

Cal TF Custom Subcommittee Meeting #15



JANUARY 10, 2024

Agenda & Goals

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- **Meeting Agenda**

- Custom Measures Package Selection – 45 min
- ISP White Paper Presentation & Discussion – 75 min

- **Meeting Goals**

- Stakeholder input on CMC participation, key information
- Update on new Lighting Working Group; stakeholder input on MLC update needs
- Stakeholder Input on ISP White Paper recommendations

Quick Updates

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- [2024 Cal TF Business Plan](#) posted
 - See Goal 5 for Custom Initiative efforts
- New CPUC Lighting Working Group
 - Started this week; will meet biweekly
- NMEC Draft Rulebook Workshop – Jan 30 (tentative)
- Added to [Custom Tool Library](#)
 - Fuel Sub Calculator
 - Water Energy Nexus

Custom Measure Prioritization

- **2023 Custom Measure Packages (CMPs)**
 - Cal TF Affirmed
 - ✦ Steam Boiler Replacement
 - ✦ HVAC RCx
 - ✦ HVAC Chiller Systems
 - In Progress
 - ✦ Pump Systems
 - ✦ Boiler Plant Measures

- **Meeting Goal**
 - **Kickoff for 2024 activity**
 - **Stakeholder interest in working groups**
 - **Initial input on relevant info, resources, etc.**
 - **Input on Custom Lighting Gaps**


Custom Measures

Objective: develop standard savings estimation methods, calculation tools, and data requirements for select custom measures

Measure Standardization Approach

start

Select measures for statewide standardization

- Identification of Measure Champion (MC)
- Stakeholders share resources, experts, background information, etc.
 - Upload key resources to SharePoint
- Cal TF Staff / MC develop initial draft w/ Working Group
 - Measure definition (scope and boundaries)
 - Measure characterization
 - Savings estimation methods/tool
 - Guidelines for site-specific parameters
 - Baseline determinations
 - Data collection and M&V requirements
- Custom Subcommittee review 
- TF Review and Affirmation
- Publish TF-affirmed custom measure in the [Measure Library](#)
- Request CPUC input

goal

Cal TF-affirmed savings methods, in the public [Measure Library](#) for transparency and access

Custom Measure Packages

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| Measure | System | Activity | Subsector |
|---|--|---|--|
| <ul style="list-style-type: none"> • Steam boiler replacement • Compressed air leaks • HVAC controls • Mechanical vapor recompression | <ul style="list-style-type: none"> • HVAC chiller • Boiler Plant • Pump systems • Boiler distribution • Compressed air • Lighting • Pool pumps • Process equipment • Process fans • Process refrigeration • Process cooling | <ul style="list-style-type: none"> • HVAC RCx • Fuel substitution • Site NMEC • Strategic Energy Management | <ul style="list-style-type: none"> • Data centers • Indoor horticulture • Oil production • Multifamily existing whole building • Non-res new construction individual systems • Res new construction whole building • Wastewater |

2023 complete

2023 in progress

2024 plan (11 CMPs) – Highlighted Phase 1

Compressed Air

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- Potential Measures

- Compressor replacement
- Multi-compressor system controls
- Additional storage
 - ✦ Supply side
 - ✦ Demand side
- Intermediate flow control
- Air dryer measures
- Pressure reduction measures
- Air demand reduction measures

- Measure Champion

- Antonio Aliberti (TF Member)

- Potential Tools

- DOE MEASUR/Air Master+
- PG&E Air Compressor Tool

- Key Topics

- Industrial sector
- Baselines
- Calculation/normalization

Email spencer.lipp@futee.biz or put a note in the chat to be in the working group

Multi-Family Existing Whole Building

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- Potential Measures

- Envelope measures
- HVAC system replacement
- Duct leakage and insulation
- Refrigerant charge
- Building leakage
- Appliances
- Unit, common and exterior lighting
- Solar Domestic Hot Water
- Pool heater and cover

- Measure Champion

- Ben Cooper/BayREN

- Potential Tools

- EnergyPro Lite

- Key Topics

- Small project process
 - ✦ Baselines
 - ✦ Calculation rigor
 - ✦ POE

Email spencer.lipp@futee.biz or put a note in the chat to be in the working group

Non-Res New Construction Individual Systems

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- Potential Measures

- Electrification measures
 - ✦ Heating
 - ✦ Food service
 - ✦ Water heating

- Measure Champion

- Matt Swenka (Willdan)
- Ben Simon (Willdan)

- Potential Tools

- TBD

- Key Topics

- Baselines
- Calculation procedure (alternative to whole building model)

Email spencer.lipp@futee.biz or put a note in the chat to be in the working group

Lighting

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- Potential Measures
 - Non one-for-one lighting efficiency measures
 - Lighting measures without DEER Building Type hours of use
 - Lighting controls
 - ✦ Dimming
 - ✦ Occupancy
 - ✦ Networked
- Measure Champion
 - TBD
- Potential Tools
 - MLC (needs updates)
- Key Topics
 - Conjunction with CPUC working group

Email spencer.lipp@futee.biz or put a note in the chat to be in the working group

CPUC Lighting Working Group

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- CPUC + PAs
- Bi-weekly meetings
- Primary scope: Defining MLC update needs

- **Stakeholder Input**
 - How can the MLC tool be improved?
 - ✦ Functions
 - ✦ Assumptions
 - ✦ Scope
 - What lighting opportunities does the tool not support (that it could/should support)?
 - Email spencer.lipp@futee.biz any additional notes **by Jan 17**

CMC Next Steps

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- Q1: Begin initial CMC Working Groups
 - Compressed air, MF existing whole building, and NR NC individual systems, lighting
 - Email spencer.lipp@futee.biz (or put in chat) by **Jan 19**
 - ✦ Working Group Participation
 - ✦ Share resources, experts, background information, etc.

- Q2+: Initiate Working Groups for remaining CMCs
 - **Seeking volunteers for Measure Champions**
 - ✦ Commitment to attend working group meetings
 - ✦ Commitment to review Custom Measure Packages
 - ✦ Option to present/co-present at Cal TF

ISP White Paper



- Draft ISP White Paper ([PDF](#), [Word](#))
 - Summary of Findings and Recommendations
- Draft ISP Research Memo ([PDF](#), [Word](#))
 - Additional details on data collection and analysis supporting findings, approach to implementing recommendations
- Policy-related discussion to be part of Custom Policy Initiative (2024 BP)
- **ACT** – TF, Stakeholder Input on White Paper Recommendations
 - **Send comments by EOD, Wed Jan 17**
 - Email arlis.reynolds@futee.biz

Key Findings & Recommendations

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| # | Current Practice | Recommendation |
|---|--|---|
| 1 | No Central Repository and Limited Accessibility of Market-Based and Other ISP Studies and Baselines | Create a Central, Public, Searchable Database of Market-Based ISP Studies and Approved Baselines (Baseline Database) |
| 2 | No Consistent Format or Data in ISP Studies | Establish Consistent Format and Data Requirements for ISP Studies to Clarify Baseline Definition and Applicability |
| 3 | Most Informal ISP studies exceed the cost of the custom project incentive | Remove the Informal ISP Study Requirement for Custom Measures With Customer Incentive Less Than \$100,000 (Tiered Baseline Approach) |
| 4 | No Coordinated, Public Planning Process for Market-Based ISP Studies | Develop Statewide Market-Based ISP Study Public Planning Process |
| 5 | ISP Guidance is Complex, Unclear, and Inconsistently Interpreted; Additional Guidance and Clarifications Are Not Consistently Accessible to All Stakeholders | Update, Clarify, and Simplify ISP Guidance , and Provide Means for Ongoing Updates, Clarifications, and Training |

Create a Central, Public, Searchable Database of Market-Based ISP Studies and Approved Baselines

- ✓ makes key baseline data clear and accessible to stakeholders
- ✓ meets the requirements of E-4939²
- ✓ facilitates Step 1 of the baseline selection process.³

Cal TF is compiling all accessible ISP Studies and baseline determinations

Cal TF Staff requests any additional existing baseline data **by January 31, 2024** to complete the library of existing, published, applicable baseline data for future use.

BASELINE DATABASE

Source
Issue Date
Measure
Measure Identifier
MAT
Baseline
Effective Date
Expiration Date
CPUC Approval Status
TF Affirmation Status
Applicability
Update Triggers
Search Fields (Measure Category, Sector, End Use, Measure Code)

| Data Field | Description |
|-----------------------|--|
| Source | Source of baseline information (e.g., Market-Based Study, Informal ISP) including direct link to published source material |
| Issue Date | Date the baseline was issued (e.g., CPUC approval date or PA approval date for informal ISPs not selected for CPR) |
| Measure | Description of the measure for which the baseline was developed and is applicable |
| Measure Identifier | Statewide custom measure code (based on statewide custom measure code structure to be developed through the Cal TF in 2024) |
| MAT | Measure Application Type for which the baseline was developed and is applicable |
| Baseline | Description of the approved baseline |
| Effective Date | Date for which the baseline is effective |
| Expiration Date | Date through which the baseline is valid. Default to 5 years from the Effective Date and may be adjusted to shorter or longer effective period. |
| CPUC Approval Status | Indicates whether the baseline was reviewed, approved, or rejected by the CPUC |
| TF Affirmation Status | Indicates whether the baseline was reviewed and affirmed by the TF |
| Applicability | Description of the measures, MATs, customer/market segments, regions, etc. for which the study results are or are not applicable |
| Update Triggers | Description of triggers (e.g., code or other market changes) that may indicate a need to update the baseline |
| Search Fields | Data Tags to support search functions so stakeholders can easily find relevant baseline data (e.g., measure category, measure code, end use, sector) |

Data Sources

Market Based ISP Studies



Informal ISP Studies (CPR-Reviewed)



Informal ISP Studies (PA Approved, no CPR)



Baseline research planned & in progress



BASELINE DATABASE

Source
 Issue Date
 Measure
 Measure Identifier
 MAT
 Baseline
 Effective Date
 Expiration Date
 CPUC Approval Status
 TF Affirmation Status
 Applicability
 Update Triggers
 Search Fields (Measure Category, Sector, End Use, Measure Code)

Working Catalog of ISP Studies

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- [Summary of ISP Documentation.xlsx](#)
 - Catalog of ISP-related documents Cal TF Staff has collected
 - Sources: CAEnergyGuidance.com, CEDARS, CPUC Staff
- Looking for input on:
 - Any additional Industry Standard Practice documentation that should be included in Baseline Database (e.g., E.g., missing ISP Study Reports, Final CPUC Disposition on ISP Study)
- **Cal TF Staff requests any additional existing baseline data by January 31, 2024**

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), applicability, and CPUC-approval status--and is required to be completed for all Market-Based IPS Studies going forward.

Study Information

| | |
|---------------------|--|
| Study Name | |
| Study Author | |
| Study Sponsor | |
| Study Complete Date | |
| TF Affirmation Date | |
| CPUC Approval Date | |

Baseline Information

| | |
|---------------------------------|--|
| Measure Description | |
| Measure Identifier | |
| MAT | |
| Standard Practice Determination | |
| Effective Date | |
| Expiry Date | |
| Applicability | |
| Update Triggers | |

Remove the Informal ISP Study Requirement for Custom Measures With Customer Incentive Less Than \$100,000 (Tiered Baseline Approach)

The proposed tiered baseline recommendation modifies the baseline selection process *when an Informal ISP Study would be triggered under the current practice* for measures with customer incentive less than \$100,000 as follows:

- Where baselines are current, applicable, and public (i.e., in the Baseline Database), the measure should use those established baselines consistent with E-4939.
- If no existing, applicable baseline is published in the baseline database, use code or applicable regulatory requirement (e.g., AQMD requirements).
- If no code/applicable Requirements, use existing conditions.

Tiered Baseline Approach

| Analysis Parameter | Very Low Rigor | Low Rigor | Medium Rigor | Full Rigor |
|--|----------------|-----------|--------------|------------|
| Total number of projects (in data review period) | 1630 | 164 | 137 | 58 |
| Average incentive level | \$1,253 | \$15,065 | \$51,515 | \$382,576 |
| Ratio of Informal ISP Study Cost to Average Incentive | 416% | 35% | 10% | 1% |
| Average Ratio of Informal ISP Study Cost to Incentive, based on estimated requirement rate | 298% | 25% | 7% | 1% |

Develop Statewide Market-Based ISP Study Public Planning Process



Identify
Baseline
Research
Needs



Prioritize
Baseline
Research



Select and
Conduct
Baseline
Research



Research
Standards,
QA/QC
Review, and
Affirmation



CPUC
Approval



Engage and
Notify
Stakeholders

Update, Clarify, and Simplify ISP Guidance, and Provide Means for Ongoing Updates, Clarifications, and Training:

Stakeholders need clear, complete, consistent guidance and a process that appropriately balances cost and rigor and addresses implementation barriers.

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. Also, provide training opportunities for stakeholders statewide to improve common understanding and appropriate implementation of ISP Guidance.

- **Key policy and guidance issues to discuss include:**
 - Clear guidance on when new baseline research (e.g., 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 baseline research for future use,
 - Clear, consistent, and time/cost-efficient approach to operationalize baseline policy, and
 - Appropriate training to ensure consistent statewide understanding and implementation of baseline selection policy and guidance.
- **Cal TF Staff will collect stakeholder input on needed clarifications**

Wrap-Up & Next Steps

● Action Items

- Send input on ISP White Paper **by Jan 17**
 - ✦ Email arlis.reynolds@futee.biz
- Send notes on MLC needs **by Jan 17**
 - ✦ Email Spencer.Lipp@futee.biz
- Send interest and/or notes for working groups **by Jan 19**
 - ✦ Email Spencer.Lipp@futee.biz
- Send additional ISP/Baseline Documentation **by Jan 31**
 - ✦ Email arlis.reynolds@futee.biz

● Upcoming Meetings

- 2/7 Custom Subcommittee Meeting
- 2/22 Cal TF Data Charette #3 (remote)
- 3/6 Custom Subcommittee Meeting