects that qualify as DAC or HTR . |

The Program incorporates several lessons learned from previous MAP implementations.

Among these learnings were that:

- Aggregators benefit from an installation payment to provide initial project financing and help project developers close projects;
- Aggregators need opportunities to test different project configurations (and associated measures) to understand options that will deliver the greatest system benefit and, thus, incentives - these options are provided to Aggregators through the GRID Platform;
- Project developers need active assistance in navigating the Program's parameters and ensuring that projects meet the Program's requirements;
- The primarily contractor-based outreach strategy recruits more contractors (including specific customers who may wish to self-aggregate), leads to broader outreach, and engages more customers in the target segments - the approach substantially expands the EE contractor base and increases competition by providing customers with additional choices in service providers, types of equipment, and project services;
- Leveraging contractor knowledge and customer connections enables the Program to retain funds that would otherwise be spent on marketing and outreach to fund more customer incentives and, thus, projects, and
- Providing transparency in terms of the way savings are determined and metered savings are normalized is also key to increasing Aggregator confidence in the Program.

**5. Innovation**

The Program incorporates several innovations to increase Program participation and uptake of cost-effective energy efficiency measure installations. These innovations include:

- The "open to all" MAP approach attracts a wide variety of contractors/aggregators and is not limited to one implementer or its subcontractors.
- Leveraging the contractor network for marketing and outreach, to customers, greatly expands the Program's reach while reducing Program administration costs.
- Mendota Group's GRID Application, an online implementation software platform, supports and promotes streamlined project estimations, application submissions, review processes, and tracking and reporting.
- The NMEC approach enables installation of measures and interventions that are not constrained by a limited measure catalog and allows installers to try new measures and/or combine measures to increase savings.
- The streamlined pathway (removing the need for custom calculations and the reviews that are required of them) encourages and enables Aggregators to participate in EE portfolios and deliver projects, especially enabling smaller aggregators to participate more easily.
- Payments to Aggregators based on measured savings minimizes ratepayer risk.

- Incentives are based on TSB, which communicates to contractors which types of projects and project configurations contribute the most benefit to SoCalGas' system.

6. **Pilots**

   The GRID-MAP does not have any pilot elements, making this section not applicable.

7. **Workforce Education and Training**[5]

   GRID-MAP is not a Workforce, Education and Training Program (WE&T).

8. **Workforce Standards**[6]

   The Program supports improved access to job and career opportunities in the energy efficiency industries through a defined Workforce Strategy. The Workforce Strategy includes:

   - Promoting workforce development through a streamlined participation process. Implementer will encourage Aggregators to employ workers trained through utility EE programs such as Statewide WE&T (Energize Careers - with a focus on LA Region programs with Rio Hondo College and Cerritos College).

   - Requiring, for incentives that exceed $3,000 (HVAC), that installation technicians meet minimum requirements per CPUC D. 18-10-008, and working with SoCalGas' WET&O programs, and programs offered by SoCalREN, I-REN, 3C-REN, and SCE to encourage installers to employ trained workers.

     a. **HVAC Measures**: Participating aggregators must adhere to all requirements for workforce standards established by the Commission. Specifically, for all HVAC projects seeking an incentive of $3,000 or more, Mendota Group will ensure that each worker or technician involved in the project meets at least one of the following criteria:

        - Completed an accredited HVAC apprenticeship.
        - Is enrolled in an accredited HVAC apprenticeship.
        - 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.
        - Has a C-20 HVAC contractor license issued by the California Contractor's State Licensing Board.

   Program participants will affirm these qualifications and licensures as part of the Program participation agreement.

9. **Disadvantaged Worker Plan**

   The Program defines "Disadvantaged Worker" (DAW) as a worker who meets at least one

[5] D.18-05-041, pages 20-21 and Ordering Paragraph 7
[6] D.18-10-008, Ordering Paragraph 1-2 and Attachment B, Section A-B, page B-1

of the following criteria: lives in a household where total income is below 50 percent of Area Median Income; is a recipient of public assistance; lacks a high school diploma or GED; has previous history of incarceration lasting one year or more following a conviction under the criminal justice system; is a custodial single parent; is chronically unemployed; has been aged out or emancipated from the foster care system; has limited English proficiency; or lives in a high unemployment ZIP code that is in the top 25 percent of only the unemployment indicator of the CalEnviroScreen Tool.

The Program will encourage aggregators to implement projects that can demonstrate they are using DAWs to install projects and work with Southern California Gas Company's Workforce Education, Training and Outreach (WET&O) program. GRID-MAP will work with program staff to provide resources for contractors and help Disadvantaged Workers become certified to participate in energy efficiency projects. The Program will track qualifying projects through the GRID Application with flags related to projects that utilize DAWs. It should be noted that, for purposes of reporting on Disadvantaged Workers, Mendota Group's collection of personal information from individual workers beyond zip code: 1) will be strictly voluntary for the worker, 2) will be recorded in an anonymous manner, and 3) will not be used as a reason to include or exclude particular workers from assignment to any projects funded by the Program. Collected information will be provided to SoCalGas as part of quarterly reports.

**10. Market Access Programs**

GRID-MAP has been designed using the Market Access approach. The Program is open to trade professionals who agree to comply with the Program rules. This approach allows for both existing third-party EE contractors, existing MAP Aggregators, and new trade professionals who can offer various services related to energy efficiency to participate in the Program.

SoCalGas has segmented its portfolio, where possible, to provide a single point of entry for Customers, to limit Customer confusion, and avoid direct competition and duplication of program offerings. To ensure there is no double dipping or double counting, with each application to the Program, Mendota Group staff will assess whether the proposed measures are part of a Statewide program and whether the project is participating in another Program Administrator's Regional program prior to installation.

The following Statewide programs have the potential to overlap:

- Statewide HVAC (Comfortably California),
- Plug Load & Appliances (Golden State Rebates)
- Midstream Water Heating
- California Food Service Instant Rebates

GRID-MAP will accommodate projects that include Statewide program measures by subtracting the deemed Statewide program savings from the savings on which the GRID-MAP incentives are based (no double counting).

Regional programs of interest include SoCalGas' C-BEST, Large Commercial, Small Business Savings, Services RCx+, and Comprehensive Multifamily Incentive (CoMFI)

programs. In cases where other programs or opportunities may overlap or conflict, the Program will coordinate with SoCalGas staff.

**11. Additional Information**

No additional information.

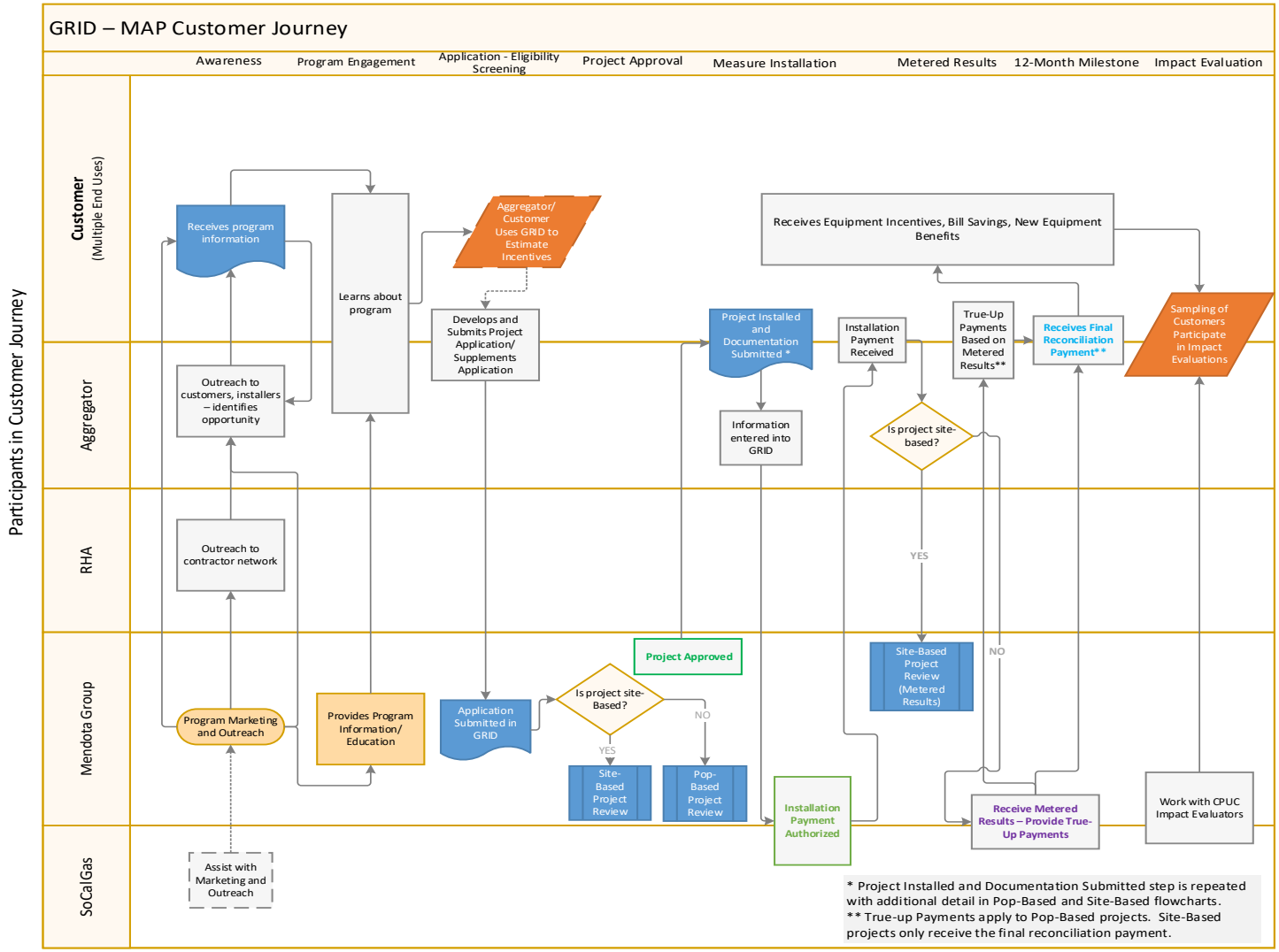
## Supporting Documents

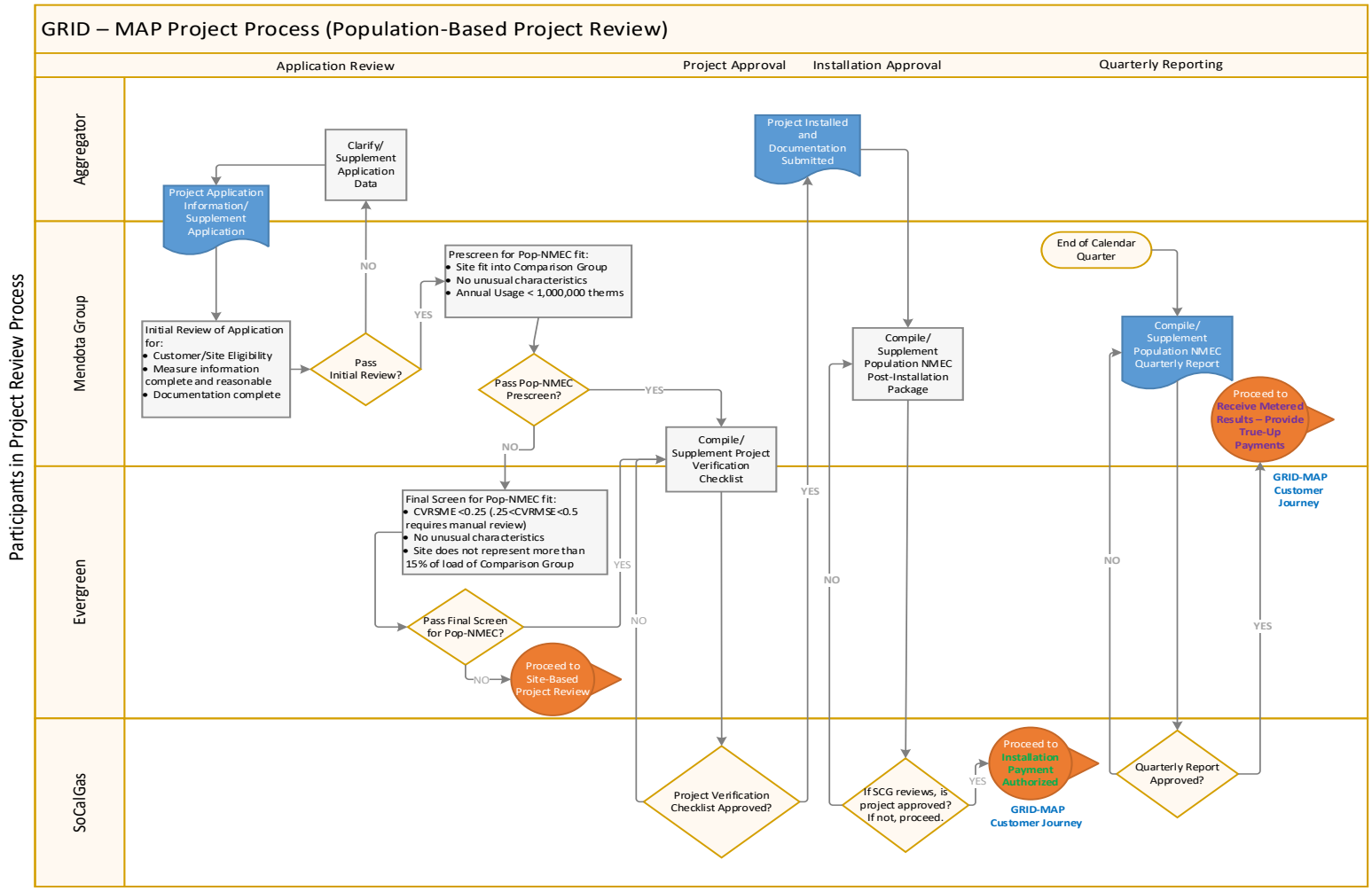
1. **Program Manuals and Program Rules**

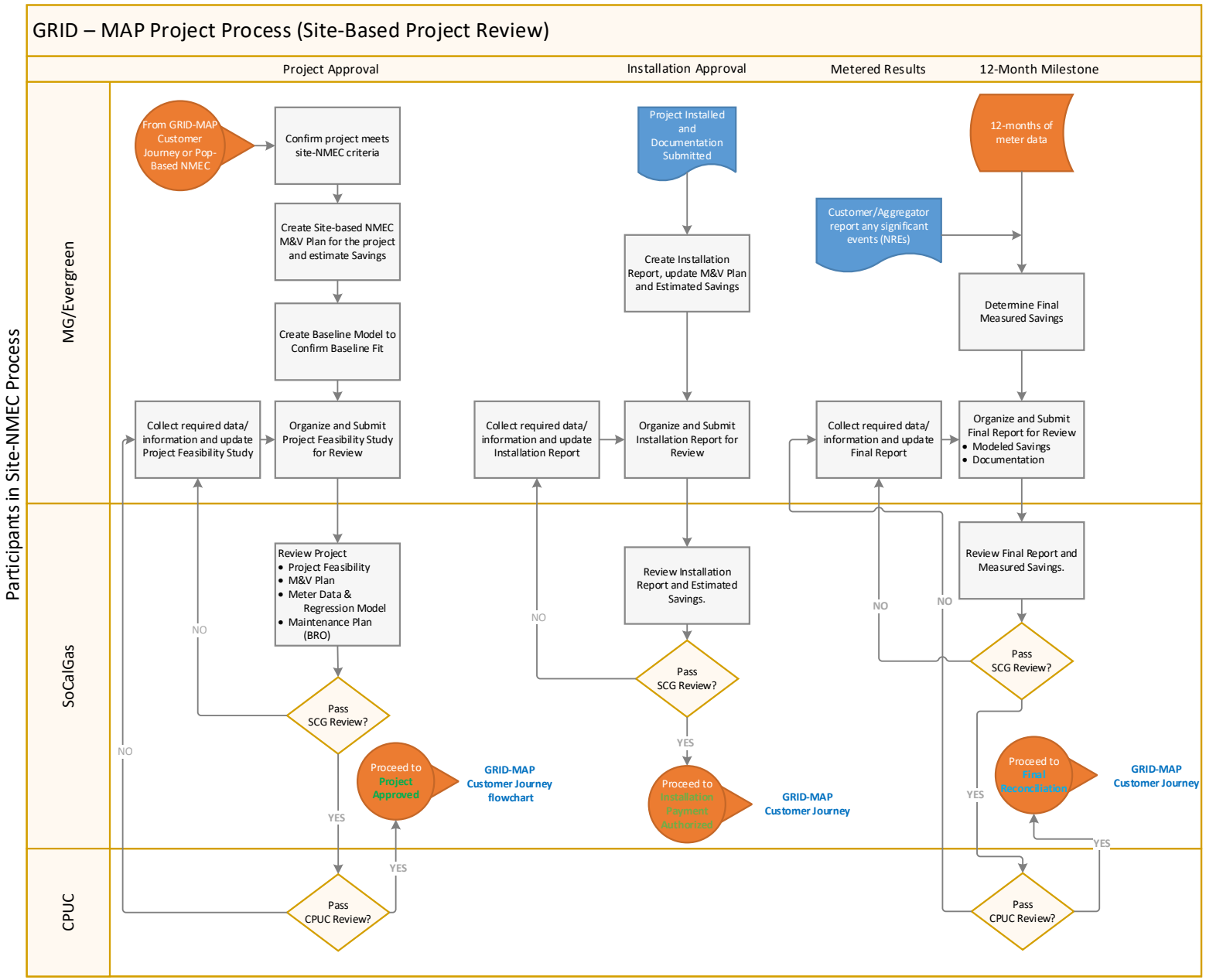
   The program manual is attached as part of this Implementation Plan filing.

## 2. Program Theory and Program Logic Model

## 3. Process Flow Chart




GRID – MAP Project Process (Population-Based Project Review)
Application Review
Project Approval
Installation Approval
Quarterly Reporting
Participants in Project Review Process
Aggregator
Mendota Group
Evergreen
SoCalGas
Clarify/ Supplement Application Data
Project Application Information/ Supplement Application
Project Installed and Documentation Submitted
End of Calendar Quarter
Initial Review of Application for:
• Customer/Site Eligibility
• Measure information complete and reasonable
• Documentation complete
Pass Initial Review?
NO
YES
Prescreen for Pop-NMEC fit:
• Site fit into Comparison Group
• No unusual characteristics
• Annual Usage < 1,000,000 therms
Pass Pop-NMEC Prescreen?
YES
NO
Compile/ Supplement Project Verification Checklist
Compile/ Supplement Population NMEC Post-Installation Package
Compile/ Supplement Population NMEC Quarterly Report
Proceed to Receive Metered Results – Provide True-Up Payments
GRID-MAP Customer Journey
Final Screen for Pop-NMEC fit:
• CVRSME <0.25 (.25<CVRMSE<0.5 requires manual review)
• No unusual characteristics
• Site does not represent more than 15% of load of Comparison Group
Pass Final Screen for Pop-NMEC?
YES
NO
Proceed to Site-Based Project Review
Project Verification Checklist Approved?
YES
NO
If SCG reviews, is project approved? If not, proceed.
YES
NO
Proceed to Installation Payment Authorized
GRID-MAP Customer Journey
Quarterly Report Approved?
NO
YES


GRID – MAP Project Process (Site-Based Project Review)
Participants in Site-NMEC Process
Project Approval
Installation Approval
Metered Results
12-Month Milestone
MG/Evergreen
SoCalGas
CPUC
From GRID-MAP Customer Journey or Pop-Based NMEC
Confirm project meets site-NMEC criteria
Create Site-based NMEC M&V Plan for the project and estimate Savings
Create Baseline Model to Confirm Baseline Fit
Collect required data/ information and update Project Feasibility Study
Organize and Submit Project Feasibility Study for Review
Review Project
• Project Feasibility
• M&V Plan
• Meter Data & Regression Model
• Maintenance Plan (BRO)
Pass SCG Review?
NO
YES
Proceed to Project Approved
GRID-MAP Customer Journey flowchart
Pass CPUC Review?
NO
YES
Project Installed and Documentation Submitted
Create Installation Report, update M&V Plan and Estimated Savings
Collect required data/ information and update Installation Report
Organize and Submit Installation Report for Review
Review Installation Report and Estimated Savings.
Pass SCG Review?
NO
YES
Proceed to Installation Payment Authorized
GRID-MAP Customer Journey
12-months of meter data
Customer/Aggregator report any significant events (NREs)
Determine Final Measured Savings
Collect required data/ information and update Final Report
Organize and Submit Final Report for Review
• Modeled Savings
• Documentation
Review Final Report and Measured Savings.
Pass SCG Review?
NO
YES
Proceed to Final Reconciliation
GRID-MAP Customer Journey
Pass CPUC Review?
YES

## 4. Measures and Incentives

The GRID-MAP utilizes a population-based Normalized Metered Energy Consumption (NMEC) measurement approach and is supplemented by site-based NMEC, as appropriate. The table below lists the measures expected to provide the majority of Program savings and the anticipated percent of TSB achieved for each. Incentives are paid only for savings that are delivered to the grid as determined by the NMEC measurement approach.

| Use Category | Percentage of TSB |
|---|---|
| HVAC | 26% |
| Water Heating | 35% |
| Cooking | 39% |

## 5. Diagram of Program:

6. **Program Measurement and Verification**

   Not Applicable. GRID-MAP is solely utilizing NMEC methods.

   See Item 7.

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

   The Program M&V plan is attached as part of this Implementation Plan filing.

8. **Multi-DER IDSM Pilots only**[7]

   Not Applicable.

9. **SEM Programs only**

   Not Applicable.

[7] D.23-06-055, pages 77-80

Mendota Group
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# Southern California Gas Company Grid-Responsive Incentive Design Market Access Program (GRID-MAP)

## Program Manual and Program Rules

Version 1.0

September 2025

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# 1. Introduction

Mendota Group, LLC designed and is implementing Grid-Responsive Incentive Design Market Access Program (GRID-MAP). GRID-MAP is a resource acquisition energy efficiency program available to commercial and residential single-family and multi-family customers in Southern California Gas Company's (SoCalGas) service territory. The Program uses a market access program (MAP) approach to work with an open network of Aggregators who, in turn, work with customers and other trade allies to identify and install projects that save energy. GRID-MAP aligns incentives with the utility system needs using a rate structure that provides payments correlated with measured savings and, specifically, the Total System Benefit (TSB) that those savings generate. Incentives are paid only for savings that are delivered to the SoCalGas system as determined by the population-based Normalized Metered Energy Consumption (NMEC) measurement approach and supplemented by site-based NMEC, as appropriate.

The primary Program objective is to maximize TSB through energy efficiency actions. Other general Program objectives include:

- Offering open access to qualified aggregators to facilitate wider contractor and customer participation;
- Providing incentives aligned with the value to the utility system;
- Providing technical and financial assistance to customers to achieve energy savings;
- Utilizing NMEC methodologies to pay aggregators based on delivered savings, thus expanding the measures available for implementation;
- Streamlining the participation process through a primarily population-based NMEC savings methodology, a robust aggregator-facing tool (the GRID Platform), and responsive customer service, and
- Allowing flexibility by including a site-based NMEC option if pop-based NMEC is not appropriate for a given project/site.

# 2. Eligibility Requirements

## 2.1 Measure Eligibility

A key feature of the Program is that virtually all energy-saving measures (at or above code) are eligible for the Program. Although there is no absolute minimum amount of energy savings that participating measures must produce, measures that do not produce measured (metered) savings compared to the prior year's normalized energy usage will not receive incentives. This performance-based approach both encourages novel approaches to saving energy and promotes whole building energy solutions. Whole building energy projects that can demonstrate higher percentage reductions in a building's energy use have a higher probability of rising above the statistical "noise" associated with projects that save a smaller percentage of a building's energy use.

Notably, projects that include deemed measures that are also eligible to receive incentives through Program Administrators' regional or statewide energy efficiency programs can participate in GRID-MAP. Such projects require documentation (e.g., install date, measure type)

to ensure that savings are not double-counted. GRID-MAP will remove savings claimed by other programs from calculations of its savings claims and only pay for measured savings that exceed the amounts claimed by the other program.

Measures are verified as part of the project eligibility process prior to aggregators receiving notice to proceed.

## 2.2 Customer Eligibility

GRID-MAP serves all commercial and residential single-family and multi-family customers who do not qualify to participate in SoCalGas' Energy Savings Assistance (ESA) and other low-income programs. The following customer requirements apply:

- Must be an active SoCalGas customer and pay the Public Purpose Program (PPP) surcharge on the gas meter in which the energy-efficient equipment is being proposed;
- Must have their own service account (i.e., no master metered properties unless the entire building is being treated);
- Must agree to provide all required documentation and access to the facility for project-related audits, inspections, or data gathering by SoCalGas and the California Public Utilities Commission (CPUC), and
- Site may be either bundled or unbundled (Bypass customers are eligible if they meet all other eligibility requirements).

Non-residential customer types that are ineligible include:

- Public, Industrial, and Agricultural customers.

## 2.3 Project Eligibility

Project and site eligibility requirements include:

- Passing initial screening to ensure a reasonable baseline model fit and to verify data sufficiency following CalTRACK compliance requirements
    - Predictable load, with a CV(RMSE) < 0.5 (Coefficient of the Variation of the Root Mean Square Error) and fractional savings uncertainty (FSU)<0.25 using the ex-ante savings estimate, a confidence level of 90 percent, and bias correction

- Must have at least 12 consecutive months of meter data (prior to the project start date)
- Customer does not perform or plan any major renovations (e.g., replace heating equipment, add or remove floor space, or occupy a previously empty area) during project installation or before the end of the 12-month measurement and verification (M&V) period. Major renovations within the prior 12 months are only allowed if the changes and timing of those changes can be properly accounted for.
- Must have additional meter data going back a full 12 months before the first installation if the site participated in any other CPUC ratepayer-funded energy efficiency program in the 12 months before the project start date

- A target 10% savings as compared to total load (with cautions to Aggregators who have projects below 10% and typically rejecting projects with projected savings lower than 5%)
- Sites participating in other active Regional Energy Network (REN) Resource Acquisition Programs may not be eligible unless project and meter data can be provided which is sufficient to determine project savings

Projects will be monitored throughout the 12-month period to ensure projects continue to meet eligibility requirements. If a project is initially qualified for participation but is later found not to meet eligibility criteria, then attempts may be made to change the savings measurement approach to another platform (e.g., site-level NMEC) or the project measurement period may be halted with no further incentives paid.

# 3. Aggregator Eligibility, Roles, and Responsibilities

## 3.1 Eligibility

Individuals or organizations that meet the requirements listed in the Aggregator Participation Agreement may participate in the Program. Aggregators, who are not Subcontractors, are participating vendors, trade pros, service providers, or other types of program partners whose projects produce site energy savings. Aggregators must verify that contractors installing equipment hold required licenses for all work performed and comply with all applicable workforce standards, laws, and permitting requirements.

## 3.2 Roles and Responsibilities

Aggregators manage interactions and relationships with trade professionals who are the project installers and customers. Aggregator roles and responsibilities include:

- Performing direct customer outreach and sales
- Identifying and defining scope of projects
- Facilitating collection of the Customer Notification and Statements
- Following all SoCalGas customer privacy requirements
- Ensuring that customers agree to provide all required documentation and access to the facility for project-related audits, inspections, or data gathering by SoCalGas or by the CPUC
- Collecting and providing all needed documentation before and after project installation
- Managing and/or monitoring project progress
- Receiving incentive payments and determining customer incentives, if any
- Monitoring project performance
- Complying with M&V Plan requirements
- Resolving customer complaints
- Managing installation, warranties, and product guarantees, if any

As the Implementer, Mendota Group is responsible for administering the Program in a manner that meets SoCalGas and CPUC objectives and provides a program implementation that is efficient and consistent for all Aggregators. Mendota Group's roles and responsibilities include:

- Establishing and updating, as needed, Program rules and procedures
- Providing general Program marketing to attract and support Aggregators
- Assisting Aggregators and customers in understanding the Program, determining project eligibility, and defining project parameters
- Enabling efficient Aggregator program participation by providing both the GRID Platform and direct Aggregator support via email, phone, and meetings
- Monitoring Program performance
- Paying incentives
- Reporting Program performance.

## 4. Additional Services

The Program will offer the following additional tools and services:

- Referrals to financing assistance (to include utility or non-utility project financing and state and federal tax incentives)
- Promotion of integrated demand side management (IDSM) opportunities (such as Water-Energy opportunities through local water agencies)
- Disadvantaged Communities/Hard-to-reach (DAC/HTR) bonuses to promote opportunities in DACs, and encourage participation from HTR customers
- Coordination with other regional programs (SoCalGas' C-BEST, Small Business Savings, and CoMFI programs)
- Customized outreach and technical assistance by aggregators to identify measures that help customers achieve winter peak reductions
- Partnership with SoCalGas' Workforce, Education and Training programs.

## 5. Audits

Audits are not an element of the Program except in cases where an Aggregator may use them to identify potential measures. No audit report is required as part of the Program.

## 6. Program Quality Assurance Provisions

The Program includes a Quality Assurance (QA) Plan that describes the methods and processes by which Mendota Group ensures that the GRID-MAP produces high-quality outputs, minimizes errors, maintains efficiencies, incorporates continuous improvement, and satisfies participants. Each member of the Program's staff is considered part of the Quality Assurance Team (QA Team).

Mendota Group's adherence to proven quality standards and established quality assurance methods drives successful programs and projects. The QA plan ensures that GRID-MAP:

- Uses well-defined, thoroughly reviewed, and repeatable processes;
- Produces reliable, predictable, and persistent savings, and
- Leverages proven M&V techniques.

The QA plan describes the roles, responsibilities, and policies and procedures that ensure

consistency and quality throughout projects. These objectives enable the Program team to achieve high-quality, measurable results. The goals and objectives for the QA plan are to:

- *Produce Predictable Results*: The QA plan helps ensure that the Program produces deliverables and services in an efficient, effective, reliable, and predictable manner and that the Program produces consistent results that meet or exceed contractual requirements.
- *Minimize Errors*: The QA plan prevents the introduction of errors into deliverables and services. Any identified errors undergo analysis and subsequent action to both correct the error and establish protocols to prevent a repeat. This aspect of the QA plan includes the structured approach to pursuing continuous improvement in all aspects of the Program.
- *Document Project Information*: The QA plan establishes a structured approach for defining, recording, and storing documentation related to requirements, approvals, reviews, tests, decisions, actions, events, and identified problems.
- *Ensure High Participant Satisfaction*: The QA plan ensures that participants receive the best possible deliverables and services. The Program conducts participant satisfaction surveys to regularly assess the market's perception of the Program, provide early identification of trending issues or problems, and receive feedback that can inform continuous improvement efforts. Surveys are web-based or conducted by email or telephone. Survey results are reported quarterly as a Program Key Performance Indicator.
- *Continuously Improve the Program*: Information and data collected throughout the Program's implementation serve as feedback loops for ongoing efforts to improve Program processes.

Consistency and transparency are critical for programs and projects to achieve their objectives. A key element of the Program that facilitates QA is the customized GRID software platform that participants use to estimate project incentives, submit projects, upload project documentation, track project results, and close out projects. The GRID Platform is also a critically important tool that the QA Team uses for quality control and quality assurance. Each proposed project follows a prescribed process, with automated and manual checks at each project stage. The GRID Platform stores project details and supporting documentation from each stage, providing process transparency for participants and administrators (Mendota Group team and SoCalGas staff), and facilitating project or Program audits as necessary. The GRID Platform calculations are validated by Program staff using independent calculations and are available for SoCalGas review.

The GRID Platform incorporates numerous data validations to assist aggregators in submitting error-free project applications. Various values (e.g., weighted EUL, expected savings, expected incentives) are calculated by the GRID Platform, which uses a standard algorithm rather than relying on numerous calculation methods provided by aggregators.

The Program's M&V subcontractor employs robust analytical methods and data quality protocols. These methods and protocols include detailed outlier identification, manual data review processes, and non-routine event detection, ensuring high data quality before the NMEC analysis.

QA procedures for site-based projects will differ from population-based projects. QA is achieved through following specific standard methodologies, processes, and tools.

The following sections summarize specific QA procedures for population-based and site-based NMEC projects.

**Population-Based NMEC QA Procedures**
For each population-based NMEC project, the Program will conduct the following QA processes:

- Aggregators self-screen customers for initial eligibility by entering information into the GRID Platform's customer verification tool, which assesses eligibility by cross-checking entered customer information against eligible customer lists provided by SoCalGas. For each application, Mendota Group staff confirm initial eligibility and then proceed to the secondary eligibility check, which is a more in-depth check of customer and project eligibility. Following the secondary eligibility check, project data is uploaded to SoCalGas' system of record for review.
- The secondary eligibility check confirms the following:
    - The customer pays the PPP surcharge on the gas meter in which the energy-efficient equipment is being proposed, either verified by SoCalGas or by using the customer's utility bill.
    - The customer has their own service account on a residential or commercial rate (i.e., no master-metered properties unless the entire property is being treated).
    - A minimum of 12 months of pre-treatment (before the project) meter data is available.
    - If the site has participated in any other SoCalGas-administered, ratepayer-funded energy efficiency program(s) in the 12 months prior to applying, additional meter data going back 12 months prior to the other project's installation will need to be provided, if available. Sites participating in a statewide energy efficiency program administered by another IOU, or sites participating in a REN program, are ineligible unless the aggregator can provide sufficient information on the customer's Program participation (e.g. install date, measure type) to verify that the customer is not double-dipping and the Program can obtain sufficient meter data to capture 12 months of meter data prior to the other project's installation.
    - The proposed measures are not enrolled in a statewide program. If so, Mendota Group staff either reject the measure or reduce the savings and incentives by the statewide program's claimed savings and incentives, so there is no double-counting or double-dipping.
    - The project is flagged within the GRID Platform for Program follow-up with the aggregator if potential exists for the customer to benefit from IDSM opportunities, including water-energy nexus programs.
    - An eligibility check for bonus incentives due to cost-effectiveness and/or the customer's HTR/DAC status has been performed.

- Based on the submitted data and historic variability of the sites load, Mendota Group determines the suitability of the population-based NMEC approach and if suitable, continues the process.

- From the project data submitted in the GRID Platform, Mendota Group creates a Program Verification Checklist, as directed by SoCalGas, for SoCalGas approval of each project. Aggregator information provided includes the aggregator's customer agreement, a signed customer statement (acknowledging influence, granting permission for future M&V inspections, and authorizing data sharing), calculations supporting the claimed savings values, project bids or quotations to support the project cost estimate, measure description(s), and other information as applicable. Mendota Group staff then reviews all submitted information and completes the Project Approval QA Checklist, which includes the following checks:
    - All required documents are submitted, and the customer statement is signed.
    - The estimated installation date meets Program requirements.
    - Measure description/detail is complete (sufficient to verify EUL).
    - Entered savings in the GRID Platform match descriptions and backup documentation.
    - Backup documentation includes assumptions used to estimate project savings.
    - Project savings are appropriate given the measure description.
    - The selected load curve and selected measure type are appropriate.

- Mendota Group works with Aggregators to fully address any deficiencies in documentation until the project receives SoCalGas approval.
- Project installation can only occur after SoCalGas' has approved the Population-Based NMEC Program Verification Checklist.
- After project installation, the Aggregator returns to the GRID Platform, verifies the project scope (including inputting any changes to installed measures or project costs), enters the project completion date, and uploads all required backup documentation, which, at a minimum, includes invoices, specification sheets, and photos.
- Mendota Group staff also review submitted information and perform the following checks:
    - All required documents are submitted
    - Invoice documentation is complete, and costs are reasonable
    - Details listed on invoices (e.g., project site address, measure quantities, and descriptions) match entries in the GRID Platform
    - Calculation documentation is provided for projects with changes to installed measures (a review as described in the Project Approval section above is performed).

- From the project data submitted in the GRID Platform, Mendota Group creates a Post-Installation Package that represents the actual project installed for SoCalGas approval. Mendota Group works with Aggregator to fully address any deficiencies identified by SoCalGas.
- If the project passes the review, Mendota Group approves the installation, and the project becomes Active. At this time, the contractor (or customer, if participating directly) receives an Installation Payment based on a portion of the expected total incentive. No further incentive payments are made until the contractor’s total incentive payments earned exceed the total of installation payments received. Project data from this stage is uploaded to SoCalGas' system of record, EECP.
- Mendota Group reviews the project data entered into the GRID Platform

- Mendota Group reports actual measured savings for each project as part of each applicable Population NMEC Report for SoCalGas review and approval. Mendota Group works to revise any calculations to fully address any deficiencies identified by SoCalGas.

**Site-Based NMEC QA Procedures**

For each site-based NMEC project, the Program conducts the following QA processes:

- Aggregators self-screen customers for initial eligibility by entering information into the GRID Platform's customer verification tool which assesses eligibility by cross-checking entered customer information against eligible customer lists provided by SoCalGas. For each application, Mendota Group staff confirm initial eligibility and then proceed to the secondary eligibility check, which is a more in-depth check of customer and project eligibility. Following the secondary eligibility check, project data is uploaded to SoCalGas' system of record for review.
- Mendota Group then conducts a secondary eligibility check to confirm the following -
    - The customer pays the PPP surcharge on the gas meter in which the energy-efficient equipment is being proposed, either verified by SoCalGas or by using the customer's utility bill.
    - The customer has their own service account on a residential or commercial rate (i.e., no master-metered properties unless the entire property is being treated).
    - A minimum of 12 months of pre-treatment (before the project) meter data is available.
    - If the site has participated in any other SoCalGas-administered, ratepayer-funded energy efficiency program(s) in the 12 months prior to applying, additional meter data going back 12 months prior to the other project's installation will need to be provided, if available. Sites participating in a statewide energy efficiency program administered by another IOU, or sites participating in a REN program, are ineligible unless the aggregator can provide sufficient information on the customer's Program participation (e.g. install date, measure type) to verify that the customer is not double-dipping and the Program can obtain sufficient meter data to capture 12 months of meter data before the other project's installation.
    - The proposed measures are not enrolled in a statewide program. If so, Mendota Group staff either reject the measure or reduce the savings and incentives by the statewide program's claimed savings and incentives, so there is no double-counting or double-dipping.
    - The project is flagged within the GRID Platform for Program follow-up with the aggregator if potential exists for the customer to benefit from IDSM opportunities.
    - An eligibility check for bonus incentives due to cost-effectiveness and/or the customer's HTR/DAC status has been performed.

- Mendota Group reviews the project data entered into the GRID Platform and works with the Aggregator to clarify data entries or remedy documentation deficiencies.
- Mendota Group works with Aggregator to create an Early Screening Document, which describes the planned measures, and a Project Feasibility Study, which includes detailed estimated savings using methods including building simulations and custom calculations,

EUL projects, and project influence narratives. Additionally, a project-specific M&V plan is developed.

- From the project data submitted in the GRID Platform, Mendota Group creates a Project Feasibility Study for SoCalGas approval. Aggregator information provided includes the aggregator's customer agreement, a signed customer statement (acknowledging influence, granting permission for future M&V inspections, and authorizing data sharing), calculations supporting the claimed savings values, project bids or quotations to support the project cost estimate, measure description(s), and other information as applicable. Mendota Group staff then review all submitted information and complete the Project Approval QA Checklist, which includes the following checks:
    - All required documents are submitted and customer statement is signed.
    - The estimated installation date meets Program requirements.
    - Measure description/detail is complete (sufficient to verify EUL).
    - Entered savings in the GRID Platform, match descriptions and provided backup documentation.
    - Backup documentation includes assumptions used to estimate project savings.
    - Project savings are appropriate given the measure description.
    - The selected load curve and selected measure type are appropriate.

- Mendota Group works with the Aggregator to fully address any deficiencies in either package until the project receives SoCalGas approval.
- Following SoCalGas approval, the project is added to the next Custom Measure Project Archive (CMPA) submission for potential selection by CPUC staff.
    - Project installation can only occur after the project is released from the CPUC's CMPA process.

- After project installation, the Aggregator returns to the GRID Platform, verifies the project scope (including inputting any changes to installed measures or project costs), enters the project completion date, and uploads all required backup documentation, which, at a minimum, includes invoices, specification sheets, and photos.
- Mendota Group creates a Post-Installation Report that represents the actual project installed for SoCalGas approval of each project. This package includes a comparison between the post-installation values and the values initially submitted in the Project Feasibility Study. Mendota Group works with Aggregator to fully address any deficiencies identified by SoCalGas.
- Mendota Group staff also reviews submitted information and performs the following checks:
    - All required documents are submitted
    - Invoice documentation is complete and costs are reasonable
    - Details listed on invoices (e.g. project site address, measure quantities and descriptions) match entries in the GRID Platform
    - Calculation documentation is provided for projects with changes to installed measures (a review as described in Project Approval section above is performed).

- Mendota Group then recalculates estimated savings and incentives based on the actual equipment installed and makes any necessary adjustments to the M&V Plan.

- If the project passes the review, Mendota Group approves the installation and the project becomes “Active”. At this time, the contractor (or customer, if participating directly) receives an Installation Payment based on a portion of the expected total incentive. No further incentive payments are made until the contractor’s total incentive payments earned exceed the total of installation payments received. Project data from this stage is uploaded to SoCalGas' system of record, EECP.
- After the 12-month monitoring period, Mendota Group reports actual measured savings and TSB for each project to SoCalGas for review and approval as a Second Post Installation Report. Mendota Group works to revise any calculations to fully address any deficiencies identified by SoCalGas.

## 7. Other Program Metrics

The Program's metrics include:

- Measured TSB (Dollars)
- Estimated TSB (Dollars)
- Energy savings (therms)
- NMEC schedule Adherence
- Total incentive budget reserved
- Payments to aggregators
- Cost effectiveness results (TRC ratio)
- Marketing campaign efficiency
- Customer satisfaction & survey feedback
- HTR and TSB penetration
- Inspection results

## Appendix A - DEFINITIONS

**Aggregator**: The primary Program participants in a Market Access Program. Aggregators are encouraged to aggregate multiple energy saving projects as a means of diversifying risk since projects receive payments based on measured savings and Total System Benefit. This performance-based approach both encourages novel approaches to saving energy and promotes whole building energy solutions. Aggregators employ a variety of strategies to encourage customer participation, with few limits on the mechanisms that can be used to advance projects. Customers can also opt to self-aggregate, bearing the risks of underperformance themselves.

**GRID Application:** Also called "GRID Platform" and "GRID Tool". Mendota Group's innovative, custom-built online software application that functions as a one-stop shop for Program participants to design, submit, track, and report energy efficiency projects using measured savings (Pop-NMEC and Site-Based NMEC) approaches. The application also serves as a repository for project information accessible by funding entities (program administrators) and Program staff.

**Market Access Program (MAP):** A Market Access Program is a program design that is open to any program participant (typically, an Aggregator) who agrees to provide services under the terms of the Program. Typically, a MAP is implemented using population-based NMEC to measure savings. Aggregators are compensated through a pay-for-performance structure which ties payments to energy savings the projects deliver (converted to Total System Benefit). In its Decision 21-12-011 (December 2, 2021), the California Public Utilities Commission (CPUC) directed the state's electric utilities (San Diego Gas & Electric, Southern California Edison, and Pacific Gas and Electric) and one Community Choice Aggregator (Marin Clean Energy) to implement two-year Market Access programs. In D. 23-06-055 (June 29, 2023, OP 26), the CPUC subsequently required that, by July 1, 2024, the investor-owned utility portfolio administrators (PAs) and Marin Clean Energy make available solicitations using market access approaches for residential and commercial downstream opportunities in their territories.

**Normalized Metered Energy Consumption (NMEC):** A method of calculating energy savings established by California Assembly Bill (AB) 802. AB 802 modified California Public Utilities Code §381.2(b) to "authorize electrical corporations or gas corporations to provide financial incentives, rebates, technical assistance, and support to their customers to increase the energy efficiency of existing buildings based on all estimated energy savings and energy usage reductions, taking into consideration the overall reduction in normalized metered energy consumption as a measure of energy savings." According to the law, these programs incorporate:

- Energy usage reductions resulting from the adoption of a measure or installation of equipment required for modifications to existing buildings to bring them into conformity with, or exceed, the requirements of Title 24 of the California Code of Regulations, as well as
- Operational, behavioral, and retro commissioning activities reasonably expected to produce multi-year savings. (California Public Utilities Code § 381.2(b))

**Population-Based Normalized Energy Consumption (Pop-NMEC):** According to the California Public Utility Commission's *Rulebook for Programs and Projects Based on*

*Normalized Metered Energy Consumption (NMEC Rulebook),* programs are referred to as "Population-Level NMEC" where the following conditions apply:

- Programs must meet the Population-level NMEC regulatory and filing requirements described in this document (*NMEC Rulebook)*;
- Energy savings determinations are made using an NMEC approach based on pre- and post-intervention energy usage data observed at the meter, rather than a modeled engineering forecast or deemed value; and
- Measurement methods and calculation software are set before the Program starts (and not subsequently changed) and apply to all sites in a uniform fashion, as opposed to Site-level NMEC measurement methods which may differ on a site-by-site basis." (*NMEC Rulebook*, *Version 2.0*, pp. 5-6)

**Site-Based Normalized Energy Consumption (Site-Based NMEC):** According to the CPUC's *NMEC Rulebook,* "Projects and programs are referred to as "Site-Level NMEC" where the following conditions hold:

- Programs and projects meet the regulatory and filing requirements described in this document (*NMEC Rulebook*);
- NMEC methods used to determine savings are customized to the particular site and project to conform to site-specific conditions and adjust for the particular drivers of savings pertinent to the customer site and project;
- Energy Savings claims and project estimates of savings are submitted for a specific site or project; and
- NMEC-determined energy savings rely on a project-specific M&V plan, customized to the specific characteristics of the site and project." (NMEC Rulebook, Version 2.0, p. 5)

**Total System Benefit (TSB):** An expression, in dollar terms, of the lifecycle energy, capacity, and GHG benefits, expressed on an annual basis (CPUC Decision 21-05-031, May 20, 2021, p. 9). CPUC Staff provided further technical guidance to calculate TSB.[1] D.21-05-031 also stated that, beginning with program year 2024, the TSB metric would replace the energy and peak demand savings goals as the single goals metric, but required that program administrators continue to report energy and peak demand savings (D. 21-05-031, OP 1, p. 80).

[1] https://pda.energydataweb.com/api/view/2530/DRAFT%20TSB%20Tech%20Guidance%20081621.pdf

Mendota Group
The Power of Bright Ideas

# Southern California Gas Company Grid-Responsive Incentive Design Market Access Program (GRID-MAP)

# Measurement and Verification Plan

Version 1.0
September 2025

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# 1. Introduction

## a. Program Description

The GRID Market Access Program (GRID-MAP) uses population-based Normalized Meter Energy consumption (NMEC), supplemented by site-based NMEC as needed, to innovatively and cost-effectively maximize claimable energy savings and Total System Benefit (TSB) for Southern California Gas Company (SoCalGas) commercial and residential customers. The Program leverages the Mendota Group's (Implementer[1]) existing processes and GRID system to maximize customer participation, keep program implementation costs low, and cost-effectively achieve TSB goals with a performance-based approach that allocates a large portion of Program budget to customer incentives.

GRID-MAP offers qualified contractors the opportunity to provide SoCalGas customers with various options not available through conventional energy efficiency (EE) programs to achieve energy savings. The Program primarily utilizes population-level NMEC rules and methodologies to determine energy savings. A pay-for-performance (PFP) payment structure incentivizes the Implementer, Aggregator, and contractors to find energy-efficiency projects that deliver:

- Maximum Total System Benefit,
- Measurable natural gas energy savings (therms -net, annualized, lifetime).

To achieve TSB goals, GRID-MAP provides:

- Open access to qualified Aggregators to facilitate wider contractor and customer participation.
- Incentives aligned with value to the SoCalGas system.
- Technical assistance to customers to achieve energy savings.
- Objective measurement of success that utilizes NMEC methodologies to pay Aggregators based on delivered savings, thus expanding the measures available for implementation.

Decision 23-06-055, OP 20 directs that NMEC or other meter-based savings evaluation methods are required for new, downstream, resource acquisition, and commercial sector programs eligible to use the NMEC rules. Since GRID-MAP meets this criterion, our use of NMEC satisfies this CPUC direction. Most GRID-MAP projects will be evaluated using population-based NMEC. If projects do not meet the population-based NMEC requirements, site-based NMEC will be considered.

This measurement and verification (M&V) plan provides technical details regarding the energy savings estimates that are the basis for incentives. The NMEC procedures used to determine energy savings for settlement with Aggregators are the same procedures Mendota Group will use to report Program performance. The Program-level achievements are simply the sum of the measured project savings across each calendar quarter for all participating Aggregators.

[1] Mendota Group's subcontractors specialize in measurement and verification processes related to population-based NMEC (Evergreen) and site-based NMEC (Cascade).

## b. Summary of Key M&V Plan Elements

An overview of the key elements of this M&V Plan is provided in Table 1.

**Table 1: M&V Plan Overview**

| M&V Consideration | Planned Approach |
|---|---|
| Settlement Population Definition (Calendar Quarter) | All projects for a given Aggregator with fewer than 365 days (one year) of savings accrued during a given calendar quarter. |
| Analytical Method | **Population-Based NMEC:** Individual premise regression uses the OpenDSM daily model.[2] The OpenDSM daily model includes coefficients for determining the relationship between temperature and natural gas usage including baseload and heating load.<br>GRID-MAP will use a comparison group to measure exogenous changes from pre to post that are not attributable to the Program. The comparison group will align with the primary drivers of changes in energy consumption over time: industry group, climate, and size. Preliminary segments are described under Ex-Post NMEC Methods.<br>The reported savings will be the incremental savings achieved by participants, above and beyond any exogenous change exhibited by the comparison group.<br><br>**Site-Based NMEC:**<br>Site-based NMEC projects will be developed and documented using a regression model and savings quantification within Microsoft Excel. Spreadsheets will use industry standards for multivariate linear regression analyses, such as Excel's 'linest' function. Completed models will be loaded into Cascade's Gazebo™ tool to streamline data management, performance monitoring, and progress visualization. Gazebo is Cascade's in-house, cloud-based energy management and collaboration software that is used to manage participant-specific opportunity registers and develop baseline and performance period models. In compliance with open-source expectations, Gazebo licenses will be provided to any reviewer who needs access.<br>Baseline and performance period models will be developed to account for the energy usage of each facility. Model selection is not always simply based on the best statistics; a model is selected based on a combination of model statistics, ease of data acquisition, physical conditions at the site, and what makes intuitive sense to the facility operators.<br>Energy savings within the project boundary will be calculated using a model based on performance period data under normalized conditions. Performance period models will use the same modeling approach as was used for the baseline model development. |

[2] https://www.recurve.com/how-it-works/caltrack-hourly-methods

| M&V Consideration | Planned Approach |
|---|---|
| Implementer | Mendota Group (w/ Evergreen Economics, Cascade Energy, and Resource Innovations as subcontractors) |
| Calculation Software | R and PostgreSQL |
| Data Collection Strategies | Upfront capture of typical efficiency attributes:<br>• project location<br>• project installation start and completion date<br>• equipment type, quantity, capacity, and specifications<br>Periodic capture of meter data for participants and of meter data and metadata for comparison groups (for matching)<br>Back-end consolidation of participant meter data, performance estimates, and incentive payments |
| Performance Metrics | Daily or monthly therm savings<br>Annual therm savings<br>Weighted Average Expected Useful Life (EUL)<br>Total System Benefit (TSB) |
| Weather Normalization | Settlement and reporting will be based on actual ex-post measurement of savings during the 2025-2028 observation period. Regression models developed using data from the baseline period will predict population loads during the performance period, normalizing for weather. |
| Total System Benefit Calculation | • Net Present Value of the avoided costs[3] will be calculated for each project using the Cost Effectiveness Tool (CET) calculator with the applicable EUL and Climate Zone (CZ).<br>• Program TSB will be the sum of each project's TSB. |

# 2. Savings Forecast and Installation Incentive

## a. Suitability of NMEC Methods

Decision 23-06-055, OP 20 requires that Program Administrators use NMEC or other meter-based savings evaluation methods for new, downstream, resource acquisition, and commercial sector programs eligible to use NMEC rules. Since GRID-MAP meets these criteria, the Program's use of NMEC as its only measurement method fully satisfies this CPUC requirement.

All else equal, the NMEC approach often delivers more cost-effective projects because all measured savings can be claimed, and the below-code savings are often more cost-effective than those that are above-code or industry standard practice. The population-based approach allows for the cost-effective treatment of customers at scale. In addition, the Program will incorporate a tiered incentive structure based on cost-effectiveness, which pays a higher incentive rate for projects that meet cost-effectiveness thresholds.

The ability to accurately measure energy savings using population NMEC methods depends on three key components:

[3] Based on applicable Avoided Cost Calculator (ACC) and discount rate as provide in the current version of the CET Calculator.

1) **The effect or signal size** – The effect size is most easily understood as the percent change in energy use following the intervention. It is easier to detect large changes than to identify small ones.

2) **Inherent data volatility or background noise** – The more volatile the load, the more difficult it is to detect small changes. Non-routine events effectively add noise to the data.

3) **The ability to filter out noise or control for volatility** – Statistical models, baseline techniques, and comparison groups – no matter how simple or complex – are tools to reduce noise (or unexplained variation) and allow the effect or impact to be more easily detected.

GRID-MAP targets qualified residential (single family and multifamily) and commercial customers who receive SoCalGas natural gas and pay the Public Purpose Program (PPP) surcharge.

The following are the requirements for customers to participate in GRID-MAP:

**Program Requirements**

- The customer must pay the PPP surcharge on the natural gas meter at which the energy-efficient equipment is being proposed.
- The customer must have their own service account (i.e., no master-metered properties unless the entire property is being treated).
- The customer authorizes pre- and post-installation metered energy use data through the SoCalGas natural gas meter.
- A minimum of 12 months of pre-treatment (prior to the project) monthly meter data for natural gas is available.
- If the site participated in any other SoCalGas-administered, ratepayer-funded EE program(s) in the 12 months prior to applying, additional meter data going back 12 months before the first installation is required. Sites participating in a statewide EE program administered by another IOU, or sites participating in a Regional Energy Network (REN) program are ineligible unless the Aggregator can provide sufficient information on the customer's Program participation (e.g., install date, measure type) to verify that the customer is not double-dipping and the Program can obtain sufficient meter data to capture 12 months of meter data prior to the first installation.
- The EE project will target 10% savings as compared to total load; cautioning Aggregators with projects below 10% savings and typically rejecting projects with less than 5% savings[4] of the customer's metered annual energy usage at the project site.[5]
- The customer must agree to provide all required documentation and access to the facility for project-related audits, inspections, or data gathering by SoCalGas or the CPUC.

**Characteristics that Require Additional Screening for Population-Based NMEC Treatment**

The following criteria must be met by a project to receive population-based NMEC treatment. If one or more of these criteria are not met, additional screening is performed to determine if population-based treatment is warranted. If not, a site-based NMEC approach may be offered to projects with substantial cost-effective savings.

[4] See Effects Of Sample Size On Accuracy And Precision, page 66, https://pda.energydataweb.com/api/view/2587/PGE_NMEC_Accuracy_Assessment_Report_02-15-2022.pdf

[5] Projects with less than 10% must provide a rationale and explanation of how savings will be distinguished from normal variations in consumption.

- Predictable load, with a CVRMSE < 0.5 (Coefficient of the Variation of the Root Mean Square Error) and fractional savings uncertainty (FSU)<0.25 using the ex-ante savings estimate, a confidence level of 90 percent, and bias correction.

**Requirements for Population-Based NMEC Treatment**

To receive population-based NMEC treatment, a project must meet the following criteria. If the following criterion is not met, a site-based NMEC approach may be offered to projects with substantial cost-effective savings.

- Customer does not plan to do any major renovations (e.g., add or remove floor space or occupy an empty area) before the end of the 12-month M&V period.

Projects will be monitored throughout the 12-month period to ensure they continue to meet eligibility requirements. If a project is initially qualified for participation but later found not to meet eligibility criteria, attempts will be made to change the savings measurement approach to another platform (e.g., site-level NMEC).

**Qualifying EE Measures**

GRID-MAP accepts various energy saving projects for both commercial facilities and residential homes. All measures must meet the following criteria:

1. Application types must consist of equipment retrofits, weatherization, add-on equipment (AOE), behavioral, retrocommissioning (RCx), or operational (BRO) measures. GRID-MAP expects the most common measures will be space heating, service hot water, cooking, energy management systems (EMS), and controls.
2. Equipment must be permanently installed.
3. Installations cannot double count (savings and incentives) with other incentive programs.
4. Existing equipment must be decommissioned and removed (except when add-on equipment is installed).

## b. Estimated Savings

The project savings forecast calculations are essential to assess the project's viability. The calculations serve as an important guide to the metered data analysis and to ensure that the project's energy use is within acceptable tolerance levels towards the projected energy savings. At the project application stage, the data provided by the Aggregator (and entered into the GRID Platform) must provide a clear, detailed, all-inclusive, and defensible explanation of the energy savings calculation methodology that incorporates a weighted EUL methodology and applicable Net-to-Gross ratios. The package must also explain all assumptions and include fully reviewable calculations.

## c. Effective Useful Life

The weighted average EULs should comprise the best available estimate of the relative contribution of different measures to total savings, based on available data. The GRID Platform calculates an estimated weighted EUL at the application stage, and this value is applied to measured savings during the 12-month monitoring period.

Weighted average EUL example:

- Measure 1: 40,000 therms (first year) savings, 20-year EUL
- Measure 2: 10,000 therms (first year) savings, 6-year EUL

The EUL of the bundle would be (40,000 * 20 + 10,000 * 6) ÷ (40,000 + 10,000) = 17.2 years.

### d. Incentive Calculation

An incentive rate will be assigned to each month of a calendar year- and each incentive rate will be based upon the TSB delivered by the savings during the applicable incentive period. The incentive payment amount is based on the corresponding incentive rate applied to savings in each incentive period, for year one of savings. This amount is multiplied by the weighted average EUL, applicable Net-to-Gross ratio, and any other relevant factors (installation rate, gross realization rate, etc.). The final incentive amount is based on the verified savings and may vary from the estimated amount used for the installation incentive payment.

For ease of implementation and transparency, Aggregator incentive payments will be tied to the project's therms savings as validated through metered data. For natural gas, the Program plans to have 12 incentive rates, one per month, that align with TSB values. The total amount of this performance-based incentive will ultimately depend on the therms achieved during the incentive period, as measured according to the approved M&V Plan.

- Approved GRID Population NMEC projects will qualify for a financial incentive. The therms incentive rates by period, listed on the Program website, will be used to identify the potential incentive amount for the project.
- The installation incentive payment amount will be calculated using the best available information to estimate the potential energy savings of the project when the Installation Report is approved. The Installation Payment will be 40 percent of the Initial Expected Total Project Incentive Payment, but not more than 50% of the Project Cost.[6]
- The subsequent incentive payment amounts will be based on actual performance during the 12 months of post-installation metered energy savings analysis for the project. An Aggregator's Performance Incentive Payments will be made only after the value of achieved savings exceeds the cumulative value of all previously paid Installation Payments to that Aggregator. The total incentive payment amount may be subject to a limit of total project cost or a reservation limit.

## 3. Ex-Post NMEC Methods

The performance component of GRID-MAP incentive payments and the performance claims for the Program will be based on population-level NMEC methods, consistent with the applicable version of the *Rulebook for Programs and Projects Based on Normalized Metered Energy Consumption* (NMEC Rulebook) and any other relevant CPUC direction. Both population-based and site-based NMEC processes will fully comply with the applicable NMEC Rulebook version(s). Compliance with a given Rulebook version will be based upon the applicable Rulebook at the time of Project Approval.

NMEC methods compare energy consumption at the revenue meter during the pre- and post-intervention periods. Regression models with weather and time variables help to explain variability in energy consumption and isolate the effect of the intervention. The difference in the pre-post change in daily or

[6] An adjustment to the 40% value may be made if an Aggregator's actual savings performance is consistently lower than initially estimated.

monthly natural gas energy consumption amongst the population of interest and a control group of non-participants is the output of interest.

## a. Settlement Calendar Quarter Definitions[7]

For settlement purposes, a portfolio of projects will be defined as all projects still in their first year of savings (installed in the prior 365 days). The portfolio will be rolled up for each Aggregator, and settlements will be made on a calendar quarter basis. The projects need not come from the same sector, climate zone, or industry type (subject to the Program's rules) because each participant's modeling will be done independently.

Based on direction from the Utility, settlement may be performed on a calendar semiannual basis instead of a calendar quarterly basis. The actual settlement period with Aggregators will be posted on the Program website and/or Program documents.

The Program will communicate the risks associated with population NMEC procedures when savings or population size is small via a table like the conceptual example shown in Table . The table values represent the relative precision, or the expected margin of error, divided by the effect size. This metric is referred to as Fractional Savings Uncertainty (FSU) in the NMEC Rulebook. A cohort expected to save 5,000 therms with a margin of error of ±3,000 therms would have a margin of error of ±60% and a 95% confidence interval that the measured savings would fall between 2,000 therms and 8,000 therms. From an Aggregator's perspective, the performance payment amount can potentially vary from 40% to 160% of the actual value of the savings delivered due to measurement error. Values can be color-coded to ensure correct interpretation:

- **Green** cells indicate limited settlement risk (error not more than half of the effect size),
- **Yellow** indicates moderate risk (error is no more than the effect size)
- **Red** indicates high measurement risk (the expected margin of error is greater than the effect size and may not be detected via population NMEC methods).

**Table 2: Margin of Error Depends on the Number of Sites Aggregated and the Magnitude of Savings at the Whole Building Level[8]**

Non-Residential

| Portfolio Size | 3% Effect | 5% Effect | 10% Effect | 15% Effect |
|---|---|---|---|---|
| 5 | 1041% | 624% | 312% | 208% |
| 10 | 804% | 482% | 241% | 161% |
| 25 | 295% | 177% | 88% | 59% |
| 50 | 281% | 168% | 84% | 56% |
| 100 | 271% | 163% | 81% | 54% |
| 250 | 198% | 119% | 59% | 40% |
| 500 | 158% | 95% | 47% | 32% |

[7] Calendar quarters are defined as follows: Q1 includes Jan, Feb, Mar; Q2 includes Apr, May, June; Q3 includes Jul, Aug, Sep; Q4 includes Oct, Nov, Dec.
[8] Expected Margin of Error in Performance Estimate (95% Confidence).

Non-Residential

| | | | | |
|---|---|---|---|---|
| **1000** | 95% | 57% | 29% | 19% |
| **2000** | 70% | 42% | 21% | 14% |

This type of lookup table conveys the settlement risk associated with a calendar quarter of a given size and the expected percent savings. The values in Table  are based on bootstrapped standard errors using SoCalGas meter data from customers in the commercial sector.  The margin of error for the target subsectors will likely be smaller than those represented in the overall commercial analysis shown in Table 2.

## b. Data Preparation

SoCalGas will establish a monthly data transfer procedure with the M&V team, which includes project/measure package data from implementation and meter data for modeling. Prior to modeling, Implementer will prepare the participant load data for analysis according to the data structure required to implement the selected modeling approach.

- **Weather Station**: merge hourly weather data from one of the CALMAC weather stations.[9] Weather station mapping and data sufficiency will follow Section 2.4.1 of the CalTRACK Technical Appendix.
- **Define the "blackout" period, Baseline, and Reporting periods**: The blackout period lasts from the beginning of a project's first measure installation through the end of the last measure installation and full commissioning. Long blackouts introduce additional risk to savings calculations, where exogenous changes in the buildings (positive or negative) can be misattributed to their interventions. The blackout period must account for the entire installation and commissioning period, which for major projects can be for an extended period. For this reason, Aggregators will be educated on the risks associated with extended installation periods. The maximum blackout period of twelve months will be allowed. If only one installation date is listed for start and end of installation, GRID-MAP will create a buffer period of one week in either direction. The 365 days prior to the beginning of the blackout are the baseline period. The 365 days following the blackout are the reporting period.  Projects will be monitored throughout the 12-month reporting period to ensure projects continue to meet eligibility requirements.  If a project is initially qualified for participation but is later found to not meet eligibility criteria, then attempts may be made to change the savings measurement approach to another platform (e.g. site-based NMEC).
- **Identify the appropriate comparison group**: Matching on key characteristics of the participant: industry group, climate zone, and size.

Several important mechanical considerations regarding the granular profiles are important in this plan.

- The definition and composition of the comparison groups will be defined in advance, but the groups themselves must be maintained as new meter data becomes available.
    - To measure (and adjust for) exogenous changes, the comparison group must be observed during the full baseline and reporting period, which are defined separately for each

[9] **https://calmac.org/weather.asp**

individual participant (based on the measure installation date). The specific comparison sites with sufficient data for inclusion in the analysis may change over time, as these non-participant businesses close, participate in SoCalGas GRID-MAP, or enroll in other programs. GRID-MAP must monitor each comparison site over time to ensure that they continue to meet these criteria for inclusion in the comparison group.

- The M&V team will document the comparison group segment definitions, and which accounts make up each comparison group. Monthly natural gas data for members of the comparison group will be transferred along with participant load data on a regular cadence.
- The SoCalGas accounts that make up the comparison group will need to be monitored for GRID-MAP participation, account closure, or other significant changes.
    - GRID-MAP plans to select alternate members for each comparison group to use as replacements if there is significant attrition and the segment has a large enough population to supplement (i.e., there are more sites to obtain). Based on our experience with similar programs, GRID-MAP does not expect to require use of these alternatives.

## c. Analytical Methods

**Population-Based NMEC**

GRID-MAP will model participant baselines in the reporting period using site-level daily or monthly meter data (or other finer increments if available). GRID-MAP will merge weather data at the same interval with this data.

For each participant site, GRID-MAP will identify the appropriate comparison group that will provide our best estimate for the exogenous changes in energy consumption. Each comparison group will consist of a large sample (n~100) of non-participating customers from the same industry group, climate, and size. These comparison groups will be defined early in the Program's implementation, monitored until one year after the last installation is complete, and replenished if there is significant attrition (e.g., comparison group sites electing to participate in the Program, business closures). Additional details on the comparison groups are provided in the next section.

The specific steps to produce estimates of Program energy savings will be the following steps:

1. For each participant in the calendar quarter population, GRID-MAP will ensure that a full year of baseline and reporting period consumption interval data (daily or monthly) are available, along with hourly weather data. Each participant should also have one year of pre-baseline data, referred to in this section as the testing period, to ensure model validity. The testing, baseline, and reporting periods together comprise the analysis period.
2. Remove any data in the "blackout period," which consists of the time between the start and end of measure installation. The baseline period is defined as the 365 days prior to the installation start, and the reporting period is defined as the 365 days after the installation ends.
3. Utilize the OpenDSM hourly model to construct the regression variables including time-of-week indicators and temperature characteristics segmented by month (i.e., separate models for each month).
4. For each participant and comparison site, estimate the regression model during the baseline period using the OpenDSM daily model. This model is a modified version of a monthly time-of-

week & temperature (TOWT) model. OpenDSM's hourly model includes variables for baseload, heating balance point and heating coefficient.[10]

5. For each site, predict usage during the reporting period using the OpenDSM model developed in the previous step. This is the counterfactual: a representation of the energy that each site would have consumed if the Program had not existed, reflecting the actual weather conditions experienced in the reporting period.
6. The difference between the participant counterfactual and the observed usage is the estimated total change. The difference between the comparison's counterfactual and observed usage is the estimated exogenous change during the study period.
7. The measured savings (the impact of the Program) is the difference between the total change in participants and the exogenous change in the comparison group. In other words, the incremental change observed in participants, above and beyond the exogenous changes exhibited by the comparison group (which could be positive or negative).
8. Upload monthly (natural gas) measured savings by project to the GRID Platform.
9. The GRID platform will aggregate the results to the annual total therms savings. The GRID platform will calculate the total TSB and incentive for each project.
10. The GRID platform will aggregate these metrics by Aggregator and Program.

The modeling approach used to estimate participant impact is the OpenDSM model. OpenDSM is an open-source, python-based procedure for measuring the impacts of demand-side programs by using historical data to fit models and then create predictions (counterfactuals) to compare to post-intervention, observed energy usage.[11] Models developed using OpenDSM are designed to meet or exceed the predictive requirements of CalTRACK.[12] The OpenDSM procedure includes a number of data quality control steps to ensure model accuracy and applicability. This includes testing input datasets to check that a sufficient amount of the pre-period is represented in the available data (90% of days in each calendar month being modeled, which also ensures a minimum of 90% of days in the year), as well as checking for extreme or duplicative values. Missing values (i.e., null values) are allowed and will not be imputed or interpreted as zeros. In addition to the checks included within the OpenDSM procedure, GRID-MAP will check the input data for indications of errant readings and other unusual energy usage behavior indicative of unreliable energy usage data.

Developing an OpenDSM model includes the following steps for each site included in the analysis (both participant and comparison group sites):

- **Construct models for load components:** baseload, heating balance point, heating coefficient, cooling balance point, cooling coefficient are determined independently using linear models.
- **Determine temperature dependent relationship:** the most accurate representation of energy usage (baseload only, baseload with heating only, baseload with cooling only, baseload with heating and cooling) is selected.

Combined, these steps produce a model for building energy use prior to Program intervention based on the interaction between the building's temperature and its energy consumption. This model is then used to predict energy usage in the reporting period. The predicted daily consumption in the reporting period is called the counterfactual consumption. These values represent what the consumption would have been

[10] Ibid.
[11] https://lfenergy.org/projects/opendsm/
[12] https://github.com/opendsm/eemeter

had the premise not participated in GRID-MAP. Savings in the reporting period are simple monthly summations of the daily impacts by period of interest.[13]

Because all participants must have at least one year of pre-installation data, and settlement occurs at the end of the first year post-installation, all participants will have the same number of observations in the reporting period. Total therms savings in each period can simply be summed across participants and meter intervals in that calendar quarter.

If the estimated savings for a given quarter differ from the ex-ante savings by more than 40% (i.e., <60% or >140%), they will be flagged for the Aggregator for review. If the overall annual savings differ from ex ante by more than 40% the participant model will be flagged as unreliable. As an example, while there is some uncertainty in the accuracy of ex ante savings, it is unlikely that a measure could truly achieve 200% of this expected value. It is far more likely that the participant made other changes to the building or operations during the reporting period, which are being misattributed to the installation. The purpose of flagging these sites for Aggregator review on a quarterly basis is to identify potential meter data collection issues early, when the participant is still able to correct information that could be impacting energy usage. If the Aggregator is unable to identify the source of the deviation from ex ante (e.g., inclusion of incorrect meters in the data used for the project), the participant will be flagged as unreliable and treated as described in the next paragraph.

Participants who passed all of the prescreening, remained eligible for the Program, had measures installed, met the model fit criteria, and still ended up with an unreliable savings estimate will be assigned an imputed savings value. This imputed value is based on the ex-ante savings and realization rate (i.e., achieved savings / *ex ante* estimated savings) of similar projects. The imputed realization rate will be the average of all projects completed by this Aggregator, projects in this sector, projects with the same measure end uses, and climate zone as shown in Table 3. As GRID-MAP does not expect to have many projects to draw from, GRID-MAP plans to take the average of these four separate realization rates, rather than a subset of projects that match on all four criteria. If there are no existing projects completed within any of these segments, the portfolio-level realization rate for GRID-MAP will be applied. If an Aggregator has unreliable savings estimates for multiple participants, they will be flagged and subject to additional pre-screening on future projects.

**Table 3: Example of an Imputed Realization Rate**

| Segment | Realization Rate | # of Projects completed to date |
|---|---|---|
| Aggregator: B | 0.75 | 4 |
| Sector: Hotel | 1.06 | 15 |
| Measure End Use: Heating | 0.65 | 20 |
| Climate Zone: 13 | 0.89 | 7 |
| **Imputed Realization Rate** | **0.84** | |

[13] https://www.recurve.com/how-it-works/performance-period-outputs

Across all stages of the analysis, GRID-MAP will follow fundamental tenets of data management and analysis. GRID-MAP will not make direct changes to the data files received. Rather, GRID-MAP will import the data into an analytic database (e.g. SQL) and perform all data transformation, quality control tests, and analysis in the analytic database using open-source software (e.g., R), while tracking all code in a Github repository. All modeling will be conducted using OpenDSM with key model specification saved for reproducibility. With this approach, all our analysis will be easily **auditable and replicable**. These are the two most important criteria necessary to ensure quality control in the analysis.

## d. Comparison Group Segmentation

For population-based NMEC, GRID-MAP will assess naturally occurring changes in energy use with a comparison group comprised of similar customers from the same or similar industry group, climate zone(s), and size. These customers experience similar economic conditions and other unobserved conditions that may influence energy use over the measurement period. For example, if natural gas rates are changed on January 1st, increasing the cost of using energy, customers may see a spike in their bill in February and adjust their equipment controls to reduce heating. As this behavior was not driven by time of year or outdoor air temperature, this observed change in participants could be misattributed to the effect of Program participation. Fortunately, non-participating customers will have experienced a similar spike in their natural gas bills. If GRID-MAP measures the impact of this rate change on energy consumption in the non-participants, GRID-MAP can clearly see that a similar shift in participant energy consumption should not be attributed to the Program intervention.

To develop the comparison groups, GRID-MAP will segment all eligible non-participating customers that meet Program requirements (e.g., 12+ consecutive months of data, predictable load). They will be grouped by industry group (e.g., 2-digit NAICS or as appropriate for the Program's subsegment eligibility), climate zone, and size (via quantiles of annual consumption and solar status). GRID-MAP will aim to have at least n=100 customers in each comparison group, balancing the desires for specificity with the need for a large sample size to smooth out variability. These groups will be designed based on our review of the SoCalGas population data within our targeted segments, including basic customer characteristics (e.g., NAICS code) and at least one year their historical natural gas energy consumption. The comparison groups will be monitored on a monthly or quarterly basis to remove any sites that have been treated or closed. If the attrition in the comparison group is significant, GRID-MAP plans to refresh the groups with new non-participant sites.

Each individual participant will be matched with the comparison group that shares all of these segmentation criteria. The M&V team will develop a regression model for each customer in the comparison group, using the same methodology (described in the previous section). The predicted consumption in the reporting period is the counterfactual consumption. For non-participants, these values represent what the consumption would have been had the premise not experienced any changes other than weather. The difference between the predicted and actual consumption in the reporting period provides our estimate for the impacts of all exogenous changes experienced by the non-participant. Averaging the percentage change of each non-participant in the comparison group will provide our best estimate for the exogenous changes experienced by similar participants. This adjustment can be easily explained to the

Aggregators, providing solace that the resulting increase or decrease in their performance payment is reasonable.[14]

At least once per year, the Implementer's M&V team plans to reassess the fit between all participants and their comparison sites, in aggregate using CV(RMSE). If GRID-MAP sees a significant difference between the two groups (i.e., an opportunity for significant improvement), GRID-MAP plans to adjust the segmentation criteria for the comparison groups. This assessment will be done in aggregate to avoid introducing bias with project-specific adjustments to the comparison groups. If the comparison groups are adjusted, this change will apply to all future participants.

### e. Dual Participation in other EE Programs

GRID-MAP is designed to deliver incremental savings to SoCalGas's existing EE programs. The Program design centers on compensating projects based on the value the projects deliver to the utility system. This requires processes to prevent overpayment or underpayment due to dual participation. Along with other project completion details, SoCalGas will pass the NMEC modeling team information on current EE program enrollments and any EE measures completed twelve months prior to GRID-MAP participation.

The GRID Team may also adjust to measured savings based on assumed participation in mid-stream or upstream EE programs if measures and suppliers match the parameters of those programs.

### f. Recent EE Participation

Although it would be cleaner from an M&V standpoint to disallow participation in multiple EE programs, GRID-MAP believes this would block off a portion of the market and make it difficult to achieve targeted participation levels. The potential problem with allowing customers with recently completed EE projects to participate in a GRID-MAP project is that the regression model of consumption may overstate the counterfactual if it is estimated on data prior to the non-GRID-MAP measure installation. By design, the accounts selected to make up the comparison group will not have prior EE participation. If there are instances where GRID-MAP needs to adjust for account participation in another EE project, GRID-MAP will adjust the baseline using a procedure similar to that for handling a non-routine event.

1) Determine whether each day in the performance period requires adjustment.
2) Determine the load shape of the non-GRID measures based on DEER, eTRM, or other approved profiles and spread the claimed therms savings over the year.
3) Multiply the monthly[15] load shape from step #2 by the adjustment flag (0,1) to arrive at the monthly adjustment.
4) Subtract the calculated adjustment from Step #3 from the predicted baseline determined via NMEC.
5) Compute monthly impacts as the difference between the adjusted baseline and metered consumption during the performance period.

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[14] GRID-MAP considered the option of developing customized matched comparison groups or synthetic controls. These approaches offer a small incremental improvement in the strength of the match, at the cost of distrust from aggregators, who have no way to verify that the matches and/or weights were not distorted to unfairly reduce their payment. GRID-MAP believes that this simple methodology is sufficiently accurate and will lead to more trust (and thus, participation) from aggregators.

[15] While some calculations are performed at the monthly level, daily data is often preferred and will be summed to monthly values as appropriate.

A similar process will be conducted for gas using a 365-day savings shape, spreading the claimed therms savings over the year and performing any required adjustments.

## g. Normalization

The analytical methods described above include a series of explanatory variables to capture time and weather effects in the mathematical model of energy consumption. This relationship will be modeled in the baseline period and predicted for the reporting period using the actual reporting period weather conditions. GRID-MAP does not plan to estimate separate regression models for the reporting period and perform parallel predictions against normalized weather conditions. This decision is based on these factors:

1) An important objective of the Program is to align incentives to the value these energy savings provide to the utility system. Generally, this means that savings delivered during utility peak months will be valued higher than savings delivered off peak season. Measuring performance and settling with Aggregators based on delivered impact during these periods removes a layer of complexity and provides clearer signals to the market.
2) It allows for faster reporting. If a separate mathematical model of energy consumption is required for the performance period, it is imperative to wait for adequate coverage of independent variables before estimating impacts. Under the approach outlined in this plan, GRID-MAP can measure savings as soon as the performance period begins and show cumulative sums of impacts at regular intervals.

## h. Determination of Net Savings (Influence)

The index of non-participating accounts captures both exogenous effects, like the COVID-19 pandemic, and EE purchases and actions GRID-MAP participants would have taken absent Program intervention. The NMEC Rulebook discusses this logic in its definition of a comparison group. A comparison group compares energy consumption changes from Program participants against non-participants with otherwise similar usage characteristics. Comparison group analysis can help determine net savings by accounting for externally driven changes or trends (exogenous factors) and impacts from customers who install EE projects without incentives. Although the Program uses the CPUC's current default (Resolution E-4952) net-to-gross ratio of 0.95 for non-residential NMEC projects and 1.0 for fuel substitution projects, GRID-MAP also requires that customers complete a form documenting the Program's influence. For site-level NMEC projects, influence documentation will adhere to the requirements in E-5115.

## i. Customer Settlement

The final settlement with Aggregators for a calendar quarter of projects will be based on the TSB generated during the calendar quarter. More specifically, incentives will be calculated using published rates proportional to the delivered TSB. The incentive rates are based on the monthly levelized values of natural gas from the Avoided Cost Calculator.

Table 4 shows an example of how EUL impacts the TSB generated by a project. The table shows the annual therms savings for a hypothetical commercial boiler project that saves 1,000 therms annually. Although a commercial boiler would generally have an EUL of 20, the table is meant to illustrate the

impact of EUL on the TSB of projects. As illustrated, longer duration projects produce long term savings and thus have a higher total system benefit.

**Table 4: Example of EUL Impact on TSB**
(1,000 therms, Non-Res Boiler Example)

| Annual Net therms Saved | EUL = 1 | EUL = 2 | EUL = 5 | EUL = 10 | EUL = 15 | EUL = 20 |
|---|---|---|---|---|---|---|
| **1,000** | **$691** | **$1,299** | **$3,020** | **$5,806** | **$7,900** | **$9,358** |

(Note, all rates and values shown in this M&V Plan are samples and will be finalized prior to Program launch.)

11The NMEC population for each calendar period (e.g. semi-annual or quarter) for each Aggregator includes all projects with less than 365 days of savings remaining. Note that this means that a calendar period will include projects with varying installation dates: 1) projects installed in that calendar period for which only a partial period of savings will be counted, starting from the installation date; 2) projects installed in one of the previous period, for which the full period r of savings will be counted, and 3) projects installed four quarters or two semi-annual prior, for which only the remaining partial period of savings through the one year expiration date will be counted. For installations made during a calendar period, the period prior to installation will be removed from the payment calculation. For installations made more than 365 days in the past, days after the 365th day will be removed from the payment calculation. To compute the incentive earned for each period payment, GRID-MAP will total the savings for each hour within the period, apply the corresponding hour incentive rates, and multiply by the weighted average EUL determined during the upfront review, the applicable Net-to-Gross ratio, and any other relevant factors (installation rate, gross realization rate, market effects factors, etc.).
1
Once the period performance estimates are finalized for a given calendar period, GRID-MAP will issue the settlement payments. Payment calculation will occur at the end of each performance period. Settlement will lag the close of the performance period by approximately 60 days to allow for validation and transfer of meter data to the modeling team and analysis. Table 5 shows the Program lifecycle for a hypothetical calendar of projects completed during the first half of 2025.

**Table 5: Sample Payment Cadence for a Project**

| Period[16] | Activity | Installation Payment | Performance Payment |
|---|---|---|---|
| 2025-H1* | Project Installation and First (partial) semi-annual performance measurement | Based on agreements with Aggregator and savings forecast for projects completed in 2025-H1. Payment occurs in the month following installation so may fall in H1 or H2 | Likely none because earned performance payment is likely lower than Installation Payment. |
| 2025-H2 | Second semi-annual performance measurement | | Payment based on measured impacts in H1 of 2025 net of Installation Payment (partial). |
| 2026-H1 | Project Expiration Third (partial) semi-annual performance measurement | None | Payment based on measured impacts in H2 of 2025 net of Installation Payment (full). |
| 2026-H2 | performance payment calculation | None | Payment based on measured impacts in H1 of 2026 net of Installation Payment (full). |

*H = half calendar year period

Performance Payments are equal to the total incentive amount earned net of any Installation incentive issued based on the savings forecast that have not already been recovered.

Payment to Aggregators may be changed from a semi-annual to quarterly or even more frequent period should Implementer deem such a change would improve the performance of the Program.

## j. To-Code Savings

Most EE programs calculate energy savings based on comparisons of estimates of the EE measure's energy use against the energy use of the equivalent measure that is the minimum allowed by state or federal energy code (measures for which no code exists use "industry standard practice" measure baselines).
GRID-MAP, in contrast, does not limit eligibility by measure type (measures must be able to produce energy savings) or calculate savings relative to code minimums. NMEC savings calculations are based on measured total savings relative to existing conditions (historical metered energy use) and may include to-code savings. In other words, unlike typical EE measures, Program-eligible measures include those that meet but do not exceed code minimums. All projects that trigger legal code compliance must demonstrate that they have met code requirements.

CPUC Decision 17-11-006, Ordering Paragraph 2 requires that "all program proposals and program implementation plans, for programs that target (or will claim) to-code savings, describe what program design elements, data collection activities, and/or analyses will be conducted to help lend insight into the following questions as part of the planned implementation of the proposed program:

- Where does the to-code savings potential reside? What equipment types, building types, geographical locations, and/or customer segments promise cost-effective to-code savings?

[16] Because the Program will commence in June, quarters are defined as follows: Q1: Jan, Feb, Mar; Q2: Apr, May, Jun; Q3: Jul, Aug, Sep; Q4: Oct, Nov, Dec.

- What kinds of barriers are preventing code-compliant equipment replacements?
- Why is natural turnover not occurring within certain markets or for certain technologies?
- What program interventions would effectively accelerate equipment turnover?"[17]

GRID-MAP will collect data from participating Aggregators to answer these questions. As part of annual program reviews, the Implementers will analyze the data to determine if changes to the Program's design can help accelerate replacements, particularly with equipment types, geographical locations, and customer segments for which natural turnover is not occurring. The Implementer will also provide this information to the utility as part of its annual report.

# 4. Data Collection and Validation

Data collection for purposes of M&V and settlement falls into two primary categories:

1. Project Completion Information (continuous). As Aggregators complete projects, GRID-MAP will collect information about the participating customer, the efficient equipment installed, the expected energy savings, the date the work was completed, etc.

2. Population and Meter Data

    - Along with the project information, customer characteristics, and other metadata associated with the initial project completion package, SoCalGas will extract and transfer the last 12 months (up to 24 months in some cases) of hourly AMI data for the new set of participating sites.

    - Ongoing transfers of daily load data (monthly). Includes all accounts that make up the comparison groups, and all participants that have not reached the end of their 12-month performance period. SoCalGas will establish a regular data transfer process to the M&V team once gas interval data have been processed and finalized.

    - Validation meters and meter data. Meters associated with each project are identified by the Aggregator and the data from those meters is used to measure project savings. The Program will implement a QC process that provides information to the Aggregator and keeps them engaged by using quarterly savings estimates to identify unexpected results and thus allows the Aggregator to follow up on problematic sites.

During each quarter (post-installation), forecasted savings will be estimated, and four items will be checked:

1. The ex-ante savings as a proportion of baseline consumption → are the savings feasible on the provided meters?
2. The estimated savings therms and % → do they align with our expectations?
3. A time-series of daily energy consumption → do you see a shift in consumption around the installation date?

[17] "Decision Regarding To-Code Pilots", Decisions 17-11-006 (R. 13-11-005), California Public Utilities Commission, November 9, 2017.

4. A consumption plot → do you see a shift in the baseline model's ability to accurately predict consumption (i.e., something has shifted) around the installation date?

If the site fails any of these tests, it is flagged for the Aggregator for review. A key benefit of this approach is that it minimizes the administrative burden for the Aggregator. GRID-MAP is asking them to track down the information when it is needed.

The Program will preserve all customer, project, and load data for sharing with the CPUC upon request for evaluation or other purposes.

# 5. Site-Based NMEC Methodology

As described above, projects/sites whose usage is not well modeled by the population-based NMEC approach may be offered a site-based NMEC treatment. Because of the complexity involved in the site-based NMEC approach, only projects with likely substantial savings (to be determined by the Implementer on a case-by-case basis) may be given this option.

This section provides further details of the site-based NMEC approach that will be relevant to any projects using this methodology. Processes and methods will be compliant with the current Rulebook.

## a. Strategies to Target High Savings

Pre-screening will assess the project's ability to exceed 10% savings. GRID-MAP's training and coaching strategies will help customers identify and implement comprehensive projects.

## b. Analytical Methods and Tools

GRID-MAP will manage the development and documentation of the regression model and savings quantification within Microsoft Excel. Spreadsheets will use industry standards for multivariate linear regression analyses, such as Excel's 'linest' function. Completed models will be loaded into Cascade's Gazebo software tool to streamline data management, performance monitoring, and progress visualization. In compliance with open-source expectations, Gazebo licenses will be provided to any reviewer who needs access.

Baseline and performance period models will be developed to account for the energy usage of each facility. Model selection is not always simply based on the best statistics; a model is selected based on a combination of model statistics, ease of data acquisition, physical conditions at the site, and what makes intuitive sense to the facility operators.

Energy savings within the project boundary will be calculated using a model based on performance period data under normalized conditions. Performance period models will use the same modeling approach as was used for the baseline model development. Energy savings within the project boundary will be calculated by applying the following equation:

**Energy Savings = Normalized Baseline Period Energy Use – Normalized Performance Period Energy Use**

Where:

- Normalized Baseline Period Energy Use = energy consumption calculated using the Baseline Model and normalized data for each independent variable. Normalized weather data will use a Typical Meteorological Year (TMY) dataset, which aligns with the applicable CPUC-approved Avoided Cost Calculator (CALEE 2018 TMY dataset for the nearest weather station).
- Normalized Performance Period Energy Use = energy consumption calculated for the performance period using the performance period model, adjusted for non-routine events as necessary.

Models will be developed using an Excel-based workbook template, which streamlines the process of testing candidate variables for statistical significance and comparing and documenting performance of hypothesis models. Once a model is selected, it will be loaded into Gazebo software to facilitate customer communication, sharing, and ongoing tracking.

### c. References for Analytical Approach

GRID-MAP's analytical approach follows CPUC, Lawrence Berkeley National Labs (LBNL), American Society of Heating, Refrigerating and Air-Conditioning Engineers (ASHRAE), and IPMVP guidance.

### d. Implementation Examples for Analytical Approach

GRID-MAP's analytical approach has been refined through usage in Cascade's existing programs, including those of SCE, SoCalGas, SDG&E, and PG&E.

### e. Key Data for Savings Calculations

Most models will use daily data for all dependent and independent variables. Data will vary for each project. Daily or weekly SoCalGas usage data will typically serve as the dependent variable, though in some cases, submeter data may be used instead. Independent variables may include, but will not be limited to:

- Ambient temperature: Gazebo downloads site-specific dry-bulb and wet-bulb data through a third-party service that aggregates data from multiple NOAA sources.
- Facility schedules: GRID-MAP coaches will confirm customer operating schedules with respect to weekends, holidays, and/or seasonal operations.
- Occupancy or production: In some cases, occupancy or production data may be obtained from a customer system of record for use in an NMEC model. Examples could be the number of workers on-site, daily product shipments, or tons of raw material/equivalent inputs.

### f. Data Collection Plan

All data will be uploaded from the GRID platform and managed in Gazebo. Project-specific Data Collection Plans will be provided in all NMEC Project Applications. Data collection methods and Quality Assurance/Quality Control (QA/QC) checks will be customized based on the predicted uncertainty. For example, projects with predictable buildings using reliable utility meter data may require savings progress to be checked every three to six months. Projects with customer-owned meters, potential non-routine events, and uncertain upfront savings estimates may need to check savings progress each month.

## g. EUL Determination

A weighted average EUL will be calculated by adding together the product of each measure's EUL multiplied by its expected savings and dividing by the total expected savings. The forecast weighted average for all recommended measures will be included in the Project Application based on forecast savings, and the updated weighted average EUL for the measures actually installed and verified will be included in the Final Savings Report.

## h. Program Influence Methodology

GRID-MAP will use the following NTG ratios for all NMEC projects and population-based NMEC ("pop-NMEC") Gross Realization Rate (GRR) per CPUC Resolution E-4952 and GRR values for site-NMEC established in the CPUC Memo, "Guidance for Ex-Ante GRR for SEM and NMEC Projects", dated August 18, 2025.

| Factor | Value |
|---|---|
| GRR: Pop-NMEC | 0.9 |
| GRR: Site-NMEC (Not Reviewed by Energy Division) | 0.95 |
| GRR: Site-NMEC (Reviewed by Energy Division) | 1.0 |
| NTG – Commercial | 0.95 |
| NTG – Residential Single Family | 0.85 |
| NTG – Residential Multi-Family | 0.55 |

Facilities with significant changes in operations or normal maintenance of existing equipment during the baseline or reporting periods may not be eligible, or calculation methodologies may have to be developed to isolate and back out corresponding apparent savings. Project influence will be clearly documented per CPUC Resolution E-5115 for all projects, with applicable Preponderance of Evidence (POE) rigor according to incentive levels. The following factors may be relevant to the influence demonstration: project developer's engagement and communications with the customer, the customer's decision-making criteria, the project timeline, how the project was initiated, how the measure was identified, the alternative viable options that also meet the customer's needs, and the energy and non-energy benefits. Documentation, with time stamps if applicable, may include marketing materials, training workshop attendance, self-serve video attendance, audits or site visit results, savings or financial calculations shown to customers, email correspondence, meeting minutes, customer internal policies or investment criteria, and/or relevant internal customer communications.

## i. Statistical Precision (Risk and Savings Uncertainty)

Consistent with California regulatory precedent, all GRID-MAP NMEC claims will meet a Fractional Savings Uncertainty (FSU) standard of within 50% uncertainty at 90% confidence. This is consistent with all other site-NMEC programs our team is implementing in California and a higher standard than ASHRAE guidance specifies (50% uncertainty at 68% confidence).

GRID-MAP's M&V protocols on projects with meter-based savings have been employed for over a decade in various programs throughout the country. GRID-MAP also allows for some savings risk when GRID-MAP develops annual Program forecasts from NMEC projects. In addition, GRID-MAP constantly monitor savings progress on NMEC projects through Gazebo dashboards, giving us enough advance notice to intervene and analyze in case savings trends are not in line with expectations.

## j. Identification of Non-Routine Events (NREs)

Possible NREs will be identified through continuous monitoring of performance data as well as regular project check-ins with the customer. All NREs will be documented in the project M&V Report. Standard thresholds will apply for identification of significant NREs and for possible updates to regression models, ensuring that directionality is not biased specifically toward positive or negative adjustments.

Baseline data shall also be analyzed to determine the presence of unusual energy use patterns that may be caused by NREs. All suspected NREs should be confirmed with the participant. Confirmed baseline period NREs must be documented in the pre-screening report, with a clear description of how their impacts will be addressed.

During the performance period, the most common method to identify NREs is through visual inspection of the metered energy use data. Time-series charts of energy use data may be used to identify shifts in energy use patterns that may be caused by NREs. If energy use data begins trending significantly outside expected values as determined by the model, an NRE may be present. GRID-MAP staff's professional judgement will be used to identify NREs, but a situation in which an independent variable departs its baseline mean by ±3σ will serve as a flag of a potential NRE.

## k. Rationale for savings <10%

GRID-MAP is not targeting projects with savings less than 10%, but does not believe a hard eligibility line is appropriate. Use of interval data and advanced modeling methods means that even if fewer measures are installed or if they are not functioning as intended, savings at or below 5% may still be determined with reasonable accuracy and confidence. In the event of projects with less than 10% savings, GRID-MAP will use the FSU methodology listed above to ensure savings claims are statistically meaningful. Site-specific methodologies will be described in project-level M&V plans submitted with Project Applications.

## l. Monitoring During Reporting Period

Data monitoring will include the collection of data for each dependent and independent variable used in the baseline model. SoCalGas usage data will be imported from GRID into Gazebo. Other data will be obtained from customers and reviewed regularly by GRID-MAP staff to identify quality issues or potential non-routine events.

## m. M&V Roles

All M&V roles, including data management, model development, and performance analysis, will be completed by GRID-MAP staff. Cascade already has a deep bench of M&V expertise from its longtime leadership in program implementation.

## n. Incentive Methodology and Compensation

GRID-MAP NMEC financial incentives will be calculated per the incentive rates specified on the Program's website Plan. Incentives will be based on final energy savings as determined during the performance period and verified by the Savings Report. Accordingly, customer incentives will be paid in a single payment following M&V completion.

## o. Quality Assurance

The following QA and QC steps will be taken to ensure savings estimates are dependable and replicable:

1. Periodic review of data with sites to ensure energy usage is as expected
2. Measure verifications based on site visit documentation
3. Periodic tracking of energy savings progress (visually available with Gazebo)
4. Quality checks will be used to assess data integrity at multiple stages. These will include checks on data gaps, repeated data, and common logic. Information collection and documentation with reports will be checked to ensure that appropriate project data is being entered, used, and tracked. GRID-MAP will typically ensure QC is done by a team member that was not involved in the project to ensure fresh eyes are assessing the information and procedures utilized.

## p. Software Tools

Models will be developed using an Excel-based workbook template, which streamlines the process of testing candidate variables for statistical significance and comparing and documenting performance of hypothesis models. Once a model is selected, it will be loaded into Cascade Energy's Gazebo software platform, which streamlines the process of data management and performance tracking, while providing other customer-facing services. All hypothesis model variants, input and output data, resulting model coefficients, and model metrics will be documented and available for review, and reviewers will be provided access to Gazebo if desired.

## q. To-Code Savings

All NMEC measures, including to-code projects, will use an existing conditions baseline. Savings estimates will not separately quantify or differentiate incentives for to-code and above-code portions of savings. GRID-MAP will focus on helping customers improve energy performance from a unique starting point. While most GRID-MAP measures will fall outside of clear code applicability, in some cases "Industry Standard Practice" (ISP) measures may be identified and included in projects. Sometimes, straightforward upgrades go uncaptured indefinitely at some sites due to barriers, such as a customer's lack of EE knowledge, and the cost of implementing energy-saving projects. If to-code or to-ISP measures are identified and implemented, the project application will assess the operability (or probability of repair) of existing equipment and document Program influence.

The Program generally and the GRID Platform specifically will collect project information and measure-level data, which will enable further analysis related to:

- Where to-code savings potential resides and where cost-effective to-code projects can be found:
    - Equipment types
    - Building types
    - Geographical locations
    - Customer segments

In addition, it is anticipated that Program data and outcomes will be used to determine: What kinds of barriers are preventing code-compliant equipment replacements? Why is natural turnover not occurring within certain markets or for certain technologies? What Program interventions would effectively accelerate equipment turnover?

# 6. Reporting

The GRID Platform will maintain project, measure, savings, TSB, and incentive data. Data can be filtered and aggregated by project, Aggregator, or at the Program level. Data can be viewed by SoCalGas at any time and extracted for use by SoCalGas in its reporting. If requested, the GRID Platform can provide a data extract or upload data via a provided API into SoCalGas's EECP system.

## 7. M&V Data Requirements

### a. Overview


### b. Detailed request

| Request | Detail | Purpose/notes |
|---|---|---|
| **1. Customer characteristic file for participants and sites selected to be part of the control groups** | For each account that completes a GRID project between Sept. 1, 2025, and December 31, 2027:<br>a. Customer name (non-residential)<br>b. Customer ID (non-residential)<br>c. Account number<br>d. Premise ID | Customer characteristics will be used to:<br>▪ identify participants,<br>▪ map to control profile<br>▪ produce results by segment |

| Request | Detail | Purpose/notes |
|---|---|---|
| | e. Service point ID<br>f. Rates and effective dates of rates for 2024 – 2027<br>g. NAICS industry codes, if applicable<br>h. Zip Code<br>i. Climate Zone<br>j. Weather Station<br>k. Any additional EE measures installed on site (savings estimate and installation date)<br>l. Any other relevant customer demographics | |
| **2. Project Information** | a. Customer name<br>b. Account number<br>c. Premise ID<br>d. Service point ID<br>e. Project number<br>f. Installation site address<br>g. Contact information (name, title, phone, email, mail, primary language)<br>h. Number of employees (i.e. less than 26 employees)<br>i. Building type<br>j. Building vintage<br>k. Climate zone<br>l. Measure ID<br>m. Type of measure (water heating, etc.)<br>n. Measure name<br>o. Key dates (project start, project completion, approval date)<br>p. Implementation contractor<br>q. EUL (by measure)<br>r. Measure quantity | |

| Request | Detail | Purpose/notes |
|---|---|---|
| | s. Measure baseline description<br>t. Deemed or estimated first year savings (annual therms)<br>u. Payment information (payee name, tax status, W-9, etc.)<br>v. Calculations<br>w. Influence documentation (statement for Pop-NMEC and documentation per E-5115 for Site-NMEC)<br>x. Final invoice(s) (Manufacturer and model, equipment cost, labor cost)<br>y. Photos of installed equipment<br><br>Note: Where appropriate, some data collection inputs will be populated with CEDARS default parameters for reporting purposes | |
| **3. Daily interval gas data for participant and site selected to be part of the control groups from Sep 1, 2024 – Dec 31, 2028** | a. Account numbers (account number, premise id, service point id, etc.)<br>b. Date<br>c. therms delivered<br>d. QC code, if applicable | Interval data will be used to estimate energy and demand impacts |
| **4. Weather data for relevant stations from Sep 1, 2024, to Dec 31, 2028** | a. Station ID<br>b. Station Name<br>c. Date<br>d. Hour<br>e. Temperature (dry bulb)<br>f. Humidity | http://calmac.org/weather.asp<br>Weather data will be used to model energy use |
| | | |