



Cal TF White Paper:

Current State and Recommended Improvements for Industry Standard Practice (ISP) Studies and Use

Version 3.0

REVISED DRAFT FOR TF AFFIRMATION ON MARCH 28, 2024
REVISED DRAFT FOR PAC AFFIRMATION ON MARCH 27, 2024

March 21, 2024

Prepared by Cal TF Staff:
Arlis Reynolds
Spencer Lipp, PE
Annette Beitel

AFFIRMATION

This white paper requires TF affirmation.

ACKNOWLEDGMENTS

Cal TF Staff would like to acknowledge the following individuals for their participation in the subcommittee and contributions to this white paper.

Charles Ehrlich, PG&E (Cal TF Member)

Antonio Aliberti, TRC (Cal TF Member)

Tim Xu, PG&E

Cal TF Custom Subcommittee Members

All respondents to the ISP Stakeholder Survey

CONTENTS

Executive Summary	1
Introduction	4
<i>Background/Overview of Research Activities</i>	4
<i>High-Level Summary of Commission Policy and Staff Guidance</i>	4
<i>Problem Statement or Need</i>	5
<i>Value Proposition Recommended Improvements</i>	5
Current State	5
<i>Current Practice #1: ISP Guidance Document is Complex, Unclear, and Inconsistently Interpreted; Supplemental Guidance and Clarifications Are Not Consistently Available to All Stakeholders</i>	6
<i>Current Practice #2: Incomplete, Out-of-Date Repository and Limited Accessibility of Market-Based or Other ISP Studies and Baselines</i>	7
<i>Current Practice #3: No Consistent Format, Data, or Rigor of ISP Studies</i>	8
<i>Current Practice #4: No Coordinated, Public Planning Process for Market-Based ISP Studies</i>	9
<i>Current Practice #5: Most Informal ISP studies exceed the cost of the custom project incentive, are inaccessible to other stakeholders, and are limited in scope.</i>	9
<i>Conclusion: Impact of Current Practices on Implementers and Customers; Need for Change</i>	10
Future State / Opportunities	10
<i>Approach</i>	10
<i>Recommendation #1: Update, Clarify, and Simplify Baseline Selection Guidance and Provide Means for Ongoing Updates, Clarifications, and Training to Support Consistent Understanding and Application of Baseline Selection Guidance</i>	11
<i>Recommendation #2: Create a Central, Public, Searchable Database of Market-Based ISP Studies and Approved Baselines with Key Data Including Date of Issuance, Applicability, and Effective Dates</i>	11
<i>Recommendation #3: Establish Consistent Format and Data Requirements for ISP Studies to Clarify Baseline Definition and Applicability</i>	12
<i>Recommendation #4: Implement a Statewide Market-Based ISP Study Public Planning Process</i>	12
<i>Recommendation #5: Remove the Informal ISP Study Requirement for All Custom Measures Or for Custom Measures Smaller Than 1,000 MWh or 100,000 Therms or with Incentives Less Than \$100,000 (Tiered Baseline Approach)</i>	13
Conclusions & Recommendations	15
<i>Next Steps</i>	15

EXECUTIVE SUMMARY

Industry Standard Practice (ISP) policies, processes, and studies shape the baseline definition and selection process for a majority of measures administered through the energy efficiency (EE) programs overseen by the California Public Utilities Commission (CPUC), and many custom stakeholders identify the current baseline selection rules and processes as a significant source of project development costs, delays, risk, and stranded savings and a significant deterrent to customers pursuing energy efficiency projects.¹

In late 2022, Cal TF Staff solicited recommendations from Cal TF Members on the most important issues that should be addressed in a Cal TF White Paper, and ISP policies and processes for custom measures and projects ranked highest. Stakeholder concerns were reinforced in a stakeholder survey of the ISP process, through which less than 10% of Program Administrator (PA) respondents and less than 18% of implementers rated “Clear Guidelines”, “Consistent Process”, and “Training/Learning Opportunities” as “Working well.” Thus, a key focus of Cal TF in 2023 has been analyzing the current state of stakeholder practices and developing recommendations to improve the baseline selection process and practices for custom projects.

This White Paper examines both ISP study availability, the ISP development process, and current baseline selection practices that stakeholders believe could be improved. It then presents recommendations for improvement, high-level details on how the recommendations could be implemented, applicable CPUC policy (if it exists), and how ongoing Cal TF efforts may be used to support this recommendation going forward. A companion [ISP Research Memo](#) provides additional details on the analyses and recommendations presented in this White Paper.²

Table 1 summarizes the current practices identified for improvement and associated recommendations developed through data analysis and stakeholder input.³

Table 1: Summary of Current Practice Findings and Recommendations for Improvement

#	Current Practice	Recommendation
1	ISP Guidance is Complex, Unclear, and Inconsistently Interpreted; Supplemental	Update, Clarify, and Simplify ISP Guidance, and Provide Means for Ongoing Updates,

¹ The Standard Practice Baseline, typically defined through an ISP Study, is generally used as the single baseline for Normal Replacement (including Capacity Expansion and New Construction) measures as well as the second baseline for Accelerated Replacement (AR) measures implemented through the CPUC-regulated energy efficiency (EE) programs. Industry Standard Practice is not used to define baselines for EE measures implemented through the Publicly Owned Utility Companies (POUs).

² Cal TF Staff. March 21, 2024 *Cal TF Research Memo: Background Information Supporting the Industry Standard Practice (ISP) White Paper*.

³ See companion ISP Research Memo for detailed information on the data collection and analysis supporting this ISP White Paper.

	<p>Guidance and Clarifications Are Not Consistently Accessible to All Stakeholders. PAs and implementers report confusion and inconsistent application of ISP guidance and processes due, in part, to the unique and complex policy, difficult-to-understand ISP Guidance Document, lack of statewide training, and reliance on informal guidance that is not accessible to all stakeholders to fill in the knowledge and experience gaps.</p>	<p>Clarifications, and Training: Stakeholders need clear, complete, consistent guidance and processes that appropriately balance cost and rigor and address implementation barriers and issues that increase cost and delays.</p> <p>Use stakeholder feedback to identify points of confusion and needed clarifications; then update, clarify, and simplify the ISP Guidance Document using the processes outlined in E-4939.</p> <p>Also, provide training opportunities for stakeholders statewide to improve common understanding and appropriate implementation of ISP and baseline selection guidance.</p>
2	<p>Incomplete and Out-of-Date Central Repository and Limited Accessibility of Market-Based and Other ISP Studies and Baselines: Neither market-based nor informal ISP studies are consistently stored in a central, accessible repository as directed in E-4939. Furthermore, informal ISP studies and other project-specific baseline guidance and determinations are often not accessible as they contain personally identifiable information. When published, project-specific dispositions must be redacted, which often obscures context necessary to be useful. Consequently, PAs and implementers have difficulty identifying and using existing CPUC-issued or approved baselines.</p>	<p>Create a Central, Public, Searchable Database of Market-Based ISP Studies and Approved Baselines with Key Data Including Date of Issuance, Applicability, and Effective Dates: A central Baseline Database will make key baseline data clear and accessible to stakeholders who develop and review custom measures and deemed measure packages. It meets the requirements of E-4939⁴ and facilitates Step 1 of the baseline selection process.⁵ This Baseline Database should be the single source of existing baseline determinations such that custom stakeholders are not held to baselines that are not accessible in the Baseline Database.</p> <p>Cal TF Staff is compiling and organizing ISP Studies and other baseline documentation and collecting stakeholder input to determine whether existing baseline data are still valid, need updates, or are expired and no longer useful. Cal TF Staff will then populate the Baseline Database and then help establish a process to maintain the Baseline Database going forward and communicate new baseline data to statewide stakeholders.</p>
3	<p>No Consistent Format or Data in ISP Studies: ISP studies do not follow a standard format or consistently contain data needed to determine applicable baselines (e.g., effective dates and CPUC approval status). Thus, PAs</p>	<p>Establish Consistent Format and Data Requirements for ISP Studies to Clarify Baseline Definition and Applicability: Adopt an ISP Study Summary Form that defines a common core data set—including effective date(s),</p>

⁴ Resolution E-4939, OP 4.

⁵ Resolution E-4939, Attachment A, Section 3: Selection Process.

	and implementers have difficulty understanding whether existing ISP Studies and standard practice baselines are valid and applicable to their measures and projects.	applicability, and CPUC-approval status—and is required to be completed for all Market-Based ISP Studies going forward.
4	No Coordinated, Public Planning Process for Market-Based ISP Studies: Planning for Market-Based ISP Studies is necessary to avoid duplication and ensure appropriate rigor, but they are currently neither coordinated nor public. Thus, PAs and implementers may not have market-based studies for many common, high impact measures. The lack of statewide, pre-defined baselines that stakeholders can use in measure and project development creates additional cost and time delays for customers and implementers when baselines must be developed on a one-off project basis, which further deters potential projects and savings opportunities.	Develop Statewide Market-Based ISP Study Public Planning Process: Given that the programs are no longer the exclusive realm of the investor-owned utilities, customers have access to an expanding range of implementer offerings in the California EE marketplace. An annual stakeholder-participatory planning process is needed to identify common high-impact measures and projects that would benefit from market-based ISP studies and may be useful to more than one customer or PA. This meets the requirements of E-4939 ⁶ and would improve stakeholder understanding of the purpose, foster engagement, increase awareness of the outcomes, and reduce the cost of ISP research.
5	Most Informal ISP Studies Exceed the Cost of the Custom Project Incentive: The Subcommittee estimated that the cost of conducting an Informal ISP study exceeds the value of the customer’s incentive for more than 81% of custom measures. ⁷ Furthermore, Informal ISP studies do not represent the “current state of the market” as data collection is limited in scope and rigor, which leads to uncertainty among stakeholders about the appropriateness and applicability of the informal study findings.	Remove the Informal ISP Study Requirement for All Custom Measures Or for Custom Measures Smaller Than 1000 MWh or 100,000 Therms or With Incentives Less Than \$100,000 (Tiered Baseline Approach): It is hard to justify to ratepayers spending more money analyzing the baseline for a custom measure than the customer receives in incentives. Further, the cost, time delay, and risk that a study (and therefore project) could be rejected after significant effort, deters customers and implementers from pursuing potential projects.

⁶ CPUC Resolution E-4939, OP 5.

⁷ Based on Cal TF Staff analysis of PA’s Bi-Monthly Upload data for 1/1/2021 through 6/30/2023.

INTRODUCTION

Background/Overview of Research Activities

Cal TF Staff formed an ISP White Paper Subcommittee to analyze relevant policy and practice, compile existing baseline data and related resources, and engage with stakeholders to understand existing challenges and develop proposed solutions related to the baseline selection process. The Subcommittee surveyed custom stakeholders in August 2023 to collect feedback on current challenges and opportunities to improve the baseline determination process. The survey received responses from 42 stakeholders, including representatives from all IOUs and 17 implementation firms.

The Subcommittee combined quantitative and qualitative data with feedback from stakeholders through multiple Cal TF Custom Subcommittee, California Technical Forum, and PAC meetings as well as one-on-one meetings with stakeholders including PAC Staff, CPUC Staff, and project developers and reviewers to characterize existing challenges and develop recommendations.

Additional details on the research methods, findings, and recommendations can be found in the accompanying [ISP Research Memo](#).

High-Level Summary of Commission Policy and Staff Guidance

Historical Approach to Custom Project Baseline Determination

Prior to the introduction of the current Industry Standard Practice determination process in 2018, baseline policy defined the baseline for New Construction (NC) and Normal Replacement (NR) measures as code or, if an applicable code did not exist, industry standard practice. The CPUC consistently defined ISP to mean *typical equipment or commonly used current practice absent the EE program*.⁸

However, one challenge was a lack of a defined process to determine the appropriate baseline. The Commission established the Track 2 Working Group (T2WG) to, among other tasks, “consider and recommend clarifying policy for how to determine code baseline as they address issues related to industry standard practice.”⁹

Current Custom Project Baseline Determination Process – Significantly Increased Complexity

On October 18, 2018, the Commission issued Resolution E-4939, which adopted some recommendations from the T2WG final report, including a new “standard practice baseline” definition (replacing “code baseline”), and defined a new baseline selection process.¹⁰ The Resolution included a five-page “Standard Practice Baseline and Baseline Selection Guidance Document” while also referencing a separate guidance document under development by CPUC

⁸ CPUC Decision 12-05-015 at Page 351.

⁹ CPUC Resolution E-4818, OP 25.

¹⁰ CPUC Resolution E-4818, OP 2.

Staff.¹¹ E-4939 also authorized CPUC Staff to update the guidance “when clarification is necessary” following a specific process and no more than once annually.¹²

Many stakeholders agree these changes led to a significant increase in complexity around baseline determinations for custom measures. The current Guidance Document is 48 pages and incorporates multiple rounds of revisions since the E-4939 guidance was established.¹³

Since 2018, the ISP process has reinterpreted “typical equipment or commonly used practice” to mean “market-based” studies (i.e., studies that survey or assess an entire market through a rigorous study) and introduced “Informal” ISP studies, which use a small sample size to determine the ISP and baseline for a specific custom measure or project.¹⁴ Further updates to the ISP Guidance documents introduce and provide guidance for “unique” or “semi-unique” custom projects to identify and justify custom projects for which an ISP study should not apply.

Problem Statement or Need

For PAs and implementers to comply with the Commission’s baseline policies: the policy and guidance needs to be clear and consistently understood by stakeholders; market-based ISP studies and other CPUC baseline determinations need to be public, centralized, clear, useful, and up to date; and the cost of baseline development and selection development should be commensurate with the value they provide.

Value Proposition Recommended Improvements

The recommendations in this White Paper are intended to expand opportunities for stakeholder input and increase transparency, clarity, efficiency, and compliance with Commission-mandated baseline selection policies and processes while reducing overall cost and time delays for customer projects.

CURRENT STATE

Below are the current practices that stakeholders would like to see improved, with associated rationale.

¹¹ CPUC Resolution E-4939, OP 1 and OP 5. The adopted Standard Practice Definition and Baseline Selection Guidance document is provided in Attachment A to Resolution E-4939.

¹² CPUC Resolution E-4939, OP 6.

¹³ CPUC. April 2, 2021. *Energy Efficiency Industry Standard Practice (ISP) Guidance: An Update to Guidance for ISP Studies and Custom Project Development*. Version 3.1.

¹⁴ Ibid, Page 17: “An informal ISP study is an abbreviated version of a market-based ISP study that a project developer should conduct.”

Current Practice #1: ISP Guidance Document is Complex, Unclear, and Inconsistently Interpreted; Supplemental Guidance and Clarifications Are Not Consistently Available to All Stakeholders

Despite a detailed ISP Guidance document¹⁵ developed “to provide guidance for the concepts and processes involved with establishing and implementing an Industry Standard Practice (ISP) study,” there continues to be widespread confusion and misunderstanding of the appropriate baseline definitions, processes, and outcomes.

In the stakeholder survey, less than 10% of PA respondents and less than 18% of implementer respondents rated “Clear Guidelines”, “Consistent Process”, and “Training/Learning Opportunities” as “Working well.” Stakeholders reported confusion and lack of clarity and consistency in the current policy and guidance, which may be the cause of reported inconsistent compliance with policy, disagreements on the application on ISP policy and studies, and conflicting baseline determinations among stakeholders:

- **Familiarity** – About 40% of PAs and Implementers rated themselves a three or lower in familiarity with ISP assessments for custom measures; only 38% of PAs and 7% of implementers rated themselves as “Experts.”
- **Compliance** – Stakeholders reported that most aspects of ISP policy are not consistently complied with.
- **Disputes** – One third of implementers said they have had a baseline rejected or modified during PA technical review, and almost one third of all respondents indicated a CPUC reviewer has rejected a baseline that was approved by the PA technical reviewer.

Further, the most recent Custom Industrial, Agricultural, and Commercial (CIAC) impact evaluation identified “Inappropriate Baseline” as the discrepancy with the largest impact on evaluated savings, noting that “adjustments in baselines were largely attributed to non-compliance with CPUC baseline policy and guidance on ISP.”¹⁶ The Ex Post baseline adjustments included projects reviewed and approved through Custom Projects Review (CPR), highlighting the differences in baseline understanding even across CPUC review teams.¹⁷

Consequences of Current Practice

Stakeholder confusion and/or inconsistent understanding of ISP policy and requirements and the baseline selection process adds cost and time delays to projects and can result in wasted customer time and inefficient use of ratepayer funds when baseline selection disputes are identified and unresolved deep into project development. These costs and delays may also result in lost or abandoned projects and increase financial risk for customers and implementers.

¹⁵ CPUC. April 2, 2021. *Energy Efficiency Industry Standard Practice (ISP) Guidance: An Update to Guidance for ISP Studies and Custom Project Development*. Version 3.1.

¹⁶ DNV. June, 1 2023. *Custom Industrial, Agricultural, and Commercial (CIAC) 2020-21 Impact Evaluation*. Table 3-7 (electric) and Table 3-15 (gas).

¹⁷ Based on PG&E analysis of project-specific evaluation determinations.

Current Practice #2: Incomplete, Out-of-Date Repository and Limited Accessibility of Market-Based or Other ISP Studies and Baselines

Market-Based ISP Studies

The Subcommittee found that there is no complete, up-to-date central repository of market-based ISP studies (despite efforts to collect and distribute CPUC guidance broadly), and many baseline studies are not publicly accessible.¹⁸ Cal TF Staff identified and compiled existing ISP studies and baseline resources through the following sources:

- CAEnergyGuidance.com: The CAEnergyGuidance.com database contains nine ISP Studies, with publish dates ranging from 2013 to 2019; two published studies had no dates.
- Custom Measure and Project Archive (CMPA): Many more ISP Studies are available on the CMPA, a resource only accessible to PA and CPUC Staff and not available to implementers who need baseline information to develop their projects.
- Stakeholder Engagement: PAs and Implementers have provided additional ISP studies and other baseline guidance information they have received through project-specific discussions and other informal communications.

Cal TF Staff continues to work with CPUC Staff, its consultants, and the PAs to identify all applicable market-based ISP studies and relevant baseline determinations.

Informal ISP Studies

Informal ISP studies are specific to a project and are not designed to represent “typical” market conditions yet may be used to define baselines impacting claimed savings and customer incentives in the same manner as market-based ISP studies. Informal ISP studies are limited in scope (rigor/sample sizes) and are tied to a specific project such that it is difficult to communicate baseline information and applicability without revealing personally-identifiable information (PII).

Similar to the limited accessibility of market-based ISP studies, the Subcommittee found no comprehensive archive of accessible baseline information from informal ISP Studies, which are stored in access-controlled project-specific folders and may contain customer-specific information.

- For custom projects selected and reviewed through the CPR process, non-confidential information is provided in Project Dispositions that are redacted (to remove any confidential data) and uploaded to CAEnergyGuidance.com. However, redacted Project Dispositions, even when uploaded to the CAEnergyGuidance.com website, do not include standard practice baseline details and often lack context to understand the size or scope of the project and measure(s) and/or applicability of any project data to the baseline determination.

¹⁸ CAEnergyGuidance.com was developed to host documents related to EE measure-specific guidance issued by the CPUC, but it does not contain all existing ISP Studies or data needed to understand the future applicability of published ISP studies.

- For custom projects not selected for CPR, Informal ISPs or other baseline data are not made available to stakeholders except through PA-specific communications. In some cases, baseline guidance from Informal ISP studies or other project-specific analysis may be shared by CPUC Staff through ad hoc memos or communication to one or more PAs, but these memos are not consistently shared or made public for broader stakeholders.

Current Practice for Identifying Project Baselines in The Absence of a Central Repository

When asked through the stakeholder survey how they determine whether an existing, applicable baseline is available (e.g., to complete Step 1 of the 3-Step Baseline Selection Process),¹⁹ project developers and PA Staff described a range of approaches including:

- Relying on personal and/or colleagues' memory and experience,
- Requesting information and/or guidance from PA or CPUC Staff,
- Using internal company resources where baseline data has been compiled, and
- Scanning a variety of resources including CAEnergyGuidance.com, CEDARs, the eTRM, PA-specific resources (e.g., PG&E Wiki), past project files, and Google.

Consequences of Current Practice

This lack of centralized, accessible baseline information results in unnecessary cost and time delays and redundant and conflicting effort. Project developers and PA Staff may be unaware of existing baseline research and CPUC-approved baselines or determinations that may affect their project, resulting in potentially unnecessary work (e.g., to conduct research that already exists) or missed opportunities (e.g., choosing not to pursue a project due to the cost of baseline development when a baseline already exists). These challenges also disadvantage small and new contractors who do not have the history of information or contact networks to rely on for baseline information nor the capacity to track, compile, and unpack disparate baseline sources.

Current Practice #3: No Consistent Format, Data, or Rigor of ISP Studies

The Subcommittee reviewed each available ISP study and sought to organize in a consistent format the key information that stakeholders need to understand the outcome and applicability of an ISP study and found the following challenges:

- Inconsistent Formats: ISP Studies are provided in a variety of formats including formal reports, formal memos, informal documents, and Excel Workbooks.
- Inconsistent Availability of Key Information Needed to Determine Applicability: ISP studies do not consistently include key information, such as the study date, author, applicability, or effective date for the baseline determination.
- Effective Date(s) of Study: Few of the baseline resources provide information on the applicability and/or duration of the baseline data, so it is unclear how long existing baseline determinations are valid and useful.
- Approval Status of Studies: Especially for PA-authored studies, there is limited information about whether the study or baseline was approved by CPUC.

¹⁹ CPUC Resolution E-4939, Attachment A, Section 3: Selection Process, Page 53.

- **Inconsistent Rigor:** Studies contain different levels of rigor (such as sample sizes and error bands), creating confusion on the required rigor or study approach and leading to frequent disagreements among PAs, implementers, and CPUC consultants on the appropriateness of a study's findings or whether CPUC Staff will approve the study.

Consequences of Current Practice

The inconsistencies in content, format, approach, rigor, and status information for existing ISP studies make it difficult for stakeholders to develop and/or use existing baseline data and create conditions for misunderstanding and disagreements regarding baseline validity and applicability.

Current Practice #4: No Coordinated, Public Planning Process for Market-Based ISP Studies

While individual PAs and CPUC Staff may plan and initiate baseline research, there is no formal, regular, or public process for statewide coordination and/or communication regarding baseline research needs, priorities, or collaboration. The Subcommittee was unable to identify any planned or in-progress baseline research, and many stakeholders confirmed they are unaware (despite their desire and efforts to be informed) of other stakeholder research efforts.

Consequences of Current Practice

This lack of coordination and incomplete communication on baseline research needs or efforts may result in redundant research efforts, missed collaboration opportunities, stranded savings, and increased program costs and may not target the most important areas needed for ISP studies.

Current Practice #5: Most Informal ISP studies exceed the cost of the custom project incentive, are inaccessible to other stakeholders, and are limited in scope.

Through analysis of the custom portfolio and data collected through the stakeholder survey, the Subcommittee estimated that the cost of conducting an Informal ISP study exceeds the value of the customer's incentive for more than 81% of custom measures.²⁰ Stakeholders indicated the Subcommittee's cost estimates were conservative, indicating the imbalance in cost relative to value of Informal ISP studies may be even more pronounced.

Furthermore, Informal ISP studies do not represent the "current state of the market" because the data collection is inherently limited in scope (e.g., to project-specific application and a small subset of market vendors), which leads to uncertainty among stakeholders about the applicability of the informal study findings.

Consequences of Current Practice

Requiring research and documentation that costs more than the value it provides is an inefficient use of ratepayer funds. Due to the high cost of baseline selection relative to project size, customers and implementers may choose not to pursue smaller custom measures for which they are required to develop a baseline study. From a customer and implementer

²⁰ See Cal TF ISP Research Memo for analysis details.

perspective, the additional cost of informal baseline research, associated time delays, and potential for a study to be rejected further deters potential projects. The cost of Informal ISP studies is particularly onerous considering that the results are based on a small sample size and are rarely sufficiently rigorous given their limited scope to be more broadly applicable.

Conclusion: Impact of Current Practices on Implementers and Customers; Need for Change

Current ISP Practices Deter Customers and Implementers: Stakeholders indicate that current ISP practices, in combination, increase cost, time, and risk for custom projects and deter customers and implementers from doing custom projects:

- When asked about the significance on a scale of 1 (“Not Significant”) to 5 (“Very Significant”) of the baseline selection process (relative to other components of developing a custom project) in deterring customers from pursuing custom projects, almost three-quarters (74%) rated 4 or 5; no respondents said “Not Significant”.
- In addition, anecdotal discussions with stakeholders through Technical Forum, Custom Subcommittee, and ad hoc meetings, stakeholders confirmed that the cost, complexity, and unpredictability of the baseline selection process results in customers, implementers, and PAs choosing not to pursue viable custom energy efficiency projects.

Current ISP Practices Increase Project Costs and Workload, Sometime Unnecessarily: Project Developers and PA Staff describe that the baseline selection process frequently adds significant cost, workload, and time delays to the custom project development process. For example, using stakeholder estimates of level of effort to complete an Informal ISP study, the Subcommittee calculated a weighted average estimate from implementers at 47 hours per project and a weighted average estimate from PAs of 30 hours per project.

Negative Customer Experiences Impede Program Success: In addition to adding cost and time delays to custom project development, uncertainties in baseline determinations may impact a customer’s incentive or cause a project to be rejected after considerable customer and implementer cost and effort. Multiple stakeholders, including both PAs and implementers, shared that customers and/or contractors who had bad experiences with Custom projects do not want to participate again and may also dissuade peers from participating, creating a “negative spillover” effect.

FUTURE STATE / OPPORTUNITIES

Approach

This section describes Cal TF’s recommendation to improve the current state, describes whether the recommendation aligns with CPUC policy, and identifies whether the recommendation is aligned with current or possible future planned Cal TF work.

The Subcommittee developed draft recommendations based on stakeholder input, analysis of the current state and data collected, and successful models of statewide coordination, transparency, and balancing rigor and value. The Subcommittee presented these draft recommendations for discussion at Custom Subcommittee, TF, and PAC meetings and improved recommendations based on stakeholder feedback and discussion.

Recommendation #1: Update, Clarify, and Simplify Baseline Selection Guidance and Provide Means for Ongoing Updates, Clarifications, and Training to Support Consistent Understanding and Application of Baseline Selection Guidance

Stakeholders need clear, accessible, and up-to-date guidance that is easy to understand and consistently interpreted by all stakeholders. The updated guidance should 1) incorporate recommendations from this White Paper, 2) address points of confusion and other challenges raised by stakeholders, and 3) establish a regular and transparent update and communication process to ensure the guidance stays current and that stakeholders are aware of and understand any changes. Training reinforces consistent statewide understanding and practices and provides valuable support as new stakeholders (e.g., new staff and/or contractors) engage with the EE Portfolio. Key policy and guidance issues to discuss include:

- Clear guidance on when an ISP Study is required;
- Alternative methods of determining baselines when pre-approved baselines are not available to minimize cost and impacts on measure development;
- Clear and consistent approach to defining and documenting the applicability of ISP Studies, CPUC approved baselines, and other baseline research for future use;
- Streamlined baseline research templates and guidance to support clear, consistent, efficient, complete, and unbiased baseline research activities for which results are clear to document and communicate broadly; and
- Clear, consistent, and time/cost-efficient approach to operationalize baseline policy.

In addition, appropriate training should be developed and offered to stakeholders to ensure consistent statewide understanding and implementation of baseline selection policy, guidance, and processes.

CPUC Policy: This recommendation is consistent with CPUC Policy. Resolution E-4939 (OP 6) describes the process and schedule by which ISP Guidance should be updated.

Cal TF Engagement: Cal TF's Custom Initiative includes an effort to consolidate, organize, and clarify custom policy and guidance.²¹ As part of this ongoing effort, and in its current role facilitating analysis and resolution of technical and technical policy issues, Cal TF is well positioned to facilitate stakeholder engagement to identify necessary clarifications and support the update, ongoing maintenance, and training on ISP policies and processes.

Recommendation #2: Create a Central, Public, Searchable Database of Market-Based ISP Studies and Approved Baselines with Key Data Including Date of Issuance, Applicability, and Effective Dates

Creating a centralized, up-to-date database of standard practice baselines scored the highest among improvement opportunities in the ISP stakeholder survey.²² The ISP Research Memo

²¹ See Cal TF 2024 Business Plan, Metric 5A.

²² More than 80% of survey respondents indicated a “publicly available library of accepted standard practice baselines that is complete, up-to-date, and searchable” would be “Extremely Valuable”; more than 93% indicated “Extremely Valuable” or “Valuable.”

provides additional details on the Baseline Database and how Cal TF proposes to populate the database prospectively (for new baselines established in the future) and retrospectively (with existing baseline data from past baseline studies).

CPUC Policy: The recommendation is aligned with CPUC policy. Resolution E-4939 (OP 4) directed CPUC Staff to “create, organize, and manage a single database for all CPUC staff-approved Industry Standard Practice guidance documents and CPUC-issued or CPUC staff updated memoranda or dispositions related to measure baselines. [...] The documents should be publicly available on a website with a date of issuance, an effective date, and a description of the applicability of each document provided.”

Cal TF Engagement: As described above, Cal TF Staff is creating a centralized, public, searchable Baseline Database that stakeholders can use to identify existing, approved baselines that may be applicable to their building, measure, or project. To this end, Cal TF Staff is compiling all currently applicable ISP studies. Cal TF Staff could review and summarize Market-Based and Informal ISP studies that CPUC Staff and/or PAs indicate have general relevance and include these approved baselines in the Baseline Database.

Recommendation #3: Establish Consistent Format and Data Requirements for ISP Studies to Clarify Baseline Definition and Applicability

Since the rate of technological advancement is not consistent across market segments, actively developing markets may need more frequent updates while older, more established markets may need less frequent updates. Similarly, differences in practice exist across customer types (e.g., based on size). Baseline applicability refers to which measures and markets the baseline applies and for how long an existing/approved baseline can be used. To ensure baseline applicability is clear for each ISP study, Cal TF recommends adopting an ISP Study Summary Form with consistent formatting and data requirements that would be required for all market-based ISP studies.

CPUC Policy: This recommendation supports the data requirements in Resolution E-4939 (OP 4), described above. Also, development and use of a consistent summary template for all ISP studies will help ensure compliance with applicable ISP studies.

Cal TF Engagement: Cal TF has created a draft ISP Study Summary Form (contained in the ISP Research Memo) that can be used to summarize applicable past market-based ISP studies and that would be required for all future market-based ISP studies as a condition of approval. The template includes key baseline information (measure description, baseline description, effective and expiration dates, and applicability) and key study information (author, complete date, approval date) in a consistent format so that stakeholders can identify and understand the ISP study results.

Recommendation #4: Implement a Statewide Market-Based ISP Study Public Planning Process

Cal TF recommends stakeholders implement a public, statewide, planning process for Market-based ISP studies that would incorporate deemed and custom program needs. A public and coordinated planning process will support broad stakeholder input on market opportunities and needs, avoid duplicative and conflicting studies, ensure the most important gaps that exist in

market-based ISP studies are filled, and support statewide communication and stakeholder awareness on research planned, in-progress, and completed.

The ISP Research Memo details how such a process could work, modeling effective statewide stakeholder processes that Cal TF utilizes to support deemed measures and the eTRM. This White Paper does not make recommendations on funding sources or contract administration.

CPUC Policy: This recommendation is consistent with CPUC Policy. Resolution E-4939 (OP 5) orders that “The program administrators in consultation with CPUC staff should examine their portfolios on an annual basis to identify the measures requiring an ISP study in the subsequent 12 months.”

Cal TF Engagement: In its current role facilitating analysis and resolution of technical and technical policy issues, Cal TF may be well positioned to facilitate a public, statewide market-based ISP planning process.

Recommendation #5: Remove the Informal ISP Study Requirement for All Custom Measures Or for Custom Measures Smaller Than 1,000 MWh or 100,000 Therms or with Incentives Less Than \$100,000 (Tiered Baseline Approach)

When informal ISP studies *exceed* or are a significant percentage of the customer incentive, a disproportionate amount of ratepayer funds go to project review and administration instead of to the customer and project implementation. High spending on project administration and review relative to customer incentive and project costs appears to be a poor use of ratepayer funds.

In discussions for this recommendation, Cal TF Stakeholders offered two recommendations:

- Create a “Tiered Baseline” approach by removing the Informal ISP requirement for Custom Measures Smaller than 1,000 MWh or 100,000 Therms or With Incentives Less Than \$100,000²³
- Eliminate the Informal ISP Study Requirement for All Measures

Position 1: Tiered Baseline Approach

Description: The Tiered Baseline Approach streamlines the current baseline selection process for all measures with savings or incentives below the typical “Full Rigor” threshold (i.e., measures that would fall into the “Very Low”, “Low”, and “Medium” rigor categories for POE requirements) and maintains the existing Informal ISP requirement for measures that exceed that threshold (i.e., measures that meet the “Full Rigor” POE requirements). The Subcommittee recommends a threshold that matches the existing “Full Rigor” POE threshold (\$100,000) or the savings-based equivalent of 1,000 MWh or 100,000 therms.

For Custom Measures below the threshold, the Tiered Baseline recommendation modifies the baseline selection process *when an Informal ISP Study would be otherwise be triggered under the current practice* as follows:

²³ The \$100,000 incentive threshold is based on the “Full Rigor” threshold for POE requirements; the savings thresholds are based on commonly used \$0.10/kWh and \$1/Therm conversions.

- Where baselines are current, applicable, and public (i.e., contained in the Baseline Database described in Recommendation #2), the measure should use those established baselines consistent with E-4939.²⁴
- If no existing, applicable baseline is published in the baseline database, use code or applicable regulatory requirement (e.g., AQMD requirements).
- If there are no code or other applicable requirements, use existing conditions.

Rationale: The Tiered Baseline approach enables the use of existing baseline data when available and otherwise scales the cost of baseline selection with project size. The approach is modeled after the existing tiered Preponderance of Evidence (POE) requirements and uses the existing custom incentive threshold tiers to balance the due diligence of baseline selection with project value and risk.²⁵ The proposed threshold was set based on incentive levels that do not warrant the cost of an Informal ISP Study and to match custom measures below the existing “full rigor” threshold.

Position 2: Eliminate the Informal ISP Study Requirement for All Measures

Description: Eliminate the Informal ISP Study for all custom measures, regardless of size or cost, on the basis that Informal ISP Studies do not follow a rigorous process or best practices for market studies and therefore should not be used to represent standard practices.

Rationale: Informal ISP studies are not sufficiently rigorous to establish an industry standard practice and therefore should not be used to establish a project baseline. CPUC Policy defines market-based ISP studies for developing standard practice baselines but does not define informal ISP studies, which are, by definition, “informal” and not representative of typical market practice. Custom stakeholders should not be required to conduct additional market research that is outside the scope of their custom project to establish key project parameters such as baseline.

CPUC Policy: This recommendation is consistent with differing levels of rigor in CPUC Policy and uses the “Full Rigor” incentive threshold previously established for tiered Preponderance of Evidence (POE) requirements.²⁶

Cal TF Engagement: The Subcommittee modeled the proposed Tiered Baseline approach after the existing tiered-rigor requirements based on customer incentive thresholds and using data collected from the custom bi-monthly update reports and stakeholder survey. Details on this approach, including a figure explaining the process, are available in the ISP Research Memo.

²⁴ Step 1 of the E-4939 Attachment A instructs the consideration and application of any relevant, applicable, and current CPUC published Standard Practice documents.

²⁵ CPUC Resolution E-5115 adopted the “rigor tiers” and associated customer incentive levels for the preponderance of evidence requirement for the custom projects accelerated replacement measure application type.

²⁶ CPUC Resolution E-5115, OP 1.

CONCLUSIONS & RECOMMENDATIONS

Collectively, these recommendations address existing challenges and improve clarity, understanding, awareness, certainty, consistency, efficiency, and statewide coordination for establishing baselines for California's EE programs within current CPUC policy.

Next Steps

Cal TF Staff is continuing its efforts to clarify baseline selection guidance (Recommendation #1) and develop the Baseline Database (Recommendation #2). Upon TF and PAC Affirmation, Cal TF will discuss with CPUC Staff and the Cal TF PAC how Cal TF will support the recommendations contained in this White Paper.