

Technical Forum Meeting



APRIL 27, 2023
LOS ANGELES

Cal TF will record the meeting for notetaking purposes

Morning Agenda

2

Time (PST)	Agenda Item & Action	Discussion Leader(s)
10:00 – 10:30 (30 min)	Agenda Review and Quick Updates <ul style="list-style-type: none"> • 2023 Q1 Progress Report • Measure Property Data Update • Potential Database for New Technologies 	Ayad Al-Shaikh
10:30 – 11:15 (45 min)	eTRM Updates <ul style="list-style-type: none"> • eTRM Enhancements, draft release schedule • eTRM Training for Base Users • 3C Communication/Versioning for MP Updates <p>ACT: Participate in and share stakeholder survey</p>	Tomas Torres-Garcia
11:15 – 12:00 (45 min)	8A Cal TF Roadmap Update – Scope and Sequence <p>ACT: TF/stakeholder input on priorities and timing</p>	Arlis Reynolds and Ayad-Al Shaikh
12:00 – 1:00	Lunch	n/a
1:00 – 1:45 (45 min)	New Measures <ul style="list-style-type: none"> • Update on Deemed Lighting Measure Package • Other Measure Packages in development <p>ACT: TF/stakeholder input</p>	Ayad Al-Shaikh & Felix Monterroso / Willdan

Cal TF will record the meeting for notetaking purposes

Afternoon Agenda

3

Time (PST)	Agenda Item & Action	Discussion Leader(s)
1:45 – 2:15 (30 min)	5X Custom Initiative, Revised Workplan ACT: Affirm 5X Workplan	Arlis Reynolds
2:15 – 2:30	Break	n/a
2:30 – 3:00 (30 min)	6D Deemed Regulatory Updates ACT: Input on scope, sources, and form	Arlis Reynolds
3:00 – 4:00 (60 min)	June 21 Data Charrette <ul style="list-style-type: none">• History of CA EE data; data challenges• Charrette Objectives• Draft agenda ACT: Input on data needs, opportunities and complementary data efforts	Arlis Reynolds and Ayad-Al Shaikh
4:00	Closing and Next Steps	Ayad-Al Shaikh
4:00+	No-host happy hour at: Arts District Brewing Company (828 Traction Ave, Los Angeles, CA 90013)	n/a

Cal TF will record the meeting for notetaking purposes

4/28/2023

Quick Updates

- [2023 Q1 Progress Update](#)
- Potential Database for New Technologies
- Measure Property Data Update

Q1 Highlights

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- eTRM Enhancement Charrette (1C)
- Measure Update Communication Strategy (3C)
- New Measure Acceleration Strategy (4A)
- New Measure Activity (4B)
- Custom Initiative (5X)
- Cal TF 5-year Roadmap (8A)
- 3 Workplans, Procedure/Template Affirmed (8C)

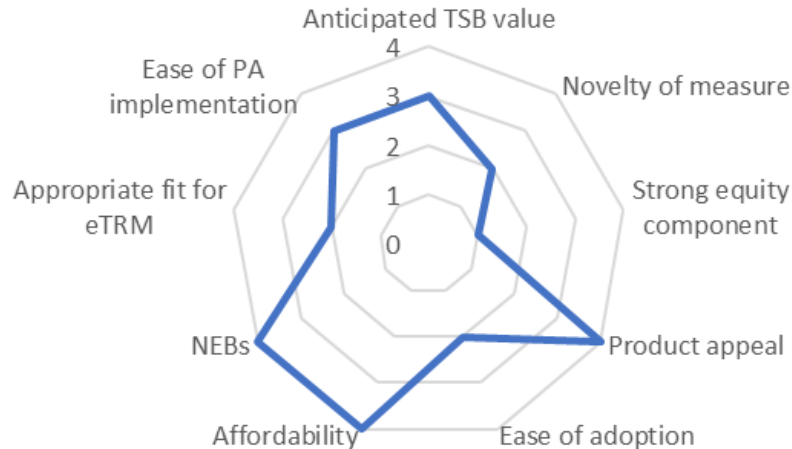
Topics to be covered in more detail later today.

New Measure Scorecard (4A)

6

	40%			35%				25%	
	Category 1: Measure impact (40% of total)			Category 2: Customer appeal (35% of total)				Category 3: Measure viability (25% of total)	
0=low 4=high	Anticipated TSB value	Novelty of measure	Strong equity component	Product appeal	Ease of adoption	Affordability	NEBs	Appropriate fit for eTRM	PA portfolio fit
Weight within category	50%	20%	30%	25%	20%	30%	25%	50%	50%
Total weight	20.00%	8.00%	12.00%	8.75%	7.00%	10.50%	8.75%	12.50%	12.50%

Sample Technology

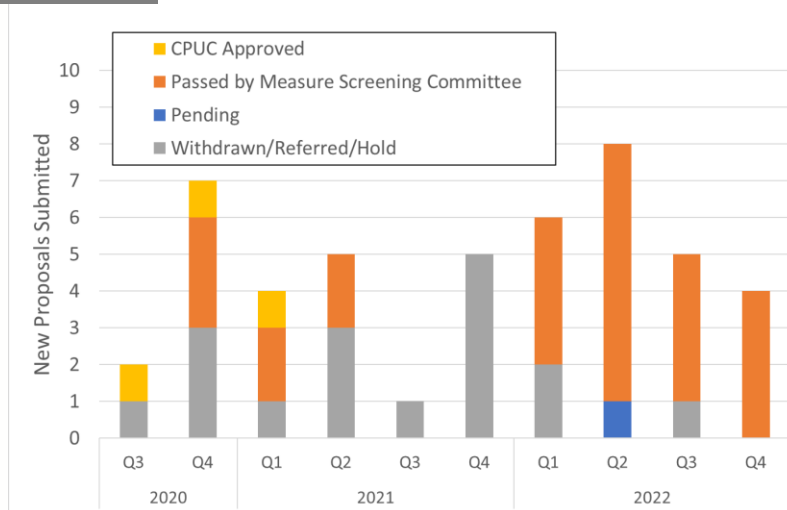


New Measure Activity (4B)

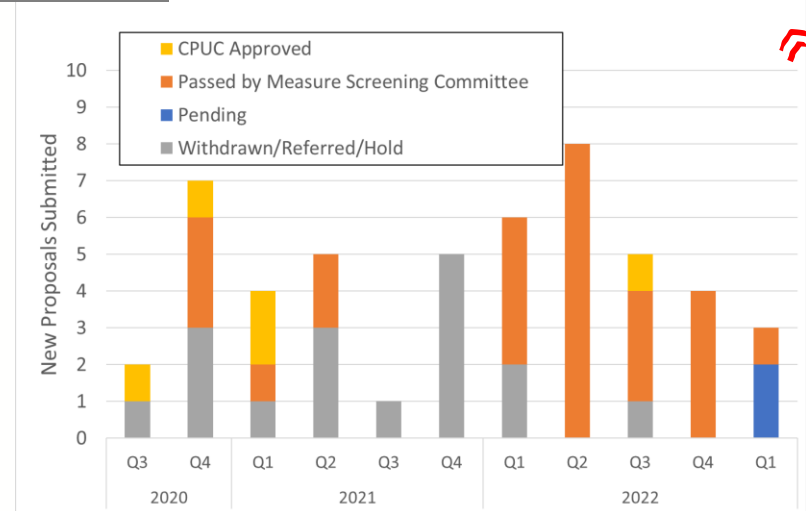
7

- Proposed Decision on Gas Incentives
 - Driving need for exempt gas measures
 - Gap Analysis from other leading jurisdictions (Res and NonRes candidates)
- We will feed many more measures into the process
 - Development and approval will need support

Q4 - 2022 **New Measure Status**



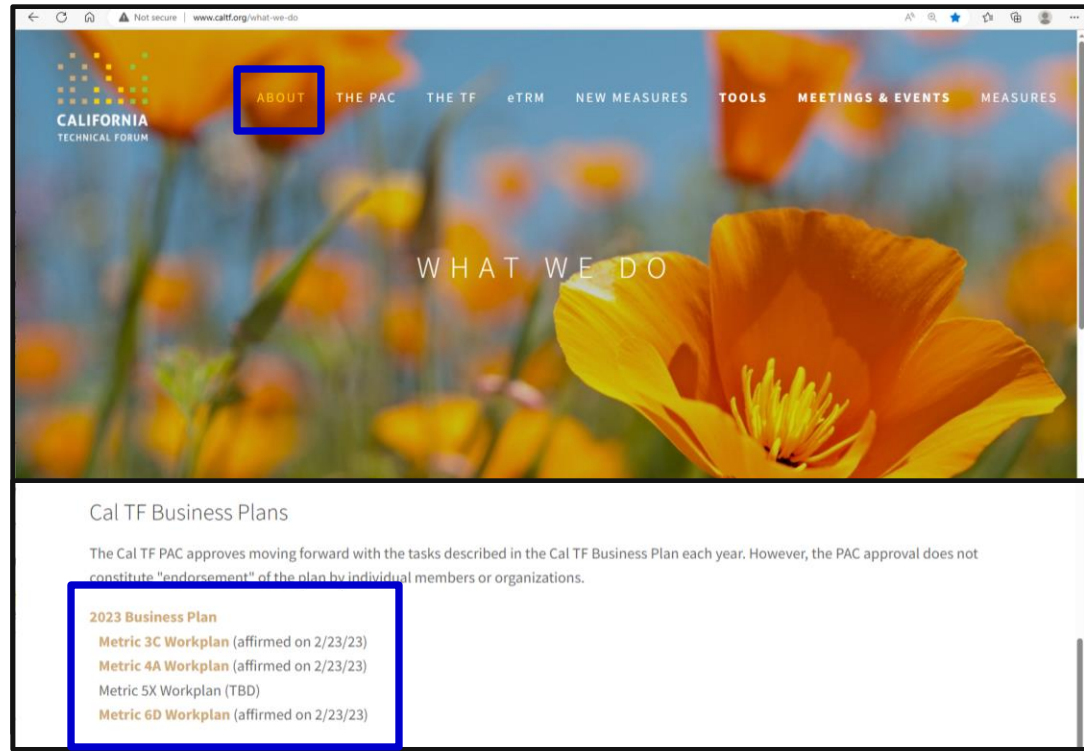
Q1 - 2023 **New Measure Status**



Potential Database for New Technologies

- Expect to be collecting many new measure ideas
 - Through the “pull” strategy
 - Still collecting many through “push” connections
- Store scoring values and insights
- Action: Feedback on the value of a database

3 Workplans, Procedure / Template Affirmed (8C)



- Access work plans through our website: [WHAT WE DO — Cal TF](http://www.caltf.org/what-we-do)

Measure Property Data Update

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- Property Data

- Provides the structured data to define program requirements, exclusions, and data collection for a deemed measure package.

- May / June

- Drafting Validation Lists has stated (to build experience)
- SDG&E supporting importing of existing data (about 80% of the measures)
- Expecting the remainder to be completed in May / June

- Starting June

- Subcommittee review by use category expected to start in June

- Starting July

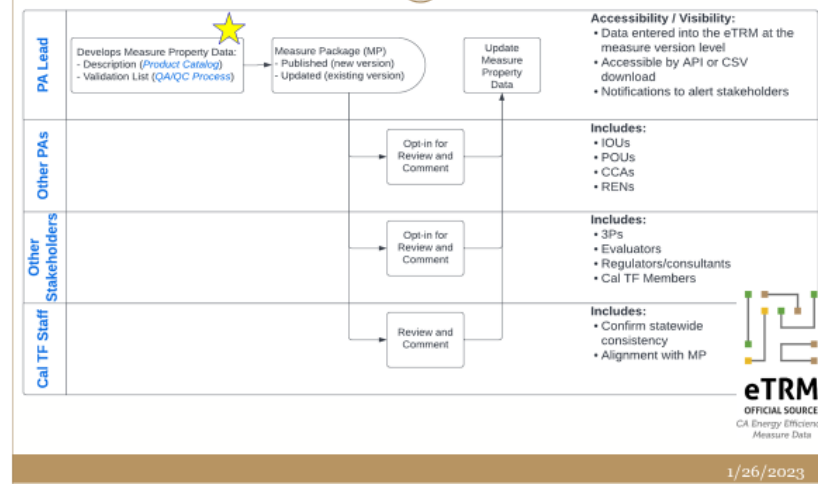
- eTRM Enhancement complete and integrated into v2.5
- Data won't be entered into the eTRM until after QC

Action: If you are interested in reviewing drafts, contact Ayad.

Draft Statewide Process



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1/26/2023

eTRM Updates

- eTRM Enhancements, draft release schedule
- eTRM Training for Base Users
- 3C Communication/Versioning for MP Updates

Overview

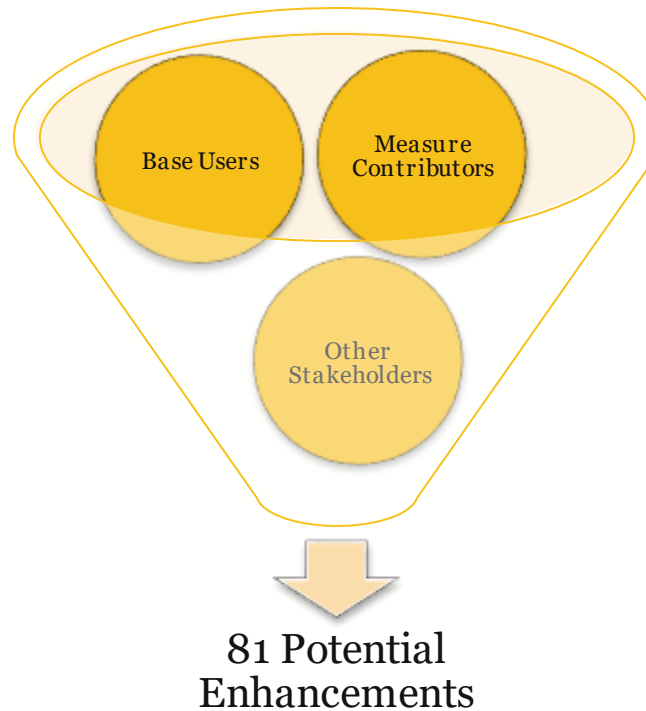
12

- Enhancements/Release Schedule
 - 2023 Enhancement Charrette Summary
 - 2023 Enhancements
 - Schedule for 2023 Enhancements
- eTRM Training for Base Users
- 3C Measure Package (MP)
Communication/Versioning for MP Updates

2023 Enhancement Charrette Summary

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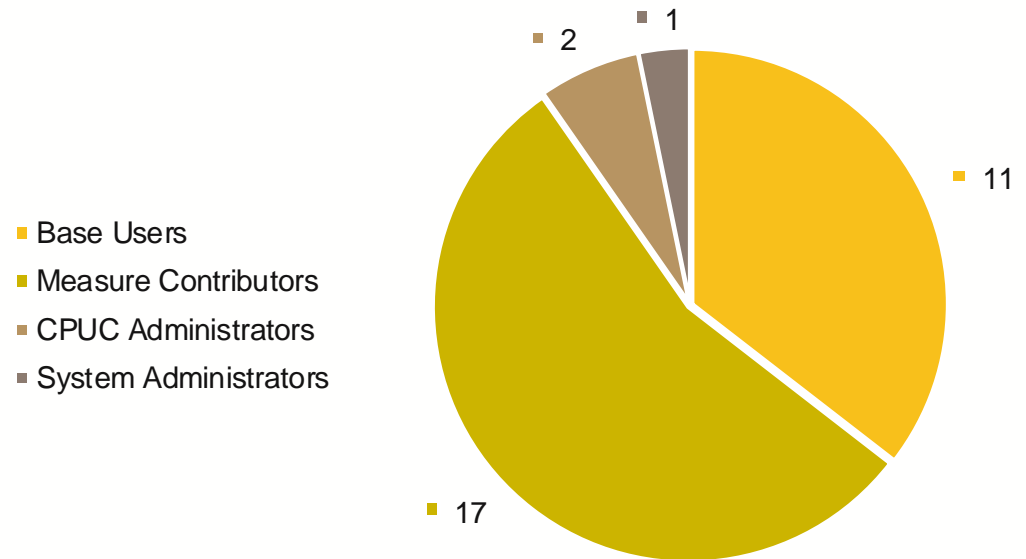
- Compiled, organized > 200 enhancement requests from eTRM users and other stakeholders



2023 Enhancement Charrette Summary

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- March 22nd – Hosted in-person eTRM Enhancement Charette and reviewed the 81 proposed enhancements
- Meeting Attendees
 - In-person: 10
 - Online: 19
- Survey Responses
 - Total: 25*



2023 Enhancement Charette Summary

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- Survey questions for each enhancement
 - Priority
 - ✦ Low, Medium, or High
 - Will this enhancement help reduce cost/time?
 - ✦ Yes or No
 - Will this enhancement increase the usability of the eTRM?
 - ✦ Yes or No
 - Additional Notes/Comments:
 - ✦ Please include any additional notes below (i.e., thoughts on the design, additional features not presented, comments on why this enhancement needs to be added, etc.)

2023 Enhancements

16

- Group 1
 - Measure Development
 - Total Dev Hours: **498**
- Group 2
 - Measure Development
 - Custom
 - Total Dev Hours: **465***
- Group 3
 - Additional group to consider (depending on budget)
 - Total Dev Hours: **291**

2023 Enhancements: Group 1

17

- Implement text comparison and redlining feature for all measure text fields so textual differences between different versions of a measure are readily apparent. (Dev Hours: 235)

Base Case Material Cost (\$/Unit)

~~The base case material cost for equipment delivered via direct install is equal to \$0.~~

~~For all other delivery types, the base case material cost was derived as the average of the manufacturer list prices retrieved from the AutoQuotes online catalog for foodservice equipment and supplies.~~

~~Because it is common knowledge that dealers do not pay the published list prices for equipment, it was necessary apply a discount factor to the AutoQuotes data to more accurately reflect the actual prices paid for the equipment.~~ The discount factor of 50% was based upon professional judgement by Food Service Technology Center (FSTC) staff. ~~Additional~~ analysis to validate the reasonableness of this value was conducted by comparing AutoQuotes published prices with actual prices on invoices submitted through the Southern California Gas Company Instant Rebates! point-of-sale rebate program from 2015 through August of 2017. R125 This verification revealed that a discount factor for food service equipment of 50% is a reasonable average discount factor.

Base Case Material Cost (\$/Unit)

The base case material cost was calculated as the average unit cost of base case electric and natural gas commercial steamer models which were not ENERGY STAR certified. Base case material cost data for commercial steamer models was collected using web scraping of online retailers in the second quarter of 2022. The data was cleaned and analyzed to set up bins, normalization, and to remove outliers. The cost was calculated as the average cost of all equipment within the bin multiplied by a discount factor. R2085 The discount factor of 50% was based upon professional judgement by Food Service Technology Center (FSTC) staff.

Analysis to validate the reasonableness of this value was conducted by comparing AutoQuotes published prices with actual prices on invoices submitted through the Southern California Gas Company Instant Rebates! point-of-sale rebate program from 2015 through August of 2017. R125 This verification revealed that a discount factor for food service equipment of 50% is a reasonable average discount factor.

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2023 Enhancements: Group 1

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- Add cover sheet fields to eTRM such that a separate cover sheet document does not need to be attached to the measure before submitting to CPUC. (Dev Hours: 42)

CHARACTERIZATION DEPENDENCIES SUPPORTING DATA

Measure Details

STATEWIDE MEASURE ID

SWFS005

MEASURE NAME

Steamer, Commercial

EFFECTIVE DATE

May 19, 2020

PA LEAD

SCG

SOURCE DESCRIPTION

SWFS005-02

USE CATEGORY

FS - Food Service

END DATE

December 31, 2022

Cover Sheet

- Current fields that can be pulled directly from the eTRM:
 - ✦ PA Lead
 - ✦ Measure Name
 - ✦ Draft MP Statewide Measure Version ID
 - ✦ Final MP Statewide Measure Version ID
 - ✦ Measure Package Change Description
 - ✦ Measure Impact Type (DEER / CEDARS)
 - ✦ Estimated Effective Date

2023 Enhancements: Group 1



Value

Percentage Difference

Both

Compare by Measure

Percentage Difference of Average Impacts

OfferingID	SWWH025-03	SWWH025-04
A		
UnitkW1stBaseline		
UnitWh1stBaseline	11.33%	11.33%
UnitTherm1stBaseline	5.80%	5.80%
UnitMeaCost1stBaseline	0.47%	0.47%
UnitGalWater1stBaseline		
Life1stBaseline	0.00%	0.00%
UnitkW2ndBaseline		
UnitWh2ndBaseline	11.33%	11.33%
UnitTherm2ndBaseline	5.80%	5.80%
UnitMeaCost2ndBaseline	2.88%	2.88%
UnitGalWater2ndBaseline		
Life2ndBaseline	0.00%	0.00%
GSIA	0%	0%
NTGRkW	0.00%	0.00%
NTGRTherm	0.00%	0.00%
TRCRatioNoAdmin	79.63%	12.08%
PACRatioNoAdmin	19%	14%
TotalSystemBenefit	853%	691%
AA		
UnitkW1stBaseline		

Description and Parameters

OfferingID	SWWH025-01	SWWH025-02
A		
OfferingDesc	Heat pump water heater, > 45 to <= 55 gal, UEF = 3.09	Heat pump water heater, > 45 to <= 55 gal, UEF = 3.09 replacing storage natural gas water heater, 30 gal, UEF = 0.6
Version	ExAnte2019	DEER2021
# of MeasDetailID	288	288
# of MeasAppType	3	3
# of BldgType	3	3
# of BldgLoc	16	16
# of BldgVint	1	1
# of DeliveryType	2	2
ETP_Flag		
E3MeaElecEndUseShape	DEER:Res_ClothesDishWasher	DEER:Res_ClothesDishWasher
NormUnit	Each	Each
AA		
OfferingDesc		
Version		
# of MeasDetailID		
# of MeasAppType		
# of BldgType		

MeasureVersionID

SWWH025

OfferingID, OfferingDesc

All

MeasAppType

All

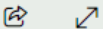
BldgType

All

BldgLoc

All

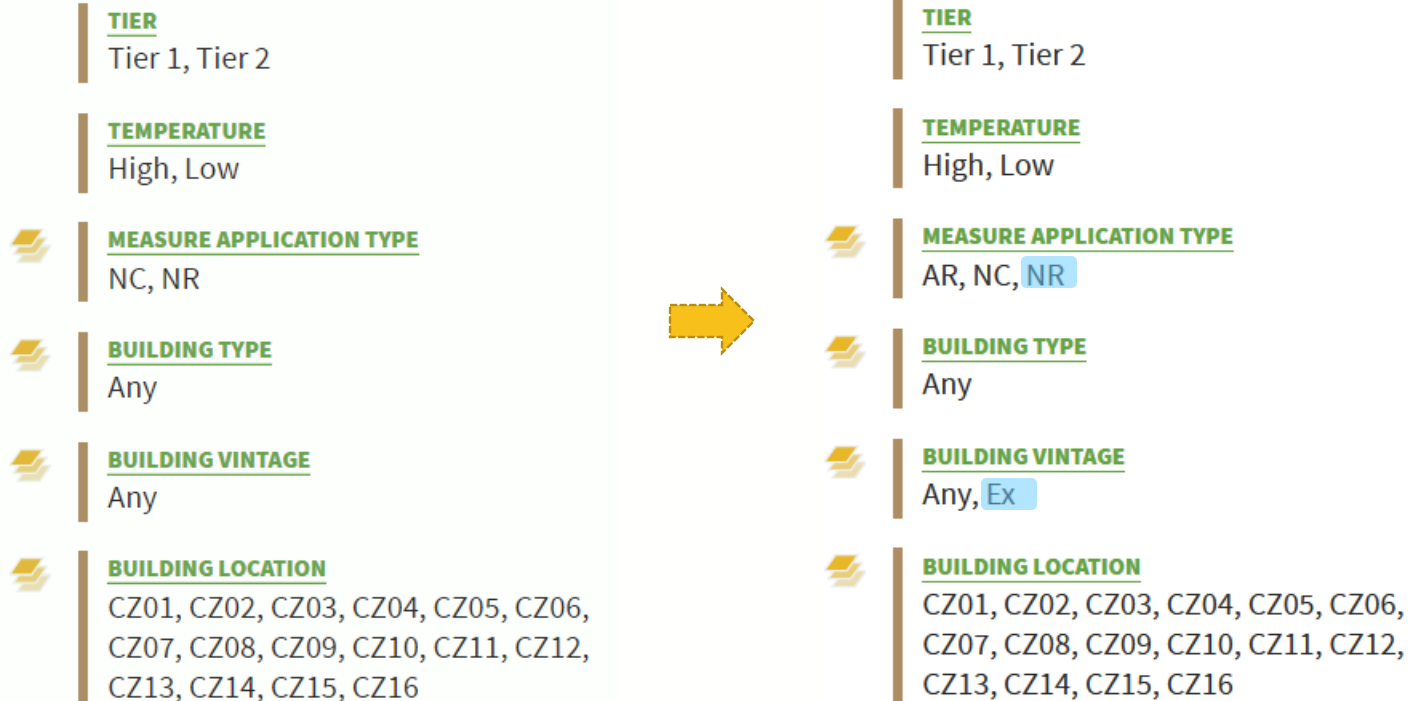
77%



2023 Enhancements: Group 1

20

- Add ability for the eTRM to generate a revision history by parameter. (Dev Hours: 175)



2023 Enhancements: Group 1

21

- Notifications when syncs fail, CPUC Support tables sync. (Dev Hours: 28)
 - DEER -> CPUC Support Tables -> Shared Data

Last synchronized with DEER: **Wednesday, April 19, 2023 1:07 AM PDT**

CPUC Support Tables

- Add warning message to the eTRM (like Shared Data)

Net to Gross Ratio

SYNC ERROR. LAST SYNCED 17 HOURS AGO - [VIEW DETAILS](#)

- Send out email notification to CPUC and System Administrators when CPUC Tables sync fail

2023 Enhancements: Group 1


22

- Notifications when syncs fail, CPUC Support tables sync. (Dev Hours: 28)
 - Send out email notification to CPUC and System Administrators when CPUC Tables sync fail


The manual sync of Shared value table Net to Gross Ratio has failed



roger.baker@futee.biz
To Tomas Torres-Garcia

 If there are problems with how this message is displayed, click here to view it in a web browser.
Click here to download pictures. To help protect your privacy, Outlook prevented automatic download of some pictures in this message.

STAGE

 Right-click or tap and hold here to download pictures. To help protect your privacy, Outlook prevented automatic download of this picture from the

Net to Gross Ratio Synchronization

Value table has parameters that are not present in the recipe: NTGID, NTG_Version

[VIEW NET TO GROSS RATIO](#)

2023 Enhancements: Group 2

23

- Warnings before publishing and/or saving measures. eTRM should help a developer determine what can be done to resolve the issues (i.e., what field is not mapped). (Dev Hours: 120)
 - When you publish a measure, there should be a check and strong warning if
 - ✦ (1) permutations are not built
 - ✦ (2) a change has been made since the last time permutations have been built
 - ✦ (3) if all required permutations fields are NOT correctly mapped (data spec standard warning, which fields are not mapped in the error message to make is easier for developer to correct) & make the data spec standard warning visible to all measure contributor roles
 - ✦ (4) if CET outputs have not been uploaded
 - ✦ (5) Is the Measure Detail ID field unique. eTRM should help a developer determine what can be done or resolve the issues (i.e. what field is not mapped)
 - ✦ (6) coversheet is not uploaded.

2023 Enhancements: Group 2

24

- Warnings before publishing and/or saving measures. eTRM should help a developer determine what can be done to resolve the issues (i.e., what field is not mapped). (Dev Hours: 120)

- Current message when permutations are not built

BUILD PERMUTATIONS

No permutations have been built for this measure.

- Current message for permutation fields no being mapped correctly (hidden from some users and does not indicate which field is not mapped)

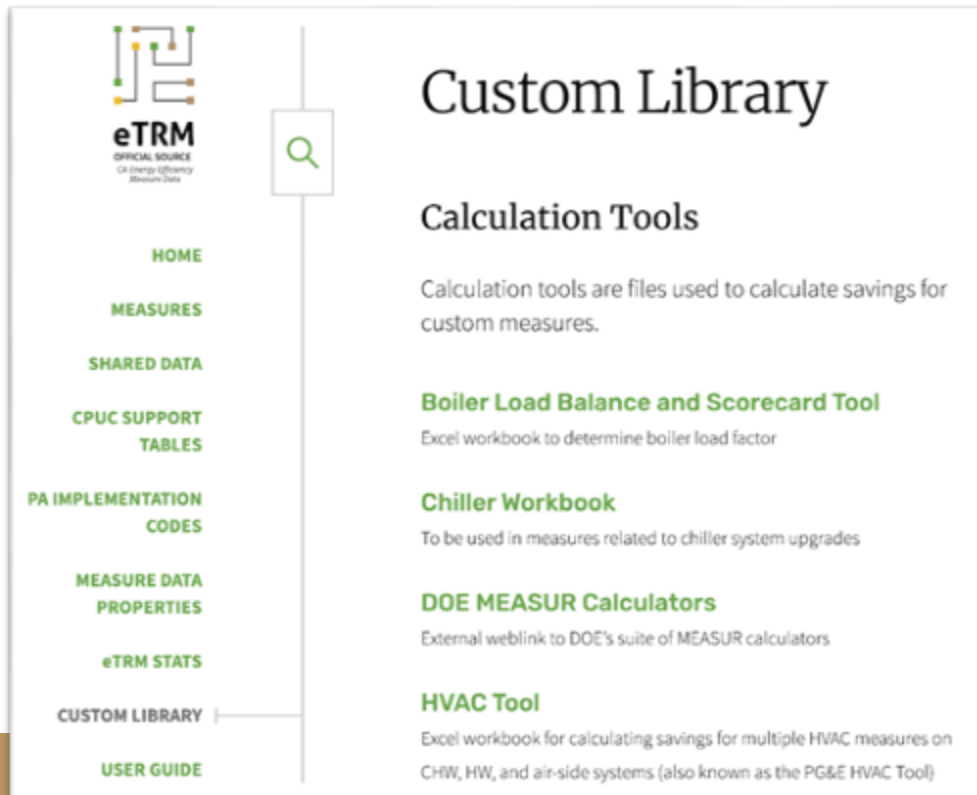
This permutation configuration does not conform to the California Technical Forum's standardized data spec. To conform, every data spec field must be mapped.

- No current message for CET outputs not uploaded
- No current message for unique measure detail ID OR for unique measure offering IDs and descriptions
- No current message for a missing cover sheet

2023 Enhancements: Group 2

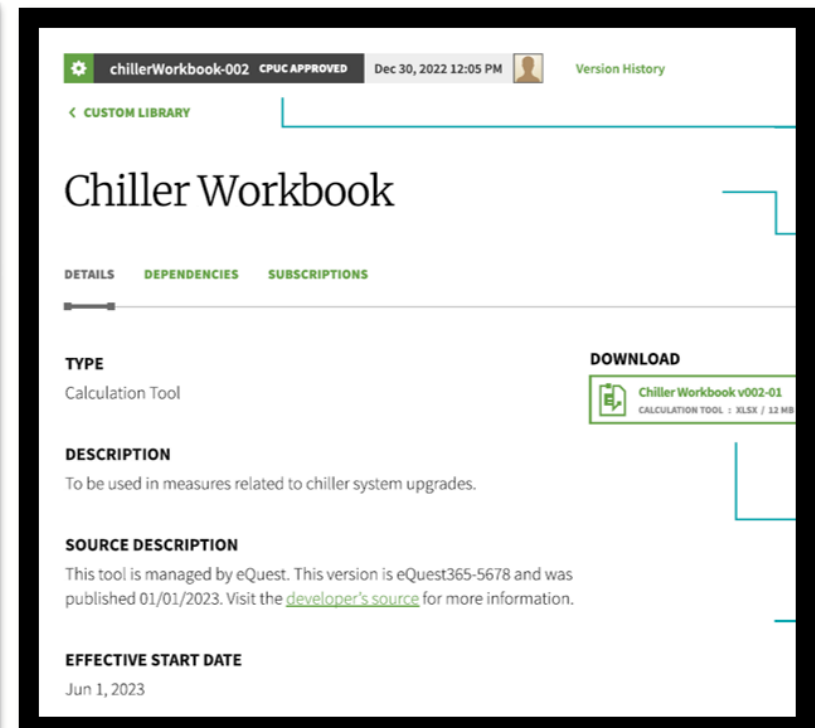
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- Custom Library: Planning/development to host tools, templates, and other key resources for custom. (Dev Hours: 150)



The screenshot shows the eTRM Custom Library interface. On the left is a navigation menu with the following items: HOME, MEASURES, SHARED DATA, CPUC SUPPORT TABLES, PA IMPLEMENTATION CODES, MEASURE DATA PROPERTIES, eTRM STATS, CUSTOM LIBRARY (highlighted), and USER GUIDE. The main content area is titled "Custom Library" and "Calculation Tools". It includes a search icon and a description: "Calculation tools are files used to calculate savings for custom measures." Below this are four tool entries:

- Boiler Load Balance and Scorecard Tool**: Excel workbook to determine boiler load factor.
- Chiller Workbook**: To be used in measures related to chiller system upgrades.
- DOE MEASUR Calculators**: External weblink to DOE's suite of MEASUR calculators.
- HVAC Tool**: Excel workbook for calculating savings for multiple HVAC measures on CHW, HW, and air-side systems (also known as the PG&E HVAC Tool).



The screenshot shows the details page for the "Chiller Workbook" in the Custom Library. The page header includes "chillerWorkbook-002 CPUC APPROVED" and "Dec 30, 2022 12:05 PM" with a user profile icon and a "Version History" link. The main title is "Chiller Workbook". Below the title are tabs for "DETAILS", "DEPENDENCIES", and "SUBSCRIPTIONS". The "DETAILS" tab is active. The page includes a "DOWNLOAD" button with a file icon and the text "Chiller Workbook v002-01 CALCULATION TOOL | XLSX | 12 MB". The "DESCRIPTION" section states: "To be used in measures related to chiller system upgrades." The "SOURCE DESCRIPTION" section states: "This tool is managed by eQuest. This version is eQuest365-5678 and was published 01/01/2023. Visit the [developer's source](#) for more information." The "EFFECTIVE START DATE" is listed as "Jun 1, 2023".

4/26/2023

2023 Enhancements: Group 2

- Create a report to track measure development activity. (Dev Hours: 132)



✦ Measure Package Review Summary Report

REVIEW STATUS	PA LEAD	MEASURE VERSION	EFFECTIVE DATE	DATE OF MEASURE PACKAGE PLAN / REQUEST FOR EARLY CPUC FEEDBACK LOG ENTRY	DATE SUBMITTED TO CPUC	DATE RESUBMITTED TO CPUC	DATE CPUC APPROVED	DATE CPUC REJECTED	DATE MEASURE VERSION PUBLISHED
Under Review	SCE	Heat Pump Water Heater, Residential, Fuel Substitution (SWWH025-06-draft)	Jan 01, 2023		Feb 13, 2023 02:08 PM				
Under Review	SCE	Heat Pump HVAC, Residential, Fuel Substitution (SWHC045-02-3)	Jan 01, 2023		Mar 13, 2023 12:27 PM				Mar 23, 2023 03:36 PM
Under Review	SCE	Ductless HVAC, Residential, Fuel Substitution (SWHC044-03-3)	Jan 01, 2023		Mar 13, 2023 08:22 PM				

2023 Enhancements: Group 2

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- Create a report to track measure development activity.
(Dev Hours: 132)
 - Potential fields include:
 - ✦ Statewide ID + Version (from eTRM)
 - ✦ Measure Name (from eTRM)
 - ✦ Lead PA (from eTRM)
 - ✦ Status (from eTRM)
 - ✦ Use Category (from eTRM)
 - ✦ Change Description (from eTRM)
 - ✦ Effective Start Date (from eTRM)
 - ✦ End Date (from eTRM)
 - ✦ [Current Month] Update Description (from PA)
 - ✦ [Current Month] Updates (from PA)
 - ✦ Coversheet Comparison (PA will need to turn on option in MP)

2023 Enhancements: Group 2

28

- Add/update fieldnames for baseline clarity, E5152 Attachment A Tables A-3-5 and A-3-6. (Dev Hours: 32)
 - Currently discussing with CPUC

2023 Enhancements: Group 2

- *Create the ability for users to submit Measure Package Plans (MPP), without having to create a draft of a measure first, so that they show up in the MPP Submittals CPUC Report. (Dev Hours: 16)
 - ❑ Must create a measure shell and draft in the eTRM before MPP shows up in the report

Measure Package Plan Submittals

This displays the latest unpublished measure versions for which a Measure Package Plan/Request for Early Feedback was submitted to the CPUC via a measure log entry. This report only includes entries that are pending a CPUC response.

[DOWNLOAD CSV](#)

1-5 of 5 items [ADVANCED FULLSCREEN VIEW](#)

PA LEAD	MEASURE VERSION	CURRENT MEASURE STATUS	DATE OF LOG ENTRY TYPE: "MEASURE PACKAGE PLAN / REQUEST FOR EARLY CPUC FEEDBACK"	LOG ENTRY MESSAGE	LOG ENTRY DETAIL
SCE	Occupancy Fan Controller, Commercial (SWHC062-01-1)	Draft	Feb 26, 2023 12:51 PM	Hello, Please find the "SWHC062-01_Occupancy Fan Controller, Commercial_deemed-measure-package-plan" for this new measure and associated	Details

4/26/2023

2023 Enhancements: Group 2

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- *Limit publishing to only be available when a measure is in the "POU Ready" or "CPUC Approved" status only. (Dev Hours: 8)
 - Currently: Characterization

SWHC020-03 CPUC APPROVED Dec 15, 2022 10:45 AM  Version History | Measure log

Air-Cooled Chiller

CHARACTERIZATION DEPENDENCIES SUPPORTING DATA CALCULATIONS PERMUTATIONS

Measure Details

STATEWIDE MEASURE ID
SWHC020

SOURCE DESCRIPTION
SWHC020-03

Measure Package

The Measure Package includes: CSV files of parameters, value tables, and reference files, a PDF of the characterization...

SWCR016-01 POU READY Mar 19, 2023 2:18 PM  Version History | Measure log updated now

Adaptive Refrigerator And Freezer Cont

CHARACTERIZATION DEPENDENCIES SUPPORTING DATA CALCULATIONS PERMUTATIONS PROPE

SUBSCRIPTIONS

Measure Details

STATEWIDE MEASURE ID
SWCR016

SOURCE DESCRIPTION
SWCR016-01

Measure Package

The Measure Package includes: CSV files of parameters, value tables, and reference files, a PDF of the characterization...

2023 Enhancements: Group 2

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- *On the Dashboard with your assigned measures, it would be useful to know what sort of role you have been assigned to the measures. (Dev Hours: 4)

Your Assignments

MEASURES

- [Convection Oven, Commercial \(SWFS001\)](#)

Your Development Roles

MEASURES




NAME	STATEWIDE MEASURE ID	USE CATEGORY	STATUS	LAST EDITED	Dev Role
Refrigerator or Freezer, Residential	SWAP001	AP - Appliance or Plug Load	CPUC Approved	April 18, 2023	
Ceiling Insulation, Residential	SWBE006	BE - Building Envelope	Peer Review	March 17, 2023	
Convection Oven, Commercial	SWFS001	FS - Food Service	CPUC Approved	Feb. 10, 2023	26/2023

2023 Enhancements: Group 2

32

- *Permutations CSV file name that is download needs to include SW ID. (Dev Hours: 3)

SWHC052-02 CPUC APPROVED Nov 10, 2022 10:35 AM  Version History

Air-Cooled Chiller, Path B

CHARACTERIZATION DEPENDENCIES SUPPORTING DATA

VIEW ALL PERMUTATIONS

This measure's **4224** permutations were genera

DOWNLOAD CSV

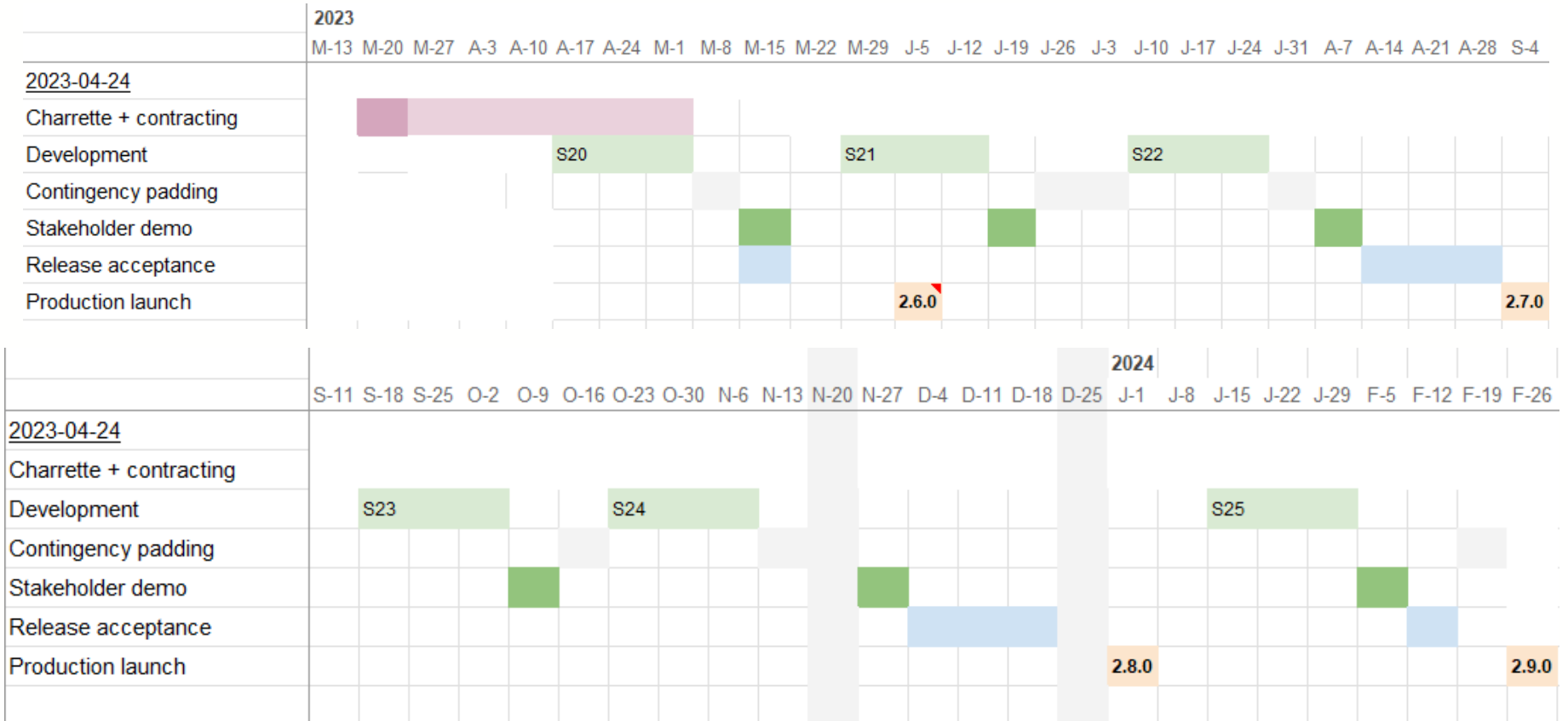
↑ Downloads

permutations - 2023-04-19T221252.389

CSV (Comma delimited) (*.csv)

More options

Schedule for 2023 Enhancements



eTRM Training for Base Users

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- Announcement:
 - 2 planned trainings for Base Users
 - ✦ General Base User Training
 - ✦ POU Base User Training

3C MP Communication / Versioning for MP Updates

Identify and develop the process and/or tool enhancements to facilitate stakeholder communication and versioning of planned and completed measure package updates.

- Stakeholder Outreach (*blue italics – conducted through April*)
 - IOUs
 - ✦ SCE
 - ✦ SCG
 - ✦ SDG&E
 - ✦ *PG&E*
 - POU's
 - ✦ *LADWP*
 - ✦ NCPA/SCPPA
 - ✦ *CDLIC/EAD Team*

 Meeting
 Survey
 Integration

COMMUNICATION PLAN

Goals, Metrics, and Objectives:

Cal TF will identify and develop the process and/or tool enhancements to facilitate stakeholder communication and versioning of planned and completed measure package (MP) updates. The Cal TF solution will:

- Provide clear, accessible, and specific (where possible) information about the type and relative impact of planned, in progress, and completed measure package updates.
- Consider different options (e.g., format and frequency) to receive and access information to address different stakeholder needs and/or preferences.
- Help stakeholders identify and parse MP update information based on the type and/or impact of change.
- Establish and communicate clear versioning definitions and controls associated with different types of measure package updates.

Materials:

Existing Measures Communication Plan Survey

Communication Plan Presentation (4-19-2023 version)

- ✦ TRC
- ✦ Willdan

Survey Link:
<https://www.surveymonkey.com/r/C8W7GV3>



Thank You

2023 Enhancements: Group 3

37

- Align the start year in the CET Input file that is generated by the eTRM with the start year of the measure. (Dev Hours: 14)
- Add PA-Admin capabilities (new role). (Dev Hours: 38)
- Fix developer removal role. Create a way to do many at once. (Dev Hours: 25)
- Allow management of a measure's contributors while viewing a measure, without first having to re-find the measure in Admin Central. (Dev Hours: 12)
- Add the API endpoint for PA implementation codes so that that it includes PA Code Status field for the endpoint (no matter the status, i.e. don't exclude "pending" or "not offered"). (Dev Hours: 32)
- Set up an input form for references so that users could request references directly in the eTRM, apply checks to references to ensure good quality. (Dev Hours: 92)

2023 Enhancements: Group 3

38

- Change mentions of "Custom" in the eTRM to "Customized" or "Tailored". (Dev Hours: 12)
- Add IE related shared parameters similar to what is done with EUL so that all records could be used if individual permutations do not exist within the table (i.e. IE-Building Vintage and/or IE-Climate Zone). (Dev Hours: 14)
- Related to Sprint 19 from 2.5 (Measure property data): When importing property data, currently, the eTRM appends the new data to the existing list. A replace/delete all option will be important to allow revisions from stakeholders to be done outside of the eTRM. (Dev Hours: 14)
- Link API name in calculations back to value table. (Dev Hours: 24)
- Auto Populate API name in characterization for embedded calculations. (Dev Hours: 14)

Cal TF 5-Year Roadmap

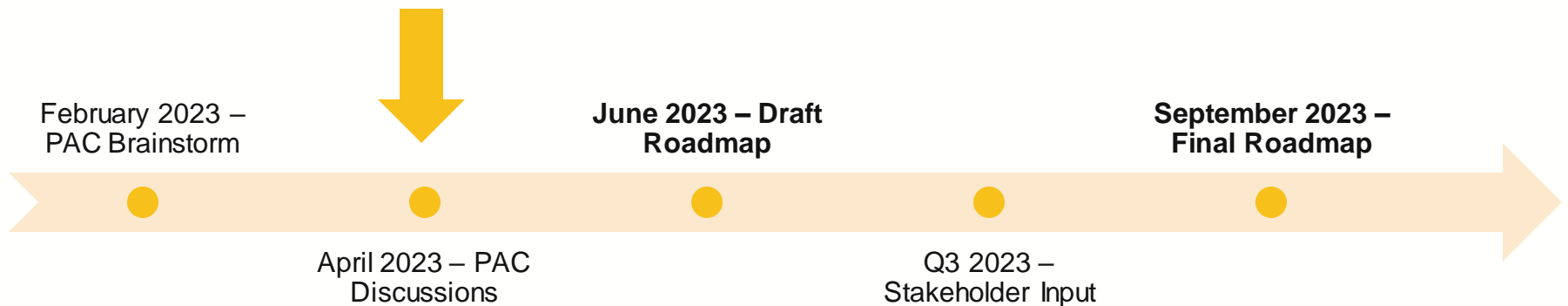


ARLIS REYNOLDS
AYAD AL-SHAIKH

5-year Roadmap

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- BP Metric 8A. Develop 5-year Roadmap that identifies core Cal TF/eTRM activities, new strategic initiatives, and desired success factors. Roadmap will identify coordination needs and leveraging opportunities to achieve desired outcomes.



BP Metric 8A

Cal TF 5-Year
Roadmap



- Last time
 - Reviewed Baseload and Strategic Initiatives
 - **Slido voting** on activities/tactics within 3 of 5 strategic initiatives
- Today
 - **Slido voting** on activities/tactics within remaining 2 strategic initiatives
 - TF input on any additional goals, tactics, outcomes
 - Next steps

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**Join at slido.com
#3993688**

① Start presenting to display the joining instructions on this slide.

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**How excited are you
about the 2023 eTRM
Enhancements?**

① Start presenting to display the poll results on this slide.

Roadmap Goals (Draft)

Baseload Activities

- eTRM Management and Development
- Measure Management
- Technical Policy Analysis & Recommendations
- Stakeholder Engagement

Strategic Initiatives

- ✓ Data Integration & Analytics
- ✓ Custom Initiative
- ✓ New Measure Development and Updates
 - eTRM Extension
 - “All Source” eTRM

Baseload Activities (Draft)

- **eTRM Management and Development**
 - Collect and review additional features from Stakeholders on an ongoing basis
 - Implement enhancements within the eTRM
 - Conduct eTRM training

- **Measure Management**
 - Respond to changing codes and standards, regulatory and market changes on an ongoing basis
 - Coordinate, conduct, and organize all measure management and updates by Cal TF Staff
 - Accelerate measure uptake (training, visibility, videos)

- **Technical Policy Analysis & Recommendations**
 - Complete at least one TPP annually
 - Complete at least one White Paper annually

- **Stakeholder Engagement**
 - Expand participation with and by POUs, RENs, and CCAs
 - Identify and engage DAC representatives
 - Engage with additional state agencies beyond CEC and CPUC such as CARB
 - Engage with other organizations/non-profits doing similar work such as the Climate Registry and Market Transformation

Data Integration & Analytics

1. Centralize, link, standardize EE data (“one stop shop” for data)
2. Streamline data flow and reporting to minimize manual data management and improve data quality throughout measure journey
3. Integrate non-EE data (e.g., solar maps, EnviroScreen/DAC, census data, market data) to enable data analytics
4. Incorporate potential data at measure level to track progress and identify shortfalls
5. Integrate cost effectiveness

Custom Initiative

1. Centralize/organize regulatory guidance
2. Identify, consolidate, and develop statewide custom measures and tools
3. Identify and develop hybrid measures
4. Add custom measures and tools in the eTRM
5. Develop/review custom projects in eTRM
6. Perform technical project review/QA

New Measure Development and Updates

1. Develop and add decarbonization/CO2/GHG measures
2. Develop and add Low Income measures
3. Identify and engage with new entities and organizations to increase pool and accelerate development of new measures
4. Continue to streamline development of new measures
5. Streamline feedback to innovators (to support measure development)
6. Facilitate, oversee, and develop new measures and measure updates by Cal TF Staff
7. Submit new measures and measure updates by Cal TF Staff directly to regulatory agencies

Strategic Initiatives (Draft)

eTRM Extension

1. Expand measure data for eTRM measures (e.g., GHG, water savings)
2. Develop and populate placeholder measures for planning/forecasting ("representative measures")
3. Develop tools for different stakeholders and use cases (POUs, trade allies, customers, local gov, etc.)
4. Incorporate hourly and locational impacts and dynamic loadshapes for eTRM Measures
5. Integrate Energy Plus
6. Foster regional licensing/leveraging of eTRM tool and data

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Rate each "eTRM Extension" tactic based on level of importance and value (over 5-year horizon)

① Start presenting to display the poll results on this slide.

Strategic Initiatives (Draft)

“All Source” eTRM

1. Incorporate all behind-the-meter resources into the eTRM (e.g., DR, solar, battery, EV, Low Income)
2. Develop analytic tools and mobile platform to support trade allies and customers to optimize IDSM choices for customers
3. Incorporate NMEC measures in the eTRM

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Rate each "All Source eTRM" tactic based on level of importance and value (over 5-year horizon)

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Roadmap Goals (Draft)

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Baseload Activities

- eTRM Management and Development
- Measure Management
- Technical Policy Analysis & Recommendations
- Stakeholder Engagement

Strategic Initiatives

- Data Integration & Analytics
- Custom Initiative
- New Measure Development and Updates
- eTRM Extension
- “All Source” eTRM

Are there goals or activities we have not discussed that should be included in the 5-year Roadmap?

Roadmap Next Steps

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Goals Tactics / Success Factors



Brainstorms, grouping, voting

**Cal TF Roadmap Visual (May)
and Draft Roadmap (June)**

LUNCH

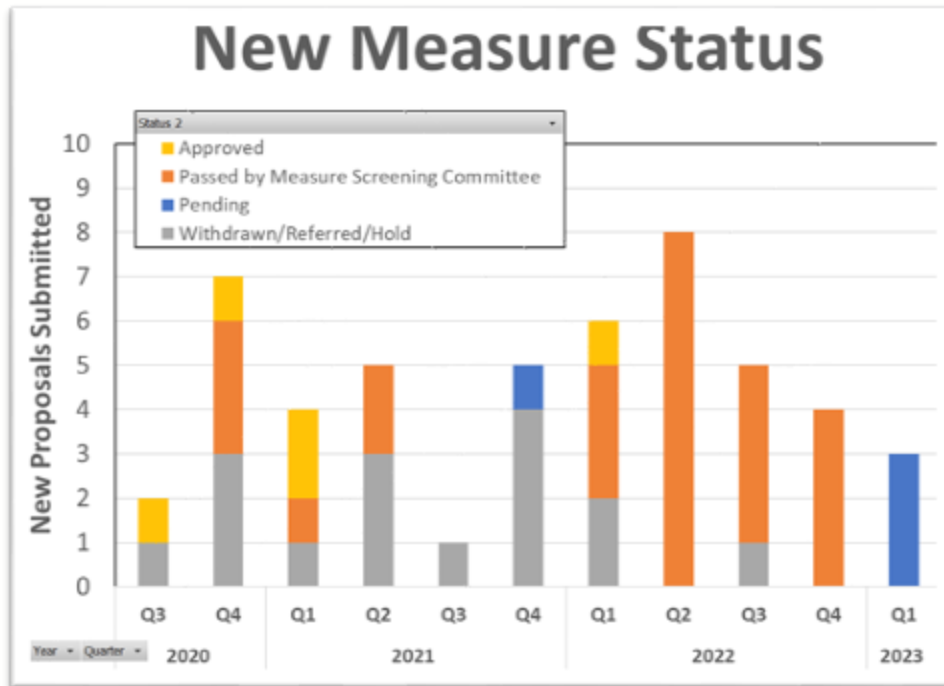
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New Measures

- Update on Deemed Lighting Measure Package
 - Felix Monterroso / Willdan
- Other Measure Packages in Development

Measure Packages in Development

- Shows the status of measures that entering the process
- Highlights a visibility gap between leaving the MSC and Publishing



- **Pending** – being discussed
- **Passed** – Agreed to move forward to development
----- Gap -----
- **Approved** – Published for use in CA

- At the end of the year, an enhancement will create a report to make this gap more transparent.

Measure Packages in Development



Measure Name	Modified	Drafting MPP	Submitted MPP	Draft	Peer Review	Manager Review	Cal TF Staff Review	CPUC Review	CPUC Request for Info	CPUC Approved	Comment
SWNM001 - MFm Common Tank Insulation	SWWH017-02, SWWH018-02	X	X	X	X	X	X	X	X	X	Approved 2/25/21
SWNM003 - Heat Pump Water Heater, Commercial	SWWH028-01	X	X	X	X	X	X	X	X	X	Approved 3/25/22
SWNM004 - Refrigerator Recycling											Looking for PA Sponser
SWNM007 - Cool Roof	Draft SWBE008-01										Looking for PA Sponser
SWNM008 - Cool Wall	Draft SWBE009-01										Looking for PA Sponser
SWNM010 - Condensing Wall Furnaces	SWHC001-01	X	X	X	X	X	X	X	X	X	Approved 7/12/21
SWNM011 - Ducted Mini-Splits											3P Holding
SWNM013 - Type B Outdoor LED	SWLG020-01	X	X	X	X	X	X	X	X		
SWNM014 - Hybrid Ventilation Fan											
SWNM018 - Commercial Behavioral	SWWB007-01	X	X	X	X	X	X	X	X	X	Approved 3/8/23
SWNM025 - Efficient Fan Control	SWHC029-02, SWHC059-01	X	X	X	X	X	X				
SWNM027 - Occupancy-based Fan Controller, Commercial	SWHC009-02, SWHC062-01	X	X								MPP submitted
SWNM028 - Modified Lighting Calculator	SWLG021-01	X	X	X	X	X	X				Socializing approach
SWNM030 - Hot Food Holding Bin	SWFS024-01	X	X	X	X	X	X	X	X	X	Approved 2/24/23
SWNM031 - VFD on Rodbeam Pumps		X									MPP draft by 3P
SWNM032 - Radiant Conveyor Toaster	SWFS023-01	X	X	X	X	X	X	X	X	X	Approved 4/19/23
SWNM033 - Lifecycle Refrigerant Management (RCA+)	SWSV006-008, SWSV014-01	X	X	X	X						
SWNM034 - Cooktop, Commercial	SWFS026-01	X	X	X	X	X	X	X	X	X	Approved 4/18/23
SWNM035 - Soup Well, Commercial	SWFS027-01	X	X	X	X	X	X	X	X		
SWNM036 - Demand Controlled Ventilation											Looking for PA Sponser
SWNM037 - Steam Table, Commercial	SWFS028-01	X	X	X	X	X	X				
SWNM038 - Res NC, Electrification Package	SWWB008-01	X	X	X							NTG ID
SWNM039 - Rotisserie Oven	SWFS029-01	X	X	X	X	X	X	X			
SWNM040 - Switch Reluctance Motor	SWHC041-03	X	X	X	X	X					
SWNM042 - High Efficiency Toilets - WEN	SWMI003-01	X	X	X							
SWNM043 - Weather-Based Irrigation Controllers - WEN	SWMI004-01	X	X	X							
SWNM044 - Direct Evaporative Cooler	SWHC060-01			X							
SWNM045 - Turf Removal	SWMI005-01	X									
SWNM046 - Portable Air Conditioners and Heat Pumps, Residential	SWAP020-01			X	X						
SWNM047 - Solar Attic Fan, Residential	SWHC061-01			X	X						

Cal TF Custom Initiative: 5X Workplan



ARLIS REYNOLDS

BP Metric 5X

Custom Initiative
(includes all metrics in
BP Goal 5)

- Draft 5X Workplan
 - Presented to TF, Custom Subcommittee, CEDMC EE + Decarb Committee
 - Reviewed with CPUC CPR team
 - Revised based on stakeholder input
- Revised 5X Workplan
 - Workplan with redline revisions
- ACT:
 - Affirm Revised 5X

Summary of Revisions (1 of 3)

I. Problem Statement

- Expanded challenges

II. Goals, Metrics, and Objectives

- Added Improved Customer Satisfaction to benefits

III. Scope

- General: Emphasized quick-win/high-impact opportunities and proposed next steps within deliverables
- 5A-1. Added deliverable to assess potential transition of CAEnergyGuidance.com to eTRM
- 5A-2. Added details to approach to clarify default vs. site-specific data elements for measure codes
- 5A-3. Added details to approach to clarify step re: how we determine/prioritize measures for statewide development, hybrid, and “deemification.”
- 5B. Added step to distinguish quick-win and high-impact activities.
- Potential Obstacles/Solutions. Emphasized importance of key stakeholder engagement to identify, prioritize, develop, and support solutions.

Summary of Revisions (2 of 3)

IV. Schedule

- Minor schedule adjustments

V. Stakeholder and Team Members

- Expanded to include key PA decision-makers for custom measures/programs
- Emphasized coordination/collaboration concurrent CPUC activity and process improvement efforts

VII. Affirmation

- Added PAC input due to potential policy-related recommendations from workplan activities.
- General text clarifications and corrections.

Summary of Revisions (3 of 3)

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5A. Gather, Organize, and Prioritize existing custom guidelines, tools, and resources

- Summary of Custom Regulatory Guidance Resources – **May 2023**
- Draft Custom Measure ID Structure and Mapping for Stakeholder Review – **June 2023**
- Affirmation of Custom Measure ID Structure – **TBD**

5B. Finalize High-Level Custom Roadmap by 2023 Q2

- Draft Custom Roadmap – **July 2023**
- Final Custom Roadmap, Affirmation – **October 2023**

5C. Develop and Implement SW Methods for at least three Custom Measures

- Custom Measure Characterizations for Stakeholder Review – **June 2023**
- Proposed Custom Measure Development, Review, and Approval Process – **June 2023**
- Affirmed Custom Measure Characterizations – **TBD**

5D. Update eTRM Documentation

- **TBD**

5E. Implement select POU and statewide TRM tools/calculators in the eTRM

- Final Custom eTRM Phase 1 Functional Specifications – **March 2023 (Complete)**
- Implementation of eTRM Phase 1 – **TBD**
- eTRM Custom Visioning Charrette – **July 2023**
- Draft Vision for Custom eTRM Modules – **September 2023**

Stakeholder Engagement

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Ongoing Engagement

- **Custom Subcommittee**
 - Monthly meetings
 - Subgroups
 - Website & SharePoint
- **TF and PAC meetings**
 - Updates, input, affirmations (when needed)
- **SW Custom Coordination Meeting**
 - Cal TF Updates
- **Ad hoc meetings and requests**
 - Data requests
 - Input requests (stakeholder survey, document review)

Key Stakeholders

- **CPUC Review Team**
 - Regular check-in
 - Solicit input and review at key milestones
- **PA Staff (IOU, POU, REN, CCA)**
 - Custom points of contact
 - Key decision-makers
 - Solicit input and review at key milestones
- **Implementers**
 - Implementer/Project Developer lists
 - CEDMC Meetings

Data Requests

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- Anticipated data requests include:
 - Non-public regulatory guidance resources
 - ✦ *Requesting support from PAs, CPUC Custom Team*
 - Custom project activity data
 - ✦ *Collected PY19-21 public claims data for custom measures*
 - ✦ *Requested CPR data for custom measures/projects*
 - **Existing custom tools used to develop custom measures**
 - Data and documentation from the CAEnergyGuidance.com
 - ✦ *Working with SDG&E; all posted materials are public (redacted)*
 - Selected project- or measure-specific standard practice research and determinations
 - ✦ *TBD pending ISP White Paper analysis/findings*

Discussion / Questions

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- Any additional questions or suggestions for the 5X Custom Initiative Workplan?
- Any objections to the revised Workplan?
- **TF affirmation**
- Next Steps:
 - Post affirmed workplan on Cal TF webpage and Custom Subcommittee SharePoint site
 - Share progress updates at monthly Custom Subcommittee meetings

Get Involved

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- Cal TF Custom Subcommittee Email List
- Cal TF Custom Subcommittee Meetings
 - Meets monthly on the first Wednesdays
 - Subgroups work on specific items
- Cal TF Custom Subcommittee SharePoint site
- Email arlis.reynolds@futee.biz

BREAK
2:15 – 2:30

BP Metric 6D: Deemed Regulatory Updates



ARLIS REYNOLDS

BP Metric 6D

Provide relevant regulatory updates to support Cal TF membership in staying informed with regulatory requirements

- The key focus of Metric 6D is effectively communicating regulatory updates related to deemed measures.
- Last time:
 - TF affirmed [6D Workplan](#)
- This time:
 - Review information flows, gaps, needs
 - Discuss solution rubric
 - Introduce “Living Rulebook” concept
- ACT:
 - Input on solution rubric
 - Input on Living Rulebook concept

Context

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CPUC Decisions and Resolutions

CPUC Dispositions

CPUC Guidance Documents

CPUC Memos & Emails

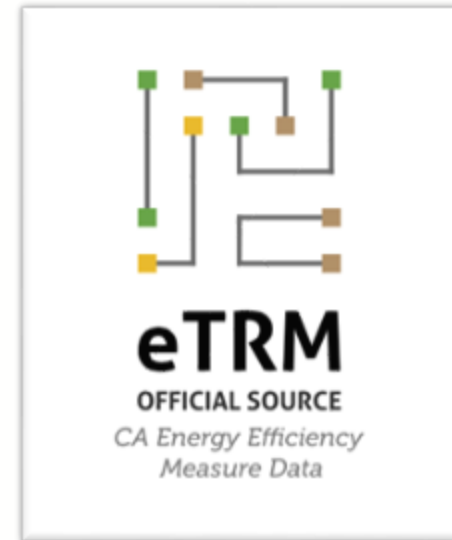
PA Guidance & Resources

Stakeholder meetings

Ad hoc communication

etc...

BP Metric 6D addresses effective communication of regulatory updates and information related to deemed measures



BP Metric 3C addresses Communication for changes to deemed Measure Packages

Information Streams

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- CPUC
 - Decisions and Resolutions
 - Guidance Documents
 - Dispositions
 - Memos
 - Emails
 - Q&A via DEER Support
 - CPUC/IOU SW Coordination
- PAs
 - PA guidance documents and materials
 - PA meetings/updates for contractors
- Other
 - Ad Hoc stakeholder communication
 - Individual organization efforts
 - Cal TF weekly PA meetings
 - CEDMC meetings, newsletter, emails
 - ...

Blue text = not public

Measures of Success

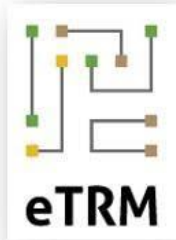
73

- Access/Transparency
 - Policy/guidance is in a central location.
 - Policy/guidance is accessible to all stakeholders.
 - Policy/guidance is up to date.
- Clarity/Understanding
 - Policy/guidance is clear (i.e., consistently understood by stakeholders).
 - Stakeholders are confident in their level of awareness and understanding of current policy.
 - Stakeholders have a way to request clarification.
 - Clarification is made available to all stakeholders.
 - There is a mechanism to quickly resolve points of confusion or conflict in policy and/or implementation of policy.
- Awareness
 - Stakeholders are alerted/notified when there are changes to policy.
 - Stakeholders have easy access to recent updates/changes to policy/guidance.
- Engagement
 - Stakeholders are notified when there are pending/proposed changes to policy.
 - Stakeholders have the opportunity to provide input on pending/proposed policy changes.
- Time Savings
 - There is a reduced level-of-effort to stay up to date on current policy.

Are there additional success measures to include?
Which of these are most important / impactful?

“Living Rulebook” in eTRM

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Statewide Deemed Workpaper Rulebook

Version 4.0

NOTE: Version 4.0 includes interim updates. The SW Deemed WP Rulebook will be updated again after DEER 2023 Resolution is released to reflect process changes and use of the eTRM platform.



- Central, public, accessible
- Ongoing updates via workflow
- eTRM users can add questions or comments in message log
- Links to eTRM References
- Subscription notifications for messages and updates
- Versioning tools
- Revision history and/or redlines

Do you like the Living Rulebook concept?
Does this concept address all the current challenges?

Next Steps

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- Finalize measures of success
- Scope business requirements for an eTRM-based “Living” Deemed Rulebook

EE Data Charrette



CALIFORNIA
TECHNICAL FORUM

ARLIS REYNOLDS
AYAD AL-SHAIKH

Data Charrette Objectives

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Part 1 (June 21)

- Establish shared understanding of:
 - existing EE data systems & data flows
 - data needs/challenges from all stakeholder perspectives
- Discuss data use cases to support stakeholders and the state's EE and decarbonization goals
- Identify top 5 opportunities and/or strategies to address data challenges and improve EE performance through data solutions

Part 2 (TBD)

- Establish a vision for a “future state” where we can fully leverage data to support the state's EE and decarbonization goals.
- Determine coordination needs and opportunities for demand side and supply side data
- Chart a path for key data use cases

Participants: CPUC, CEC, IOUs, POUs, RENs/CCA, Implementers, Evaluators, DAC/EJ Representative, Advocacy Orgs

Next Steps

- Action Items
 - TBD
- Next TF Meeting
 - Thursday, May 25, 10am – 4pm
 - Remote meeting
- Upcoming Meetings
 - Wed 5/3 – Custom Subcommittee (remote)
 - Thu 5/18 – Measure Screening Committee (remote)
 - Wed 6/21 – Data Charrette (Oakland)
 - Thu 6/22 – TF Meeting (Oakland)