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MEMORANDUM

TO:	Iowa TRM Oversight Committee
FROM:	Kalee Whitehouse, Project Manager, Jake Ahrens and Sam Dent, Technical Leads, and the VEIC TRM Team
SUBJECT:	Iowa TRM v6.0 Recommended Evaluation Priorities
DATE:	**8/4/2021**
Cc:	Chaz Allen, IUA

In an effort to increase the accuracy of the Iowa Statewide TRM, VEIC offers the following list of measures and parameters from the v6.0 Iowa TRM that we believe will benefit the most from investment in evaluation. These recommendations and qualitative priority are provided in measure number order and are based on consideration of the relative importance of the parameter within a particular measure savings estimate, as well as the degree of uncertainty or confidence we have in a deemed value. Changes and additions for v5.0 are listed in red text.

This list is not meant to be exclusive or imply that other evaluation priorities should not be executed based on overall evaluation priorities.

Priority Data Elements for Future Evaluation

Measure #	Measure Name	Parameter(s)	Priority
Residential Measures			
2.1.5	Refrigerator and Freezer Recycling	Iowa-specific regression study	Medium
2.1.7	Room AC Recycling	Replacement rate; efficiency and capacity of retired units	Low

Measure #	Measure Name	Parameter(s)	Priority
2.2.1 2.2.2	Tier 1 Advanced Power Strip (APS) Tier 2 Advanced Power Strip (APS) – Residential Audio Visual	In service rates and persistence study; evaluation of additional product savings percentage.	Low
2.3.4	Low Flow Faucet Aerators	Rated and throttled v metered flow rates; average baseline rated flow rates	Low
	Multiple domestic hot water measures	Percentage breakdown of DHW fuels, average capacities, and efficiencies; DHW set point temperatures	Medium
2.4.1 2.4.2 2.4.3 2.4.4 2.4.6	Central Air Source Heat Pump Central Air Conditioning Boiler Furnace Ground Source Heat Pump	Average efficiency and capacity of existing residential units being replaced through an early replacement program; average efficiency of baseline units sold absent program support	High
2.4.3 2.4.4	Boiler Furnace	Full (both) and incremental (boiler) cost study	High
2.4.6	Geothermal Source Heat Pump	Full Load Hours assumptions for ground source heat pumps; part load v Full load operation; TRM v metering study	High
2.4.7	Ductless Heat Pumps	Percent Load Displaced – evaluation of real-world installs	Medium
2.4.18	Advanced Thermostats	Continued studies on impact, baseline, and persistence	Medium

Measure #	Measure Name	Parameter(s)	Priority
2.5	Lighting	Baseline study to show appropriate levels of efficient lighting within the baseline (outside of program support)	High
2.5.3 2.5.4 2.5.6	LED Standard Lamp LED Specialty Lamp LED Fixtures	Iowa LED-specific hours of use; in service rate; measure costs; lifetime cap	High
2.6.1 – 2.6.7	Infiltration Control and all Insulation measures	TRM v metering/billing study – realization rates	Medium
Nonresidential Measures			
3.1	Multiple Agriculture Measures	Market assessment of standard equipment at Iowa farms, possible disaggregated by size and farm type (e.g., dairy, grain). Assessment of gas usage in agricultural heat measures.	Medium
3.1.5	Automatic Milker Take Off	Market assessment to determine baseline standard practice. Potential metering study to support claimed savings.	Low
3.1.15	Agriculture LED Grow Lights	Study into the potential HVAC interactive effects.	Medium
3.1.18	ECM Ventilation Fan and Staging Controls	Actual project data and information on typical control schedules and staging parameters.	Medium
3.2.3	Gas Hot Water Heater	Hot water tank temperature; consumption by building type	Low
3.3.2	Furnace	Full and incremental cost study	High

Measure #	Measure Name	Parameter(s)	Priority
3.3.5	Geothermal Source Heat Pump	Commercial operation. Part load v Full load operation; TRM v metering study	Medium
3.3.14	Variable frequency Drive for HVAC fans	Metering data on fan run hours and load pre- and post- VFD	High
3.3.12	Small Commercial ~~Programmable~~ Thermostats	Iowa metering of new installations of programmable and advanced thermostats. Evaluation of whether Advanced Thermostats provide any additional savings beyond scheduling/ programmable thermostats in commercial setting.	High
3.3.22	Steam Trap Replacement or Repair	Potentially a high savings measure based on algorithm; compare resulting savings with metered savings.	High
3.3.26	Variable Refrigerant Flow (VRF) Systems	Determination of key IA building/system characteristics for use in OpenStudio modeling in place of DOE stock buildings. Would benefit other measures developed using OpenStudio.	Medium
3.4.3	LED Lamp Standard	Iowa market assessment of LED product availability, installation, and prices	Medium
3.4.4	LED Lamp Specialty		
3.4.5	LED Fixtures		
3.4.5	LED Fixtures	Watt, lumen, and cost assumptions are based upon VEIC determined values for Efficiency Vermont - evaluation of Iowa-specific values would be preferred	High

Measure #	Measure Name	Parameter(s)	Priority
3.4.12	Lighting Controls	Review of integrated dual control fixtures to assess percentage of installations that provide daylighting savings. Savings evaluation of networked controls / luminaire level lighting controls.	Medium
3.5.1	Variable Frequency Drive for Process	Metering data on pre- and post-VFD installation to indicate actual kWh and kW savings; data to be used to inform savings factor	High
3.6	Food Service Measures	Market assessment to determine baseline equipment and operating hours of restaurants and equipment	Low
3.7	Multiple shell measures	Market assessment to determine baseline R values for building assemblies; TRM v metering/billing study – realization rates	High
3.8.3	ECM Motors	Percent of shaded pole and PSC motors found in Iowa refrigeration equipment	Medium