

# MEMD Existing Measure Review & Calibration Research Prioritization



Draft slides for internal discussion



# MEMD Process Review Update Agenda

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**Existing Measure  
Review & Calibration**

**2**

**Measure Prioritization  
Process**

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**Calibration Research  
Process**

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**Proposed Calibration  
Priorities**

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## Background

The Existing Measure Review and Calibration Research Process is used by utilities, third-party evaluators, and the MEMD Developer to support updates and improvements to MEMD savings estimates.

### Covered by Existing Measure Review Process

- New code/standard changes the measure baseline
- Credible evidence supports a different value

## MEMD Details

- Specifies deemed per-unit gross energy (kWh, MCF) and demand (kW) savings by measure.
- Deemed values are updated when there is sufficient evidence to suggest a revision is warranted, such as:

### Triggers review to assess the need for calibration research

Credible evidence challenges the existing value but does not suggest a definitive new value applicable to Michigan.

## Existing Measure Review

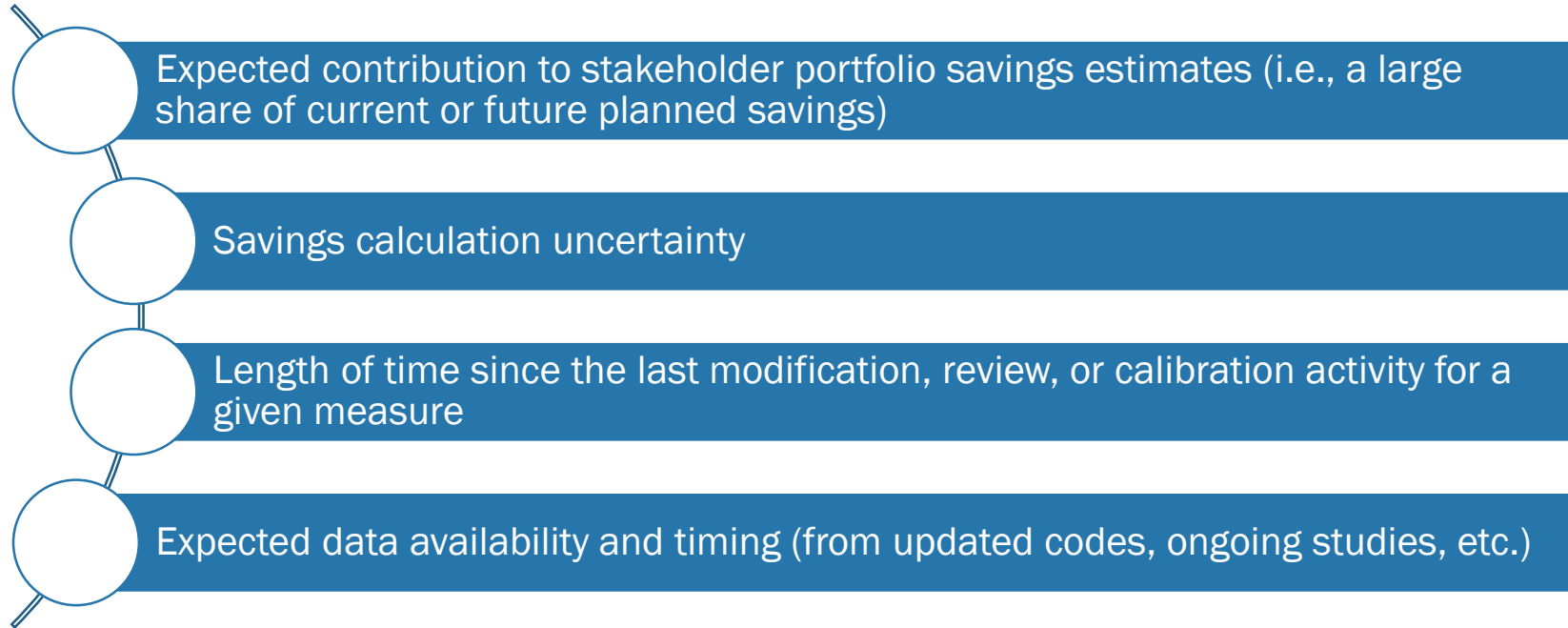
The process through which the MEMD Developer or third-party evaluators review existing MEMD measures to determine if savings values, calculations, baselines, and key assumptions remain accurate or need updating based upon new developments. This review relies upon research from secondary sources.

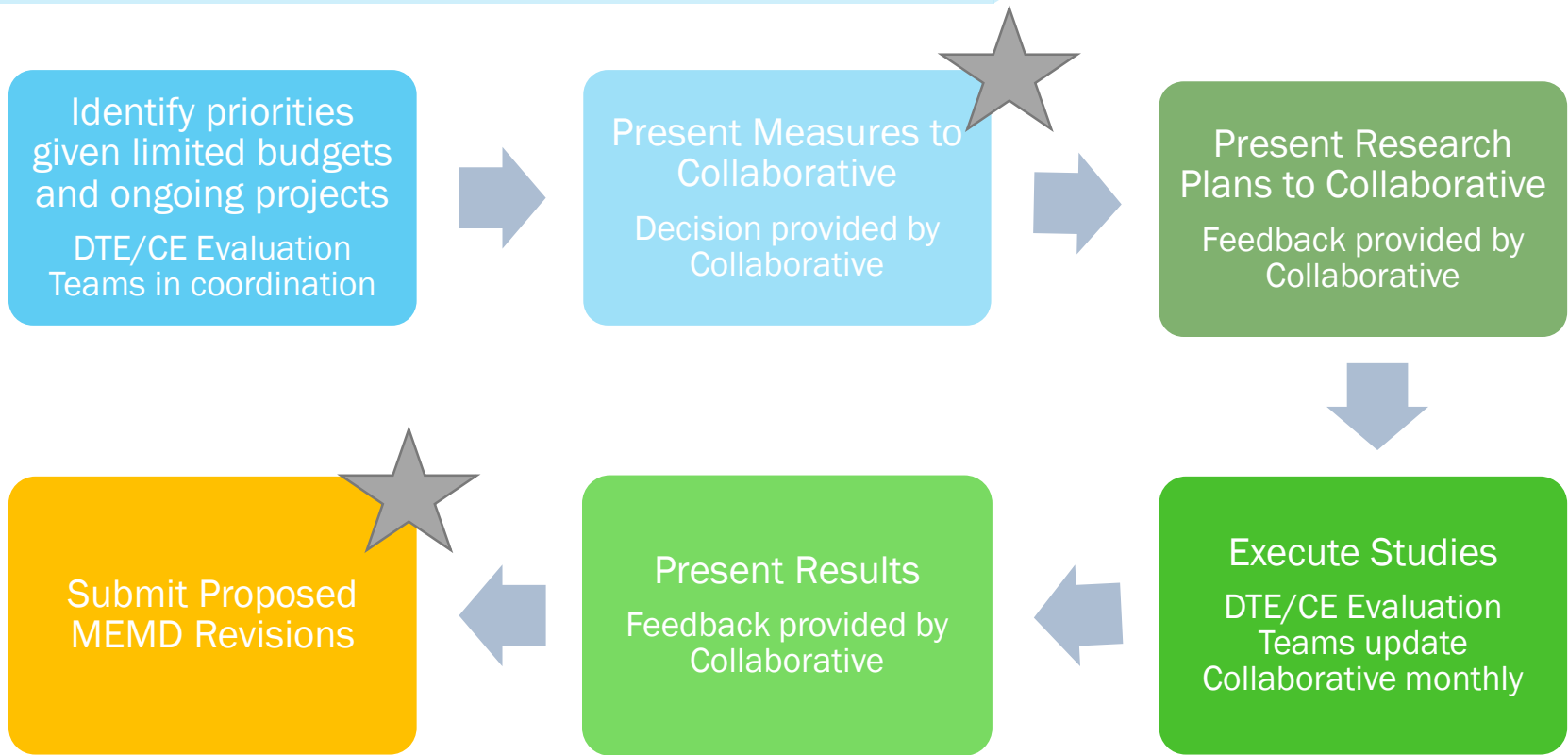
This process produces research and workpaper revisions which become the basis for Modified Measure submissions to the MEMD.

## Measure Calibration Research

Refers to the process through which third-party evaluators conduct Michigan-specific research which analyzes the per-unit savings impacts for current MEMD measures.

MEMD Measures are clustered by end use or category (e.g., cooling) and prioritized for existing measure review and calibration research, based upon four key criteria:

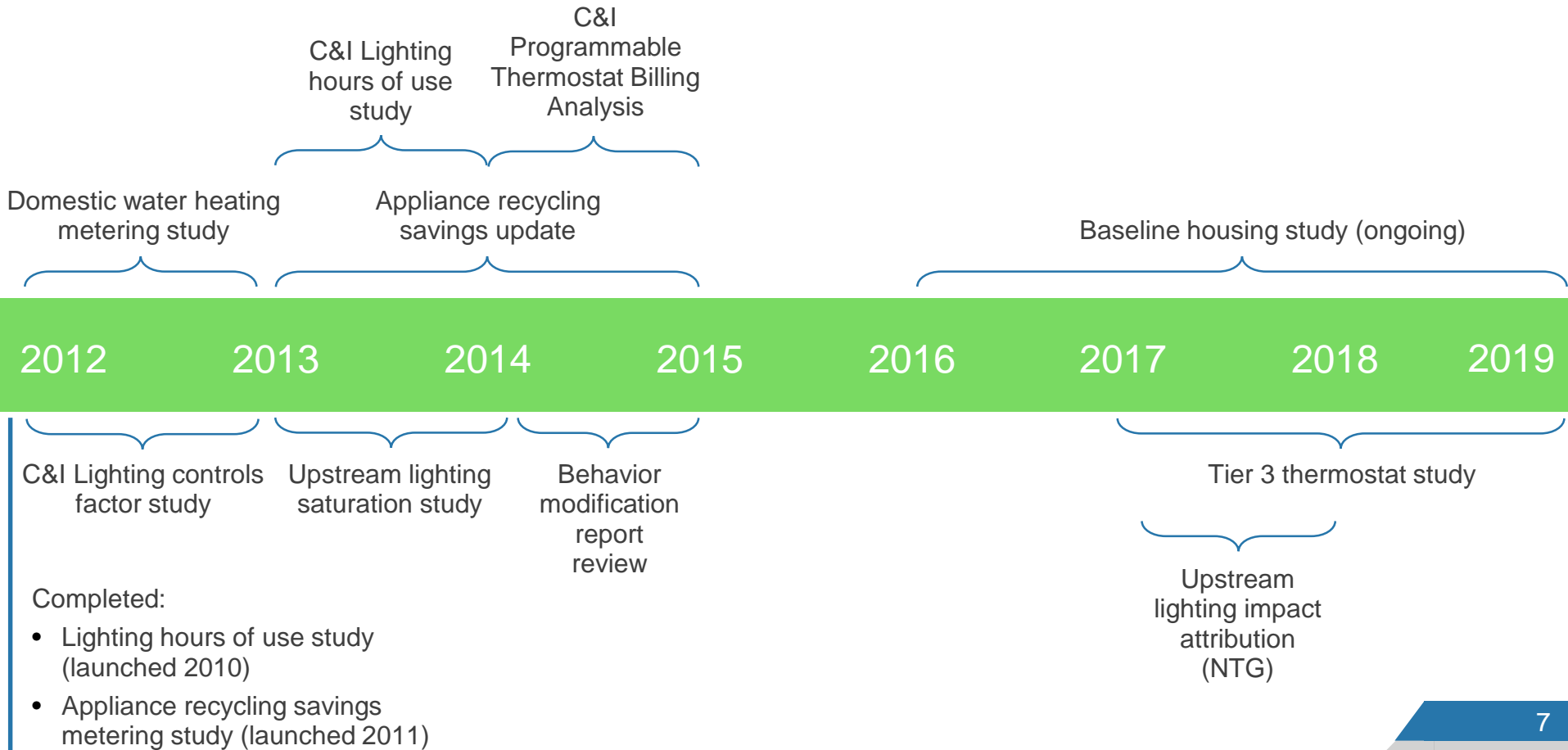
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- Expected contribution to stakeholder portfolio savings estimates (i.e., a large share of current or future planned savings)
  - Savings calculation uncertainty
  - Length of time since the last modification, review, or calibration activity for a given measure
  - Expected data availability and timing (from updated codes, ongoing studies, etc.)



**Collaborative Decision Points**

Source: MEMD Overview Maintenance Process Manual, March 2018

# Calibration Research History since 2012



## Proposed Residential Calibration Priorities

PRIORITY RANK	STUDY TYPE	PRIMARY FUEL	MEASURE CATEGORY	% OF SECTOR AND FUEL TYPE SAVINGS (DTE/CE) <sup>1</sup>	UNCERTAINTY IN ESTIMATED SAVINGS	ESTIMATED COST OF MEMD CALIBRATION
1	Calibration Research	Gas	Tier 1 Thermostats	24%/14%	High	High
2	Existing Measure Review	Electric	Appliance Recycling	11%/14%	Moderate	Low
3	Calibration Research	Gas	Furnaces	28%/27%	High	Moderate

1. 2018 Achieved



## Proposed Residential Calibration Priorities

MEASURE CATEGORY	STUDY TYPE	OBJECTIVE	KEY CONSIDERATIONS
<b>Tier 1 Thermostats</b>	Calibration Research	<ul style="list-style-type: none"> <li>Review Tier 1 Thermostat (setback/setup) measure savings values, energy models, baselines, and key assumptions (near-term)</li> <li>Conduct measure calibration research using DTE/CE AMI data (long-term)</li> </ul>	<ul style="list-style-type: none"> <li>Tier 1 Thermostats remain in EWR programs due to system compatibility challenges with Tier 3 Thermostats</li> <li>Ongoing Housing Baseline Study will also inform savings</li> </ul>
<b>Appliance Recycling</b>	Existing Measure Review	<ul style="list-style-type: none"> <li>Update baseline for recycled appliances based on DTE and CE program tracking data</li> </ul>	<ul style="list-style-type: none"> <li>Last update occurred in 2015</li> <li>Agreed to periodic baseline review</li> </ul>
<b>Furnaces</b>	Calibration Research	<ul style="list-style-type: none"> <li>Conduct measure calibration research using MI-specific field data; collect efficiency and meter usage data</li> </ul>	<ul style="list-style-type: none"> <li>Large contribution to portfolio gas savings and no calibration history</li> <li>Housing Baseline Study could be leveraged for lower cost calibration effort</li> </ul>

## Proposed C&I Calibration Priorities

PRIORITY RANK	STUDY TYPE	PRIMARY FUEL	MEASURE CATEGORY	% OF SECTOR AND FUEL TYPE SAVINGS (DTE/CE) <sup>1</sup>	UNCERTAINTY IN ESTIMATED SAVINGS	ESTIMATED COST OF MEMD CALIBRATION
1	Calibration Research	Electric	Deemed LED Lighting	66%/24%	High	Moderate
2	Existing Measure Review/Calibration Research	Gas	Boiler Tune-Up	29%/5%	High	Moderate
3	Calibration Research	Gas	HVAC Controls	20%/25%	High	Moderate/High

1. 2018 Achieved for DTE, 2020 Planned for CE

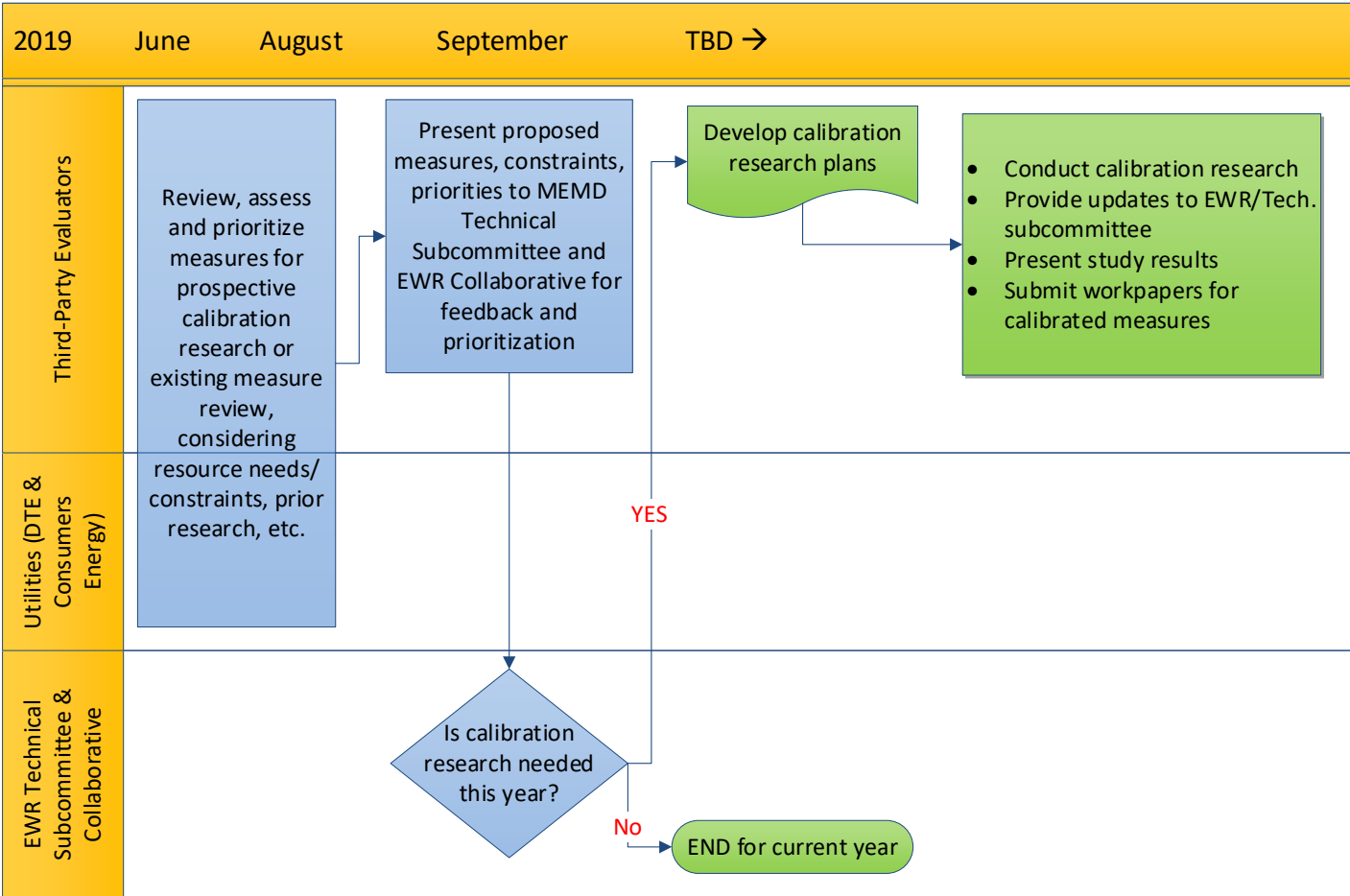
## Proposed C&I Calibration Priorities

MEASURE CATEGORY	STUDY TYPE	OBJECTIVE	KEY CONSIDERATIONS
<b>Deemed LED Lighting</b>	Calibration Research	<ul style="list-style-type: none"> <li>Update 2014 C&amp;I Hours-Of-Use Study focusing on additional building types and high bay lighting</li> </ul>	<ul style="list-style-type: none"> <li>Lighting potential remains large in the coming years</li> </ul>
<b>Boiler Tune-Up</b>	Existing Measure Review/Calibration Research	<ul style="list-style-type: none"> <li>Complete initial review of Boiler Tune-Up values, calculations, baselines, and key assumptions, including CE/DTE EWR program project-files (Phase 1)</li> <li>Conduct measure calibration using MI-specific field data and efficiency testing (possible Phase 2)</li> </ul>	<ul style="list-style-type: none"> <li>Historical evaluation results suggest little efficiency improvements based on review of pre/post- combustion analysis results provided in the customer application</li> </ul>
<b>HVAC Controls and Measures</b>	Calibration Research	<ul style="list-style-type: none"> <li>Conduct measure calibration research using MI-specific field data focusing on Energy Management Systems</li> </ul>	<ul style="list-style-type: none"> <li>Potential increased focus on Energy Management Systems</li> <li>High uncertainty due to lack of primary data in MI</li> </ul>

DTE Energy and Consumer Energy identified additional priorities for future research. These measures are increasing in importance, but not yet ready for calibration.

Sector	Measure	Study Type/Details
Residential	Ductless heat pumps	Track results from the Housing Baseline Study for potential as a window AC retrofits or other opportunities.
Commercial and Industrial	Direct-fired makeup air units	Conduct billing analysis to validate savings estimates.

# Process and Timeline



- Completed
- TBD