



EM&V Committee Meeting

April 8, 2025



Agenda

1. Welcome and Introductions
2. Savings Allocation Framework Updates
3. EM&V Regulations Update
4. 2024 Year End Data (Bi-Annual Snapshots)
5. TRM Updates
6. Avoided Cost Updates
7. Net-to-Gross Ratio Updates
8. Next Steps and Public Comment



Savings Allocation/Reporting Framework



Savings Allocation/Reporting Framework: Path Forward

- Work since January
 - Held meeting with DEMEC and SEU
 - Conversation identified some potential overlap
 - Additional research to be done on specific measures/programs
 - Discussion also focused on areas of potential collaboration
- Work to be done
 - Identify any additional meetings with individual PAs that may be necessary
 - Work to populate a statewide data rollup
 - Other items?



EM&V Regulations



2024 Year End Results



2026-2028 Planning Assumptions



Introduction

- 2025 is the last year of the current Three-Year Plan cycle
- To support planning for 2026-2028, several inputs used to calculate savings and benefits will be updated
 - Technical Reference Manual (TRM)
 - Avoided Costs
 - Net-to-Gross Ratios
- Purpose of today's discussion is to provide and update on and get input on work to date



Technical Reference Manual



Overview and Current Status

- Delawares Technical Reference Manual (TRM) is currently in a draft update state for the 2026 program year and the next program cycle.
- The TRM is to support implementers in accurately claiming energy savings for various measures, and support portfolio planning processes for the 2026 – 2028 cycle.
- Optimal previously presented the final 2025 TRM updates at the Q3 EEAC EM&V meeting in October 2024, and the draft updates for the 2025 program year in January 2025.



Previous 2024 Measure Additions/Updates

- Agricultural Measures
 - Engine Block Heater Timer, Auto Milker Takeoff, Dairy Scroll Compressor, High-Efficiency Fans, Heat Reclaimers, Low Pressure Irrigation, Dairy Refrigeration Tune-Ups
- Tier 2 Powerstrips, Low-Flow Aerators and Showerheads, and Vending Machine Controls
- Commercial Duct Sealing
- Equipment Tune-Ups
 - Furnaces
 - Boilers
 - DHW
- Residential Combination HVAC/DHW Boiler
- Controls for Central Domestic Hot Water Recirculation Pumps
- Additional baselines for potential “Fuel Switching” measures, to incorporate gas-fired equipment as the baseline



Previous 2024 EM&V Questions on TRM Updates

Question	Current Status
NTG Updates for Gas Measures in TRM	<p><u>Completed.</u></p> <p>NTG rates aren't listed in the TRM but came up during the EM&V discussion previously. However, since DE programs claim NTG on a per program aggregate basis – different from other states claims on a per measure basis -- There isn't enough granularity to support a different value or incorporating the NTG rates into the TRM on a measure level basis.</p>
Residential Full Load Hour updates	<p><u>On Hold.</u></p> <p>The full load hours remain unchanged and in line with nearby jurisdictions. A study would need to be conducted to provide direct updates to the residential full load hours, which are based on secondary sources of nearby areas.</p>
New gas measure additions to TRM	<p><u>Completed*</u></p> <p>*The gas-fired heat pump measure is not included and will require a primary study to try and estimate savings, costs, and implementation. This will be necessary to try and determine if a prescriptive savings approach is feasible, since currently this is a custom approach measure.</p>



New Measure Additions/Updates for 2025

- Partial Displacement Heat Pumps
 - Partially displacing gas-fired furnace
 - Partially displacing oil-fired boiler
- EnergySTAR Specification Revisions
 - Dehumidifiers
 - Room AC/HP Heating Mode Efficiency
 - Air-Source Heat Pumps
 - Central Air Conditioning
- Draft 2025 EnergySTAR Specifications in progress
 - 15 total specification updates underway in 2025 by EnergySTAR; 8 anticipated to be completed by year end
 - Electronics: Computers, Displays
 - HVAC: Boilers, Commercial DHW, Furnaces, Air-Source Heat Pumps, Central Air Conditioning, Smart Thermostats, Water Heaters
 - Appliances: Clothes Dryers, Clothes Washers, Consumer Refrigeration Products, Room AC's, Room Air Cleaner/Purifiers
 - Food Service: Commercial Dishwashers, Steam Cookers



Proposed Future Updates in Q3/Q4 2025 and 2026 - 2028

- DE Legislation is expected to vote upon updating the state energy code to adopt the 2021 International Energy Conservation Code (2021 IECC) & ASHRAE 2019 standards
 - Anticipated to occur during 2025 legislative session
- Federal baseline changes for various measures
 - Commercial unitary AC & Heat Pump Efficiencies
- Potential Measure Updates
 - Weatherization Measures
 - Smart Thermostats
- Draft EnergyStar Specification Revisions and Potential New Measures for 2025+
 - Dual Fuel Applications for ESTAR Heat Pumps
 - PTACs
 - Heat Pump Boilers

Mechanical Systems		
C403.1	General	Data Center Systems are exempt from sections C403.4 (heating and cooling system controls) and 403.5 (economizers).
C403.1.2	Data centers	Requires data centers to comply with Sections 6 and 8 of ASHRAE 90.4 (Energy Standard for Data Centers) with some modifications.
C403.2.3	Building mechanical systems	Requires HVAC fault detection and diagnostic (FDD) systems for new buildings $\geq 100,000$ sqft and lists required FDD functions.
C403.3.2	HVAC equipment performance	Increases the number of equipment efficiency tables from nine to 16 to incorporate additional equipment types. Many minimum efficiencies are updated to reflect new federal testing standards.
C403.4.1.1	Heat pump supplementary heat	Limits operation of supplemental electric resistance heat to four specific operating conditions.
C403.5	Economizers	Adds exception for VRF systems installed with a dedicated outdoor air system.
C403.7.1	Demand control ventilation	Decreases the average occupant load threshold from 25 to 15 people per 1,000 sqft, resulting in more space types requiring DCV.

For more information on the specific changes between the 2018 and 2021 IECC versions, please see the DNREC summary document below.

<https://documents.dnrec.delaware.gov/energy/buildings/2021-IECC-Changes-Commercial.pdf>



2025 Update Timeline for 2026/27 – 2028 Program Year Changes

- Our recommendations on the timeline are as follows:
 - Q2/Q3 2025
 - Develop priority measure updates from PA's
 - Draft TRM updates for PA measures/code impacts
 - Q3 2025
 - Present next program cycle TRM update at Q3 EM&V Committee Meeting
 - Q3/Q4 2025
 - Finalize TRM updates post Q3-committee meeting to be ready for the next 2026 – 2028 program cycle.



Avoided Costs



Background

- Originally approved in 2017
 - Methodology developed after extensive discussion with EM&V committee
 - Relied on available data from relevant jurisdictions and public sources
 - Intent was to use these avoided costs until a Delaware-specific study can be completed
- Updated in 2019 and 2022 using original methodology and newer inputs



2025 Approach

- Avoided costs should be updated on a regular basis to reflect most recent market conditions
- In the absence of a DE-specific avoided cost study, continue to use available data to develop updated values



Electric Energy Avoided Costs

- Avoided electric energy costs based on values developed for DPL's use in MD (2020)
 - DPL's service territory in MD and DE compose a single zone as defined by PJM, the regional system operator
- Includes a component for demand-reduction induced price effects, or DRIPE
- Add value of avoided Renewable Energy Credits (RECs) and Solar Renewable Energy Credits (SRECs)
- Uses single state-wide set of electric avoided costs
- Simplifies energy period into single set of projections for each customer sector



Electric Capacity Avoided Costs

- Avoided electric capacity costs also based on values developed for DPL's use in MD (2020)
- Avoided capacity costs composed of generating capacity, transmission and distribution capacity and DRIPE



Gas Avoided Costs

- Gas avoided costs primarily based on gas utilities' gas service rate (GSR) or gas commodity rate (GCR)
- These rates represents the avoidable marginal cost of supplying gas to customers
 - Includes the variable costs of gas transportation from the pipeline take-off point
- Future years' GSR/GCR based on projections for changes in gas prices in the Mid-Atlantic region developed by the Energy Information Administration (EIA)
- Use avoided costs for each utility, due to differences in gas supply costs and relative simplicity of splitting the territory areas



Status of Updating Avoided Costs

- Have necessary data
- Need to some additional work to adjust for a DE-specific value for RECs/SRECs
- Plan to bring to next EM&V committee



Net-to-Gross Ratios



Background

- Net-to-Gross (NTG) Ratios help us assess savings attributable to efficiency programs by incorporating multiple metrics such as free-ridership
- Impact reported savings and cost-effectiveness
- DE values originally developed in 2016
 - Relied on studies from relevant jurisdictions and public sources
 - Developed at a program level
- Revisited in 2022 as a regular update
 - Used same methodology as used in previous years, with newer studies
- NTGRs developed at program level and used variety of studies; applicable to both electric and gas programs



2025 Approach

- In the absence of many DE-specific studies, continue to use other relevant to develop updated values
 - Focused on PA, MD, DC, MA, RI
- Where applicable, consider DE-specific values
- Updated values would be used for duration of next three-year plan



Updated Values

- For several programs, recommended values remain unchanged or similar to 2022 values

Program	Original Value	Recommended Value
Behavior	1.00	1.00
HP Water Heaters	0.87	0.87
Home Energy Services	0.90	0.80
Low Income	1.00	1.00
Appliances (non-lighting)	0.56	0.56
Demand Response	1.00	1.00
Large Business Custom C&I	0.70	0.70
Medium Business Custom C&I	0.70	0.70
Prescriptive C&I (Med-Large)	0.80	0.80
Farm Programs	1.00	1.00
New Construction	0.90	0.90



Updated Values

- For several programs, recommended values remain unchanged or similar to 2022 values

Program	Original Value	Recommended Value
Non-profits, schools, religious institutions, and small businesses	0.95	0.95
Performance Contracting/Revolving Loan Fund	Performance contracting: 0.7 Revolving loan fund: 0.8	Performance contracting: 0.7 Revolving loan fund: 0.8
Street Lighting	0.90	0.90
C&I Lighting	0.66 for New Construction 0.90 for Retrofit 0.80 for upstream	0.66 for New Construction 0.90 for Retrofit 0.80 for upstream



Residential Lighting

- Original value: 0.48 (based on DPL study)
- Recommended value: 0.00
- Federal efficiency standards have effectively banned the sale of most incandescent and CFLs
 - Because efficient lighting is now baseline, there are no savings to be claimed
 - DPL discontinued residential lighting program in current plan for this reason



Others?

- Are there any additional program types we should consider?

