

Cal TF Custom Subcommittee Meeting #1



CALIFORNIA
TECHNICAL FORUM

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SEPTEMBER 13, 2022

Agenda & Goals

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- **Meeting Agenda**

- Subcommittee Overview [10 min]
- Custom Measures – Methods/Tools [20 min]
- Custom Measure Naming Convention [moved to next meeting]
- eTRM Enhancements for Custom Measures [20 min]
- Wrap-up; action items; next meeting [10 min]

- **Meeting Goals**

- Introduce Custom Subcommittee objectives
- Initiate work to develop SW standard methods for measures
- Collect input on initial eTRM enhancements for custom measures
- Set regular day/time for future subcommittee meetings

Subcommittee Overview

Subcommittee Objective

1) develop standard savings estimation methods, calculation tools, and data requirements for select custom measures

Outcome: Recommend SW standard methods/tool/requirements for TF review

2) develop a statewide naming convention for custom measures

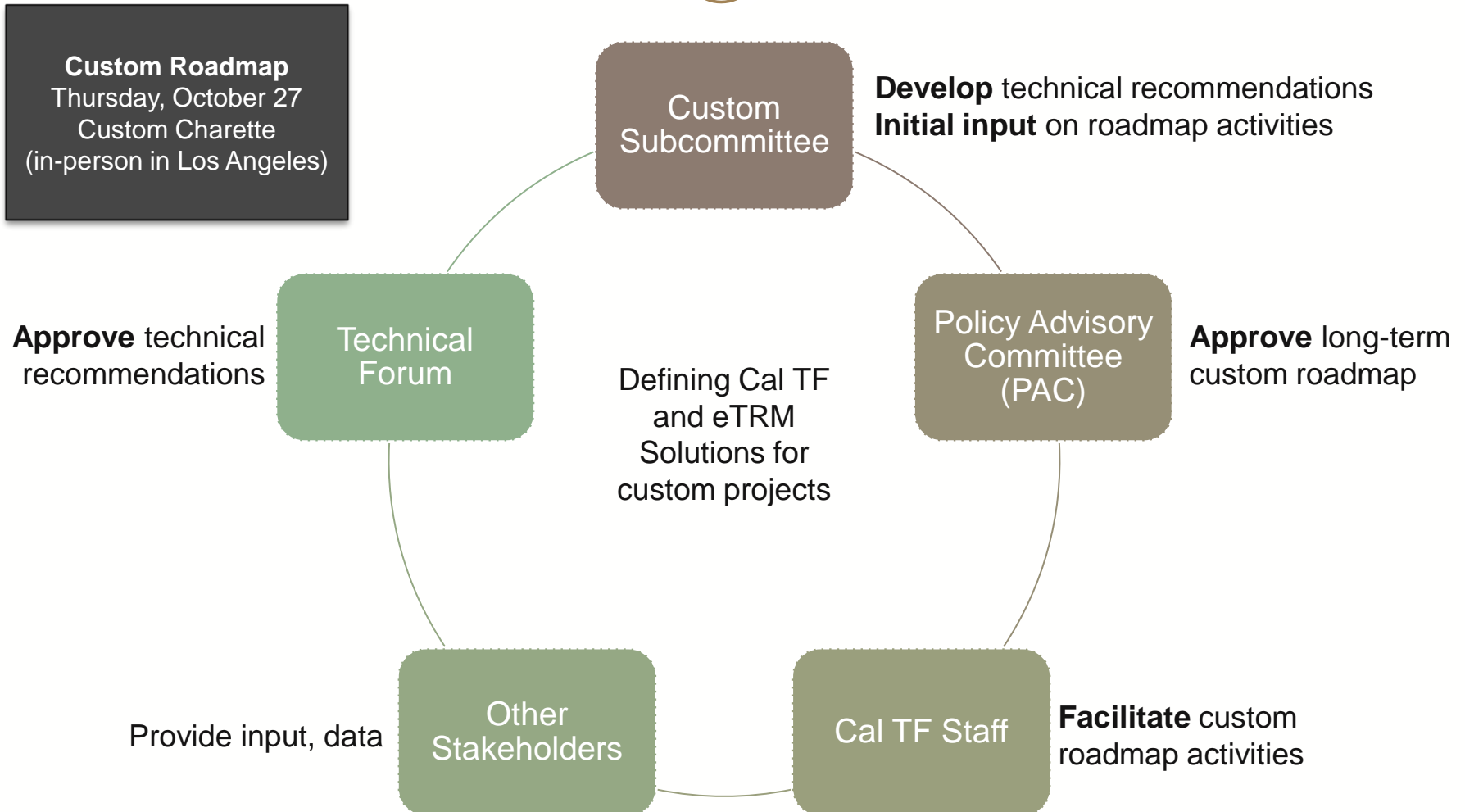
Outcome: Recommend SW standard nomenclature for custom measures for TF review

3) provide input on Cal TF Staff analysis of how existing eTRM tools can be used to standardize and streamline custom projects

Outcome: Recommend eTRM enhancements to support custom measures; TBD

Context

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Subcommittee Logistics

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- Cal TF Staff Lead: Arlis Reynolds
 - arlis.reynolds@futee.biz
 - (949) 394-4339
- Cal TF Website
 - www.caltf.org/2022-subcommittees
 - Background and meeting materials posted
- Meetings
 - ~1x per month [pick regular date/time]
 - Measure-specific activities
 - October 27 Custom Charette (in-person, Los Angeles)

INPUT: Invite/encourage other key stakeholders to subcommittee.

Custom Measures

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

- Measure Definitions
- Standardization Approach
- Measure Brainstorm and Selection
- Measure Champions

Definitions

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- Deemed (“Prescriptive”)
 - Per-unit impacts and costs have been **pre-determined**
 - Must be approved by CPUC prior to their use
- Custom
 - Customer financial incentive and the ex ante savings are determined using **site-specific analysis**
 - Savings are estimated prospectively (site-specific engineering calculations), and impacts are verified retrospectively (submetering or other project-specific M&V protocol)
- Emerging Technology
 - New EE technologies, systems, or practices that have significant energy savings potential but have not yet achieved sufficient market share to be considered self-sustaining or commercially viable.
 - Energy and demand impacts cannot be claimed
- Normalized Metered Energy Consumption (NMEC)
 - A subset of custom
 - Savings developed based on savings at the meter
- Hybrid (“Semi-custom”)
 - Partially deemed; partially custom
 - “Semi-custom” for the POUs; not a defined measure type for IOUs
 - Compared to deemed: Site-specific characteristics improve accuracy in savings and cost estimates
 - Compared to custom: Streamlined/shorter approval process; greater customer certainty on savings and incentives

Standardization Steps

Update slide
during meeting
discussion

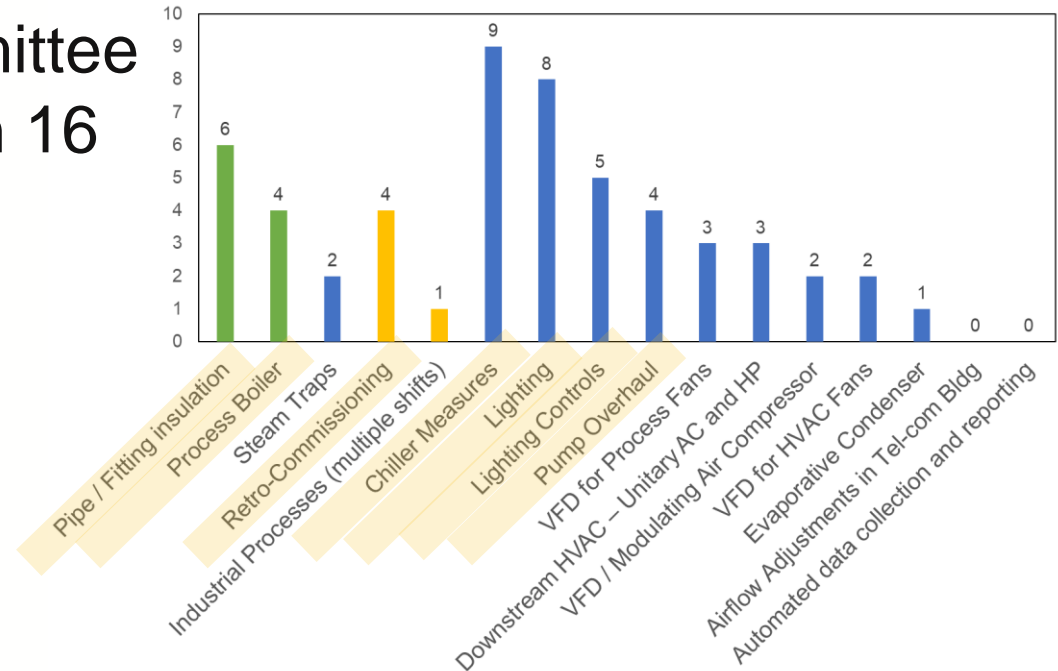
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- Subcommittee select measures for standardization
 - Should have generally accepted/common calculation methods
 - Should be used frequently (such that standardization effort provides value)
- Subcommittee identify Measure Champion (MC)
 - Should be someone with practical experience and who wants/plans to implement the measure
- MC develop initial draft for SW recommendations
 - Measure characterization
 - Savings estimation methods
 - Guidelines for site-specific parameters
 - Data collection and M&V requirements
- MC work with Cal TF Staff to develop tool(s) as needed
- MC / Cal TF solicit input from TF, CPUC, other stakeholders
- **Send recommendation to the TF for review/approval**
- **Implement and publish custom measure in the eTRM**
- Request CPUC Early Opinion on “hybrid” approach

Semi-Custom/Hybrid Measures

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- 2020 Hybrid Subcommittee identified and voted on 16 measures
- Recent input on other potential measures:
 - VFDs
 - Small HVAC / RCx
 - Pumps
 - Boilers and Boiler Add-on
 - Controlled Environment Agriculture



INPUT: Are there other top candidates for SW standardization?

Semi-Custom/Hybrid Measures

Update slide
during meeting
discussion

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Measure	Notes	Champion
Lighting	Use the Modified Lighting Calculator (MLC), an approved tool, as test case for eTRM implementation	
Pump Overhaul	Lots of data from past projects; opportunity to do a good statical analysis to support these projects. Methodology is straight forward but need several inputs.	
Chiller Measures	Similar to LADWP package unit approach; uses model results in the background. Tool exists, and we have it.	
Process Boiler & Pip/Fitting Insulation	Both measures have a deemed approach; Process boiler needs additional reading to understand inputs better from EM&V studies; Insulation measure is a complex iterative solution....need to turn it into an easy-to-use tool.	
RCX	PG&E HVAC Tool; older LADWP "BOA" tool	
Small HVAC	PG&E HVAC Tool	
VFD on HVAC Fan		
Pumps	(using PG&E pump tool)	

INPUT: Pick measures and Identify champions

Semi-Custom/Hybrid Measures

Update slide
during meeting
discussion

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- For each selected measure:
 - What relevant tools already exist and should be referenced?
 - Key considerations in developing a SW standard approach and calculation tool?
 - What key stakeholders are expert in this measure?

INPUT: What other background/research will help with standardization?

INPUT: What measure-specific input do you have?

eTRM Options for Custom

- **eTRM for Custom**
 - Custom Measures
 - ✦ Information/Resources
 - ✦ Calculations
 - Custom Projects
 - Custom Project Review Workflows

- **Meeting Goal**
 - Provide input on approaches to host custom measures in the eTRM
 - Provide input on guidelines for custom measures templates
 - Provide input on the business requirements for eTRM enhancements

eTRM for Custom Measures

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Initial Approach: A repository with version controls for external calculators

- Calculation spreadsheets and required documentation are available to download at measure level
- eTRM measure template – provides clear, consistent guidance on statewide standardized methods and requirements and access to tools
 - Characterization – describes the calculator history, scope, methodology, eligibility, and M&V requirements
 - Supporting Data – defines the measure characteristic
 - Calculation – presents equations used to calculate impacts
 - Permutations – Measure Detail IDs
- *Top level custom tools library*

eTRM for Custom Measures

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- Example: Fan and Pump VFD (TRM401)

- Questions:

- Which deemed data (ex. MAT, NTG) are not applicable to custom measures?

- ✦ Deemed v Custom Inputs

- Standardize eTRM layout to accommodate custom measures

	<u>MEASURE APPLICATION TYPE</u>
	AOE
	<u>BUILDING TYPE</u>
	Any

 CHARACTERIZATION
  DEPENDENCIES
  SUPPORTING DATA
  CALCULATIONS
  PERMUTATIONS

Table of Contents

Technology Summary

Measure Case Description

Electric Savings (kWh)

Peak Electric Demand Reduction (kW)

Measure Case Labor Cost (\$/Unit)

Net-to-Gross

- How and where to access custom measure data?

eTRM for Custom Measures

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- Next steps and future discussion
 - (If needed) Cal TF follow-up for subcommittee/TF input on discussion items
 - Cal TF Staff finalize functional requirements for eTRM enhancements for to host custom measures
 - Cal TF Staff scoping other eTRM options for committee input and discussion at the October Charette

- Any additional questions or thoughts on eTRM for custom?

Meeting Wrap-Up & Next Steps

- **Action Items**
 - Cal TF initiate work with Measure Champions
 - Members send recommendations on measures, measure champions, tools, and subcommittee members to Arlis
- **Schedule**
 - Next Meeting: **DATE TBD**
 - Save the date for 10/27 **in-person** Custom Charette (Los Angeles)
 - ✦ <https://forms.gle/qBrMYiwmXkRv4bEG7>
 - Cal TF will send calendar holds for future meetings