

RTR Appendix

Southern California Gas Company (SoCalGas) developed Responses to Recommendations (RTR) contained in the evaluation studies of the 2013-2015 Energy Efficiency Program Cycle and beyond. This Appendix contains the Responses to Recommendations in the report:

RTR for the Residential Energy Efficiency Program Impact Evaluation (Quantum Analytics, Calmac ID #CPU0357.01)

The RTR reports demonstrate SoCalGas' plans and activities to incorporate EM&V evaluation recommendations into programs to improve performance and operations, where applicable. SoCalGas' approach is consistent with the CPUC Decision (D.) 07-09-043¹ and the Energy Division-Investor Owned Utility Energy Efficiency Evaluation, Measurement and Verification (EM&V) Plan² for 2013 and beyond.

Individual RTR reports consist of a spreadsheet for each evaluation study. Recommendations were copied verbatim from each evaluation's "Recommendations" section.³ In cases where reports do not contain a section for recommendations, the SoCalGas attempted to identify recommendations contained within the evaluation. Responses to the recommendations were made on a statewide basis when possible, and when that was not appropriate (e.g., due to utility-specific recommendations), SoCalGas responded individually and clearly indicated the authorship of the response.

The Joint IOUs are proud of this opportunity to publicly demonstrate how programs are taking advantage of evaluation recommendations, while providing transparency to stakeholders on the "positive feedback loop" between program design, implementation, and evaluation. This feedback loop can also provide guidance to the evaluation community on the types and structure of recommendations that are most relevant and helpful to program managers. The Joint IOUs believe this feedback will help improve both programs and future evaluation reports.

¹ Attachment 7, page 4, "Within 60 days of public release, program administrators will respond in writing to the final report findings and recommendations indicating what action, if any, will be taken as a result of study findings as they relate to potential changes to the programs. Energy Division can choose to extend the 60 day limit if the administrator presents a compelling case that more time is needed and the delay will not cause any problems in the implementation schedule, and may shorten the time on a case-by-case basis if necessary to avoid delays in the schedule."

² Page 336, "Within 60 days of public release of a final report, the program administrators will respond in writing to the final report findings and recommendations indicating what action, if any, will be taken as a result of study findings. The IOU responses will be posted on the public document website." The Plan is available at <http://www.energydataweb.com/cpuc>.

³ Recommendations may have also been made to the CPUC, the CEC, and evaluators. Responses to these recommendations will be made by Energy Division at a later time and posted separately.

Response to Recommendations (RTR) in Impact, Process, and Market Assessment Studies

Study Title: CPUC Residential Energy Efficiency Program Evaluation Year 2021
Program: REEP
Author: Quantum Analytics
CALMAC ID: CPU0357.01
ED WO:
Link to Report: [CPUC Residential Energy Efficiency Program Evaluation Year 2021](#)

| MANAGEMENT APPROVAL AFTER REVIEW | | |
|---|---------------|------------|
| | Name | Date |
| SCG Programs | Darren Hanway | 11/7/2024 |
| SCG RP&R | Roy Christian | 11/11/2024 |

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| | | | | | | Next Steps: | Timeline: | Status: | Notes: | Impacted Programs: |
| | | | | Choose: Accepted, Rejected, or Other | Examples: Describe specific program change, give reason for rejection, or indicate that it's under further review. | For each accepted recommendation, outline the steps required for implementation, responsible parties, and deadlines. For each rejected recommendation, document the reason provided for rejection. Outline any potential follow-up actions or considerations for the future. | Set deadlines for the completion of each action. Include a start date and end date when possible. | Track the status of each action item (e.g., Not Started, In Progress, Completed). | Add notes for any additional information or updates. | Identify which programs (program IDs) would be impacted by the action items. |
| 1 | 8-1 | Overall, the Res EE program had limited reach serving hard-to-reach customers, and more success with disadvantaged communities. 10% of SCG's Res EE program are HTR, and 19% are DAC. Because the HEER and EENHP programs are focused on single family residences, it is more challenging to meet the HTR criteria for these subprograms. However, the MFEER program, which serves multifamily residences, was 41% HTR. | Recommendation 1: SCG should continue to promote multifamily participation in MFEER and EENHP. MFEER is 41% HTR which has a positive effect to the overall percentage of HTR customers in the program. | Accepted | Each of the subprograms within REEP (HEER, EENH, MFEER) have their own target customer and goals. SoCalGas will continue to promote multifamily participation in the relevant subprograms. | Starting in 2024, REEP is now segmented into two subprograms based on Resource and Equity program segments, allowing easier tracking of which customer bases participate within the program. SoCalGas has additional residential programs which have specific equity goals to target DAC/HTR customers such as 3705/3958, 3861, 3883/3935, 3884, 3885, and 3889/3936. These programs use direct installation and other program approaches to better reach the equity customer base. | | Completed | | 3702, 3958 |
| 2 | 8-1 | For the Res EE Program overall, 30% of sites installed more than one measure. EENHP has the largest percentage of sites installing multiple measures, at 76%, followed by MFEER at 45%, and HEER at 18%. Over two-thirds of the HEER participants installed tankless water heaters, storage water heaters or clothes dryers; and only 4-5% of these participants installed more than one measure. Because of the prescriptive nature of the HEER program, it can be challenging to encourage multi-measure participation, whereas MFEER and EENHP are designed to achieve better depth of retrofit metrics. | Recommendation 2: SCG should continue to offer a varietal measure mix per subprogram, as we see this encourages participation in more than a single measure, and thereby increasing the program's depth of retrofit. | Accepted | SoCalGas will continue to offer a comprehensive suite of Energy Efficiency (EE) measures and rebates for each subprogram such as tankless water heaters, patio heaters, pool heaters, fireplace inserts, furnaces, storage water heaters, free standing and wall ovens, gas dryers, and solar thermal water heating. HEER and MFEER are targeted at end-use customers, so SoCalGas doesn't have control of what measures customers apply for. However, SoCalGas will continue to promote multiple measures especially through | SoCalGas strives to include a comprehensive set of energy efficiency measures for customers in all of its programs and encourages them to participate in multiple measures. For example, SoCalGas has identified numerous opportunities to lessen the burden to participating by offering comprehensive approaches through market intervention strategic partnering, intelligent outreach, permanent behavioral modification, financing, whole home solutions for equity and resource customers, expansion of emerging technologies, and potentially leveraging SoCalGas represented field staff to identify old, inoperable, and / or less efficient equip- | | Completed | | 3702, 3958 |

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| | | | | | other subprograms within REEP which allow for it, such as EENHP. | ment in an effort to provide customer education and energy efficiency options. | | | | |
| 3 | 8-2 | <p>The evaluation team found multifamily projects claimed as single family.</p> <p>When interviewing HEER single family participants, the evaluator found that 92% of respondents live in a single-family detached home, 5% are in a townhouse, duplex or row house, and 2% are in an apartment or condominium with 5 or more units, while the remaining 1% are in mobile homes or refused to respond.</p> | Recommendation 3: SCG should carefully review the claimed Bldg Type field, to ensure that it is correct for each subprogram. | Accepted | HEER and MFEER programs target specific customers under certain rate codes. With the transition to eTRM as the data source of record, multi-family projects will only claim savings if reporting the multi-family building type. | SoCalGas internal data systems now link up directly with eTRM as the data source of record. | | Completed | | 3702, 3958 |
| 4 | 8-2 | <p>We found that the reported tier for HEER and EENHP water heaters were incorrect for a large portion of claims.</p> <p>For HEER, 7% of Tier 2 tankless water heaters were mislabeled in the tracking data and verified to be Tier 3 tankless water heaters. This had a positive impact on calculated ex post savings for Tier 1 and Tier 2, but overall, for all tiers had a slight negative impact. For EENHP, 64% of Tier 1 tankless water heaters were mislabeled in the tracking data and verified to be Tier 2 tankless water heaters. 17% of Tier 2 EENHP tankless water heaters were mislabeled in the tracking data and verified to be Tier 3 tankless water heaters. This had a positive impact on calculated ex post savings. This has resulted in ex post measure case UEFs being higher than the ex ante measure case UEFs. The evaluator also found cases where the tracking tier matched the verified tier, but the UEF of the installed tankless water heater was higher than the claimed UEF. For those cases, the evaluator still saw a positive impact on calculated ex post savings.</p> | Recommendation 4-1: The evaluator suggests that the application process requires tankless water heater nameplate information to be provided. In addition, the HEER/EENHP teams should check that the UEF provided in the application is appropriate for the make and model of the tankless water heater. | Accepted | HEER and MFEER water heater efficiencies are initially binned by the customer based on customer reported UEF values in the rebate application. Make, model, and serial number of the water heater from the nameplate are required in the application. EENH started requiring Builder attestations for tankless water heater enrollments in September 2022 due to difficulties validating projects. | | | | | 3702,3958 |
| | | | Recommendation 4-2: SCG should also check that the claimed tier levels align with what is found in inspection data when available, otherwise, it should align with the make and model tier found in the application. | Accepted | For projects subject to inspection, SoCalGas requires a nameplate picture of the water heater for each rebate application where claims are inspected and validated by our processing team including the claimed efficiency tier. Additionally, the CF2R compliance form is pulled and validated for a portion of EENH projects. | | | | | 3702,3958 |
| 5 | 8-3 | <p>Surveyed HEER participants and EENHP participating builders indicate a strong likelihood of installing tankless water heaters in the absence of the program.</p> <p>Based on the survey responses with 100 HEER participants, 69% claim they would have installed a tankless water heater in the absence of the program, and only 17% responded that they would have installed a</p> | Recommendation 5a: A market study should be conducted to determine the share of tankless water heaters among recently installed water heaters for both the replacement and new construction market. | Accepted | The Residential Appliance Saturation Study (RASS) 2019 database shows a statewide gas storage water heater market penetration of 71.6% and gas tankless water heater penetration of 6.8%. Additionally, SoCalGas has seen market share statistics between storage and tankless water heaters which suggest that storage water heaters are still the majority of sales in the residential and | SoCalGas will be conducting a water heater market study. This study will aim to inform the next round of measure package updates. | TBD | Not Started | Impacts all IOU programs which offer Residential tankless water heaters, not only SCG residential programs. | 3702, 3861, 3883, 3884, 3885, 3889, 3935, 3936, 3938, 3958 |

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| | | <p>storage water heater without the program. For EENHP, the evaluator analyzed compliance runs for 103 EENHP homes, and found that 37/103 (36%) of homes would not have passed compliance if a minimally compliant tankless water heater was installed. Furthermore, among the 15 EENHP participating builders that were surveyed, 13 said they would have installed a tankless water heater in the absence of the program, and the other 2 were uncertain what they would have done.</p> | | | <p>commercial markets.</p> <p>This market share data is supported by the recent California Water Heating Market Study conducted in 2024 by Opinion Dynamics which although has a small self-reported data set, shows the majority (60%) of residential water heaters being replaced are gas storage water heaters. The study shows 50% of new water heaters being installed are gas storage while only 14% are gas tankless water heaters. Of the gas tankless water heaters installed, approximately 50% of installations are replacing a storage water heater. SoCalGas requires customers applying for the tankless rebate through REEP to replace a storage water heater and will disqualify rebate applications if there is evidence of an existing tankless unit being replaced.</p> <p>Additionally for new homes, Title 24 still allows for storage water heaters which are minimally compliant with Title 20 code to be installed.</p> <p>Despite this, SoCalGas is planning to conduct a market study on residential water heating to determine the appropriate baseline moving forward.</p> | | | | | |
| | | | <p>Recommendation 5b: A net-to-gross study should be conducted for the new construction measure application type for tankless water heaters, based on the high incidence of builders stating they would have installed a tankless water heater in the absence of the program, and the fact that the revised net-to-gross ratio for tankless water heaters in the 2023 DEER is based on a study that only included natural replacements.</p> | Other | <p>If there is need for a Net to Gross study for new construction, it should be conducted by the CPUC as it would be a conflict of interest for SoCalGas to conduct an NTG study on its own programs.</p> | <p>The CPUC <i>Ex Ante</i> Review Team should consider this recommendation in the next EM&V cycle.</p> | | | <p>Impacts all IOU programs which offer Residential tankless water heaters, not only SCG residential programs.</p> | <p>3702, 3861, 3883, 3884, 3885, 3889, 3935, 3936, 3938, 3958</p> |
| 6 | 8-4 | <p>While surveying HEER customers and EENHP builders about temperature setpoint, the evaluator learned that water heaters are set at 120/122 degrees F, instead of the assumed 135 degrees F.</p> | <p>Recommendation 6: The evaluator recommends updating the measure package temperature setpoint parameter to 120 degrees.</p> | Rejected | <p>While the water heater setpoint may be different in the field than the DEER workpaper assumptions, there are co-dependencies between the hot water load profiles and the temperature setpoint of the water heater. It is not as simple as updating the water heater setpoint parameter to 120 degrees, as new hot water load curves will need to be developed by the <i>Ex Ante</i> Review Team in charge of the DEER models.</p> | | | | | |

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| | | | | | <p>For certain end uses, a lower water heater setpoint will require higher draw to achieve the desired temperature, negating any difference in energy consumption. It is not clear the benefit of an updated setpoint is commensurate with the effort to create the new hot water load profiles.</p> <p>As these models are DEER measures and come directly from the CPUC Energy impact Database, SoCalGas is not able to alter the DEER assumptions used in the CPUC maintained Water Heater Calculator tool nor the EnergyPlus modeling used to calculate the savings.</p> <p>The CPUC <i>Ex Ante</i> Review Team should consider this recommendation for integration into the DEER water heater calculator, EnergyPlus models, and other relevant tools.</p> | | | | | |
| 7 | 8-4 | <p>Measure packages do not align with what SCG is claiming for a handful of cases.</p> <p>Measure Application Type (MAT): The measure package with Source Description “SWHC039-03” does not have any New Construction offerings in the eTRM—the eTRM only contains ‘Normal Replacement’ MATs for this measure. However, SCG frequently claims MAT = ‘New Construction’ for this measure package.</p> <p>Building Type: The measure package with Source Description “SWWH010-01” is a multifamily boiler measure in the eTRM. However, in the claim, SCG only claims single family and mobile home building types for this measure.</p> | <p>Recommendation 7: SCG should verify the measure application type and building type and choose a valid measure package accordingly.</p> | Accepted | <p>Smart thermostats were removed from new construction programs starting in 2022.</p> <p>The multifamily central boiler is only offered to multifamily building customers. A review of 2021 claims found only a handful of enrollments went through reported as single-family/mobile home instead of multifamily. This appears to be an issue with the claimed building type rather than claiming the wrong workpaper/savings.</p> <p>Additionally, small tankless water heaters installed in single family homes and mobile homes are claimed through the appropriate workpaper SWWH013.</p> | <p>With eTRM taking over as the data source of record in 2023, all programs now link directly to the eTRM dataset and will only generate savings values in SoCalGas internal systems if it is an eligible permutation row in the measure package.</p> | 1/1/2023 | Completed | | 3702 |
| 8 | 8-4 | <p>While surveying HEER tankless water heater customers, the evaluator found that 79% were unaware of heat pump water heaters. Of the 21% of participants that were aware of heat pump water heaters, 16 (76%) responded that it is very unlikely, 1 (5%) responded that it is somewhat unlikely, 3 (14%) responded that it would be a 50/50 chance, and 1 (5%) responded that it is somewhat likely that that they would have purchased the heat pump water heater if financing were available.</p> | <p>Recommendation 8: If SCG or the CPUC is interested in increasing the market penetration of heat pump water heaters, they should consider a campaign to increase awareness of the technology given the low rate of awareness (21%) the evaluator experienced among their tankless water heater participant population.</p> | Other | <p>Since SoCalGas is a single fuel gas utility and the EE program budget comes from Gas Public Purpose Funding which is intended to fund natural gas-related programs, this money should not be spent on electric equipment campaigns.</p> | <p>If there is need for electric equipment campaigns, funding should be sourced from relevant electric utilities or decarbonization programs, such as the Technology and Equipment for Clean Heating (TECH) program.</p> | | Not started | | |