

# Strategic Measure Consolidation Plan



**TIM MELLOCH, CAL TF STAFF**  
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# Presentation Overview

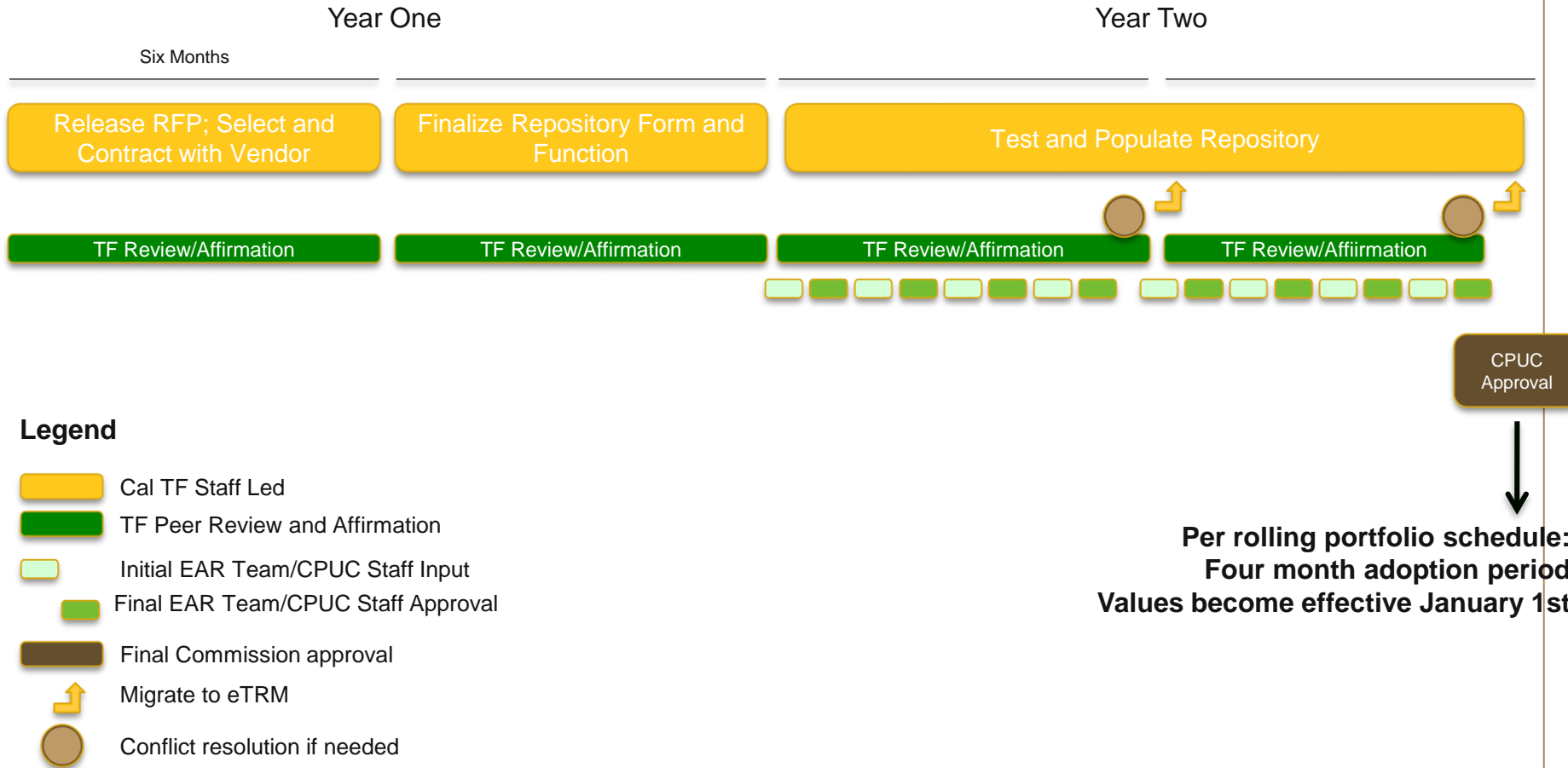
**As part of the objective to implement a best-in-class electronic (e-TRM), the 2017 Cal TF business plan calls for the development of a strategic measure consolidation plan. To support that effort the following metrics have been included in the 2017 business plan:**

- Consolidate at least 75 measures into the streamlined data specification by 12/31/17
- First ten measures by July 31, 2017
- At least ten measures monthly thereafter, with total of 75 by the end of December

# eTRM Implementation Overview:

## Measure Consolidation and Review

## Repository Creation and Population



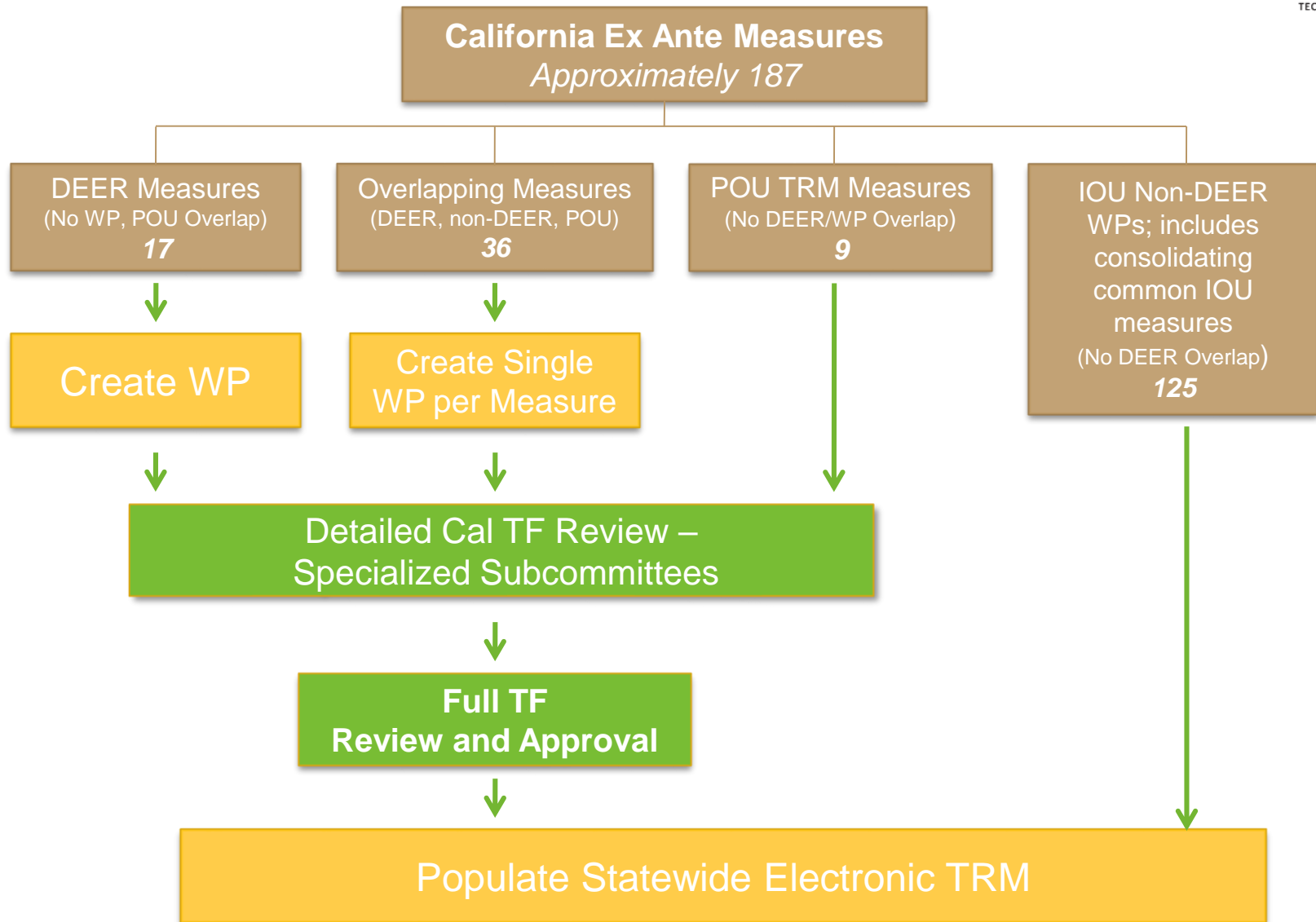
# Presentation Overview

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**A significant step in implementing a statewide e-TRM will be the process to review the current approved portfolio measures and consolidate overlapping workpapers . The steps to accomplish this include:**

- Eliminate measures that are “on the books” that are not likely be used in 2018
- Group remaining measures into end uses
- Determine how many workpapers exist in end use category
- Review the workpapers identified and determine which overlap and should be consolidated
- Cal TF staff will consolidate measures
- Subcommittee, then full TF, will provide guidance on key technical issues that need to be addressed and resolved.

# Proposed Implementation Process



# “Measure Type” Categories

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**A review of the 187 unique measures suggests a list of eleven initial categories. The categories and the approximate number of unique measures in each are:**

- ❑ HVAC (49)
- ❑ Lighting (38)
- ❑ Food Service (19)
- ❑ Appliance/Plug Load (16)
- ❑ Water Heating (14)
- ❑ Process (14)
- ❑ Refrigeration (13)
- ❑ Agriculture (8)
- ❑ Pools (7)
- ❑ Building Envelope (6)
- ❑ Miscellaneous (2)

## First Step: Eliminate Measures No Longer Valid

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**Over the last several years many measures were developed. As the IOU portfolios have matured, certain measures no longer made sense to offer.**

- Rather than eliminate or cancel such measures, they “stayed on the book” but were not used
- Measure consolidation process will identify and exclude measures that aren’t used or are not likely to be used in 2018
- For example, PG&E is currently performing such an activity, and believes up to 50% of their current measures may be retired/eliminated
- **ACT:** Need to get similar information from other IOUs/POUs.

# How to Eat an Elephant: One Bite at a Time

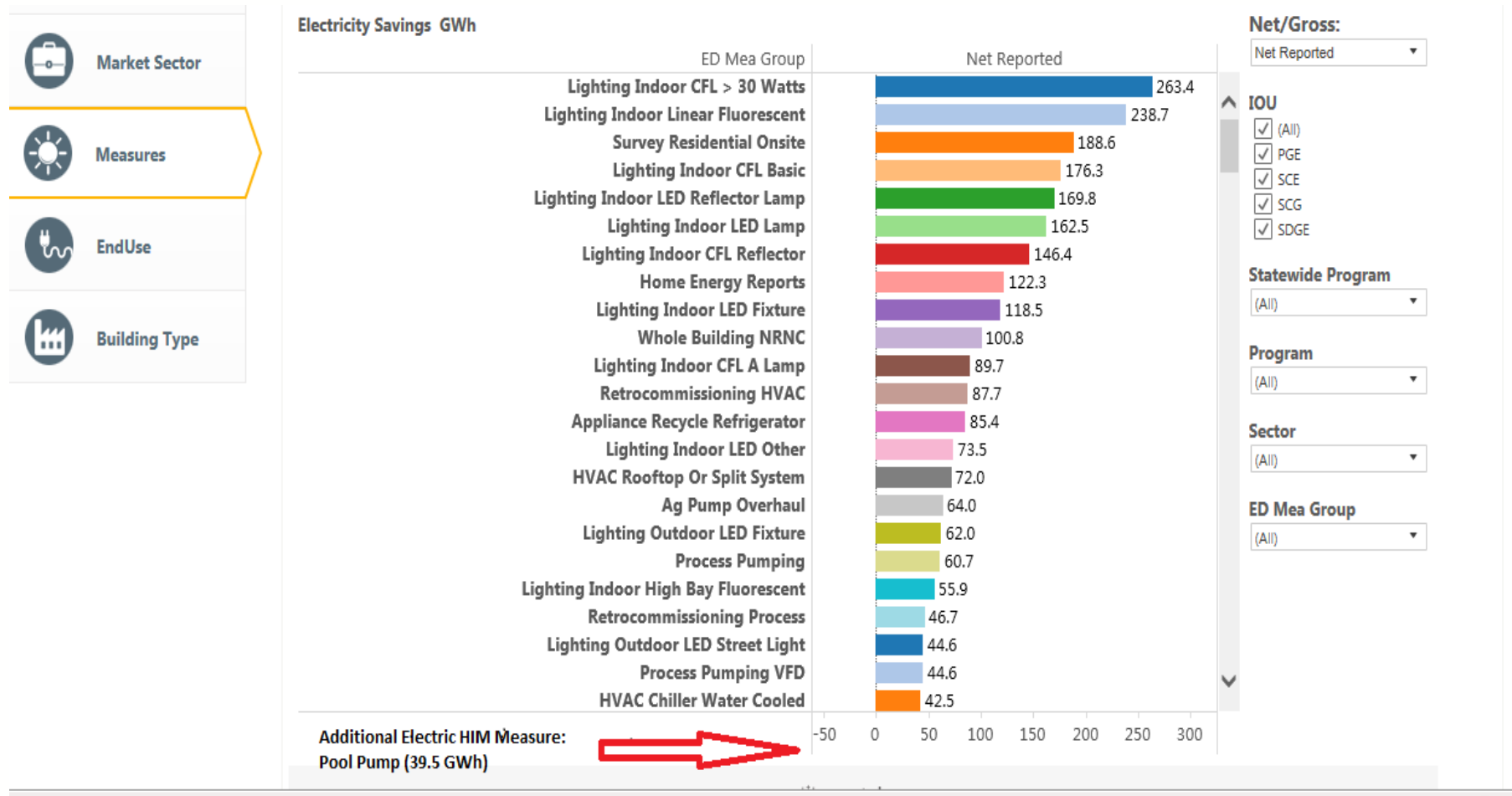
## Strategic approach for selecting first 75 measures to consolidate in 2017. Proposed Criteria:

- **HIMs (provide more than 1% of savings statewide)**
  - Readily available data to identify HIMs: EESTAT data from 2013 – 2015. Only covers IOUs.
- **Measures that are largely consistent already**
  - ✦ Per IOU WP leads, agriculture, refrigeration, food service and water heating already have been approached in a “statewide” manner.
- **Measures that are technically easier to characterize**
  - Considerations: Engineering equations vs. modeling; no interactive effects
- **Avoid highly complex or super-controversial measures**
  - HVAC, VRF
- **Cal TF Input:** What other criteria should be considered in selecting measures for 2017?



# 2013-2015 Statewide High Impact Electric Measures (From eestats)

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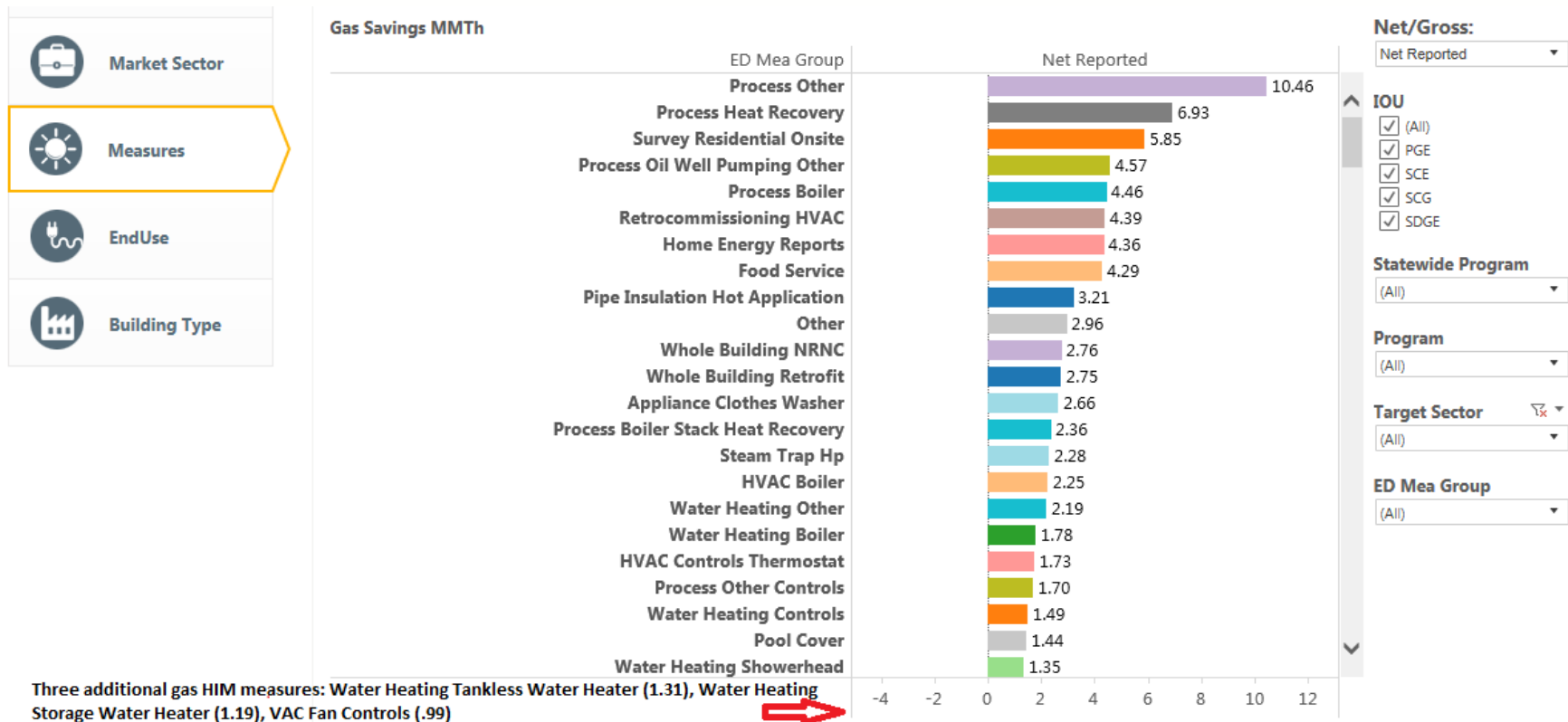
# 2013-2015 Statewide High Impact Electric Measures

**During the 2013-2015 program cycle, there were 24 measures that contributed 1% or more to net statewide electricity savings:**

- *The top ten measures were responsible for 43.7% of the net statewide savings during the program cycle*
- In total, the 24 HIMs represented 66.2% of the total savings from 2013-2015
- The remaining savings (33.8%) came from an additional 167 measures during the 2013-2015 program cycle
- A number of measures are also listed in eestats for the 2013-2015 program cycle showing zero savings, what do they represent?

# 2013-2015 Statewide High Impact Gas Measures (From eestats)

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# 2013-2015 Statewide High Impact Gas Measures

**During the 2013-2015 program cycle, there were 26 measures that contributed 1% or more to net statewide electricity savings:**

- *The top ten measures were responsible for 58.4% of the net statewide savings during the program cycle*
- In total, the 26 HIMs represented 92.7% of the total savings from 2013-2015
- The remaining savings (7.3%) came from an additional 69 measures during the 2013-2015 program cycle
- A number of measures are also listed in eestats for the 2013-2015 program cycle showing zero savings, what do they represent?

# Proposal for First 75 Measures

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- Consider measures that lend themselves to consolidation based on them already being quasi-statewide measures:
  - ▣ Refrigeration (13)
  - ▣ Food Service (19)
  - ▣ Agriculture (8)
  - ▣ Domestic Hot Water (14)
- Consider historical gas and electric HIM measures and determine which are likely to again be HIMs going forward and select subset for 2017 development (5 gas, 5 electric)
- Identify a list of less complex measures like plug load measures (16) (i.e. savings determined by engineering calculations, no modeling required)

## Refrigeration (13)

- Refrigeration Display Cases
- Anti-Sweat Heat (ASH) Controls
- Anti-Sweat Heater Display Doors
- Evaporator Fan Motors
- Refrigerated Storage Auto Closer
- Walk-in Cooler Evaporative Fan Cycling and VFD Control
- Refrigeration Strip Curtains
- Refrigeration Head Pressure Controls
- Refrigeration Night Covers
- Refrigerated Warehouse Head Pressure Controls
- Bare Refrigeration Line Insulation
- Refrigeration Controls
- Ultra Low Temp Freezer

## **Food Service (19)**

- Commercial Convection Oven
- Commercial Dishwashers
- Commercial Electric Combination Oven
- Commercial Electric Griddles
- Commercial Electric Steamers
- Commercial Ice Machines
- Commercial Pressure Fryer
- Insulated Hot Food Holding Cabinets
- Commercial Conveyor Oven-Gas
- Commercial Electric Deck Oven
- Commercial Hand Wrap Machines
- Commercial High Density Universal Holding Cabinets
- Deck Ovens
- Double Oven
- Electric Fryers
- Exhaust Hood Demand Controlled Ventilation
- Finned-Bottom Stock Pot (Foodservice)
- Glass Door Freezers
- Low-Flow Pre-Rinse Spray Valves Direct Install

## **Agriculture (8)**

- Agricultural Milk Transfer Pump VSD
- Agricultural Pump System Overhaul for Pumps Up To 25 HP
- Agricultural Ventilation Fans
- CHR Unit - Electric and Gas
- Farm Sprinkler to Micro Irrigation Conversion
- Low Pressure Sprinkler Nozzles
- Milk Cooling Scroll Compressor
- Milk Pump VFD



## Domestic Hot Water (14)

- Commercial Storage Water Heater
- Commercial Tankless Water Heater
- Heat Pump Water Heater
- Recirculation Pump Time Clock
- Residential Storage Water Heater
- Residential Tankless Water Heater
- Boiler Reset Controls
- Central Boiler Tankless Water Heater
- Demand Pump Controls
- Direct Contact Water Heater
- Faucet Aerator
- Hot Water Line Insulation
- Laminar Aerator
- Low Flow Showerhead

## **High Impact Measures: Work with IOU's/POU's to ID future HIMs (10)**

- Lighting Indoor Linear Fluorescent
- Lighting Indoor LED Reflector Lamp
- Lighting Indoor LED Lamp
- Lighting Indoor LED Fixture
- Appliance Recycle Refrigerator
- Survey Residential Onsite (Gas and Electric)
- Water Heating Boiler
- Process Boiler
- Pipe Insulation
- Pool Cover

# Proposal: Specific Measures to Target in 2017

## Plug Load Measures (16)

- Appliance Recycling
- EE refrigerators
- Clothes washers
- EE dishwashers (res)
- EE freezers
- Audio Equipment
- Beverage Merchandise Controller
- Blu-Ray and DVD Players
- Clothes dryers
- Energy Efficient TVs
- Industrial CO2 Laundry
- Ozone Laundry
- Plug Load
- Power Management Software for Networked Computers
- Set Top Boxes
- Smart Power Strips

## **Based on historical experience, we need to discuss the most effective way to get 75 measures through Cal TF in 2017**

- Recognize that most of the measures are already in use and in some cases went through formal review and approval
- Measures will be grouped by end use and discussed together in Cal TF subcommittee (can include outside experts as well as Cal TF members)
- Full TF Approval: TF members will be provided with consolidated measures by end use, with memo identifying key issues/judgment calls made by subcommittee. TF meeting will focus on memo, not individual measures
- TF will then be asked to approve all measures in end use category. TF could choose to approve category of measures and exclude one or more measures from approval based on unique considerations

**Is Cal TF comfortable with this general approach?**

## **What are the expectations of IOU/POU involvement in the consolidation process?**

- Based on technical knowledge, institutional experience, and program experience, they will be critical to supporting the consolidation work
- Although the day-to-day responsibility of consolidating measures is Cal TF staff responsibility, the IOU/POUs will play a critical role in ensuring the e-TRM works for them when completed
- Cal TF staff will ask IOU/POUs (technical and program folks) to identify key issues/pitfalls up front, then participate in Cal TF subcommittee.

# CPUC Staff Engagement

## **What role will the CPUC Staff play in the consolidation process?**

- Our plan will need to engage the CPUC Staff at several milestones to ensure they are comfortable with the decisions and process being followed.
- To ensure transparency, we will work to keep them continually informed of our progress while affording them the opportunity to get involved at any point they choose.
- Formal approval of initial measures is not anticipated until early 2018

# Next Steps

## **1. Finalize measure list ASAP (75 measures for 2017)**

- ❑ One Cal TF subcommittee meeting to move measures on/off list
- ❑ Solicit CPUC Staff input

## **2. Convene 2017 Technical Subcommittee(s) (by end use)**

which will be comprised of Cal TF members, IOU/POU WP representatives and Cal TF staff to address specific measure categories. Determine if additional industry expertise is needed for any measure category.

## **3. Identify IOU/POU leads for coordinating on measure consolidation issues**

- Will need to coordinate input from technical AND program
- Should statewide measure lead for each category have greater involvement in measure consolidation process?

# Next Steps

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## **4. Finalize e-TRM data specification and data dictionary**

## **5. Address Regulatory Issues**

- ❑ Tier 2 Advice Letter to be filed
- ❑ Identify, summarize and pursue needed regulatory changes that will be required to facilitate the changeover to the new e-TRM.

# **Start Consolidating Measures!**