

2025-2036 Electricity Demand Side Management Framework – Commercial HVAC DR Program

Design Updates & Next Steps



Welcome and Introduction

- This engagement is conducted according to the <u>IESO Engagement</u> <u>Principles</u>
- Today's session will be recorded and available for viewing online
- All documents associated with this engagement can be found on the <u>Electricity Demand Side Management (eDSM) Framework page</u>



Participation

- For questions and comments click on the "Raise hand" icon (hand symbol) at the top of the application window. This will indicate to the host you would like to speak
- To unmute audio, click on the microphone icon at the top of the application window
- Audio should be muted when not asking a question
- Connection issues contact <u>engagement@ieso.ca</u> or Microsoft Office Support



Territory Acknowledgement

The IESO acknowledges the land we are delivering today's webinar from is the traditional territory of many nations including the Mississaugas of the Credit, the Anishnabeg, the Chippewa, the Haudenosaunee and the Wendat peoples and is now home to many diverse First Nations, Inuit and Métis peoples. We also acknowledge that Toronto is covered by Treaty 13 with the Mississaugas of the Credit First Nation.

As we have attendees from across Ontario, the IESO would also like to acknowledge all of the traditional territories across the province, which includes those of the Algonquin, Anishnawbe, Cree, Oji-Cree, Huron-Wendat, Haudenosaunee and Métis peoples.



Today's Discussion

- Overview of Commercial HVAC DR Program
- Updated design elements for the Commercial HVAC DR Program
- Key Activities and Next steps



Overview of Commercial HVAC DR Program



Program Overview

- The Save on Energy Commercial HVAC Demand Response Program is a new Ontariowide program targeting commercial HVAC loads, specifically leveraging resources not suitable for the Capacity Auction (e.g., those available during system peaks but not throughout the full 6-month commitment season)
- Targets to curtail 100 MW in 2026, scaling to 230 MW in 2027. Participant registration begins in 2026, with operations launching in June 2026.
- Focused on commercial and institutional facilities (e.g., retailers, offices, universities)
- Demand response events will occur on business days between June 1 and September 30, lasting up to 3 hours
- Participants will be compensated based on a standard payment structure tied to average MW curtailed per season



Objectives for the New Commercial HVAC DR Program

- 1 Peak demand reduction by lowering peak demand during summer months through curtailment of HVAC loads in commercial facilities
- Grid reliability support by providing flexible demand response resources during critical periods
- 3 Incremental DR opportunity by identifying and leveraging resources not captured by Capacity Auction to enhance demand response capabilities
- 4 Participant engagement by engaging with a diverse range of commercial facilities to maximize program impact
- **Technology integration** by promoting the adoption of advanced HVAC control technologies

Connecting Today, Powering Tomorrow

Scalability by allowing future expansions to additional sectors, measures if successful.

Key Roles and Participation Model



Commercial HVAC DR – Key Roles

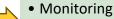
Program Administrator

- Program oversight
- Participants registration & enrollment
- Program eligibility and compliance
- Set reporting requirements
- Communication
- Data management & verification
- Events notification management & coordination with participants
- Settlements & incentive payments with participants

Program

Participants

- Register in program
- Facility enrollment
- Event notification management & coordination with contributors



- Feedback
- Receive incentives
- Events data reporting
- Contributors support and coaching

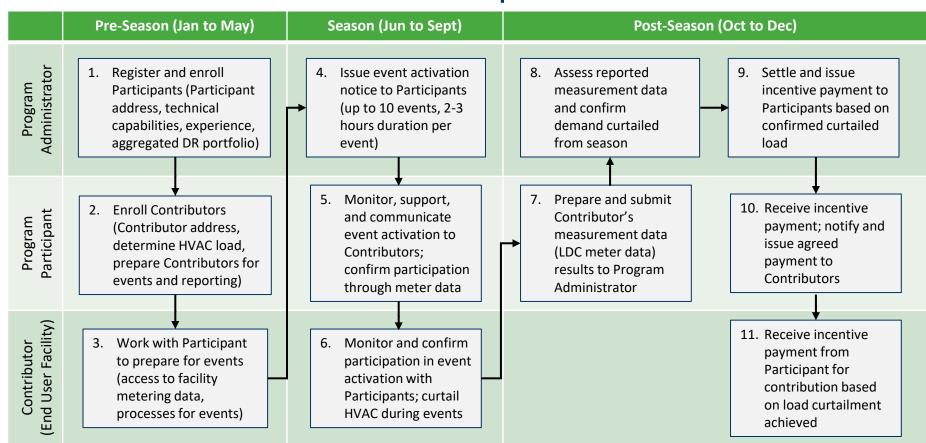
Program Contributors (End Use Facility)

- Program participation through a registered program participant
- Monitoring performance
- Facilitate meter data to participants
- Work with participants to determine HVAC load DR contribution





Commercial HVAC DR – Participation Model



Design Recommendations



Commercial HVAC DR Engagement Review

- <u>First engagement session</u> was held on June 24, 2025
 - IESO presented initial program design and requested stakeholder feedback
- Design recommendations
 - The following summarizes the design questions posed in June, and the feedback received
 - The following slides will go over updates on the program design elements



Design Recommendation – Program Enrollment

- Participants to register at pre-season stage through Program Administrator's designated program portal
- Each Program Participant is responsible for maintaining its Contributor registry throughout their obligation period.

- Participants to submit a portfolio of their Contributors including:
 - Estimate of aggregated DR loads
 - Contributor(s) address and facility type
 - HVAC System description (RTUs, Chillers etc.)
 - Any non-HVAC systems (as applicable)
 - Control systems in place (BAS,EMS, Manual etc.)

Feedback: Emphasized the need for facility readiness, reliable interval data, and streamlined enrollment process. Advocated for flexible load eligibility, onboarding support for participants, and integration with building systems. LDCs were identified as key partners for coordination, visibility.

- O Peak Demand Reduction
- O Grid reliability





O Technology Integration





Design Recommendation – Incentive Structure

- A standard capacity payment \$/MW-season informed by the Capacity Auction clearing price (\$/MW-bd) applied for 4 months
- An enabling incentive of \$20/kW for first-time Contributors in the Program. Intended to offset upfront costs for metering, monitoring, and control systems
- Paid to Program Participants at post season

Example:

Using an assumed Capacity Auction summer clearing price of \$350/MW-business day, the seasonal incentive per MW is \$350/MW-business day \times 85 business days = \$29,750 per MW-season, if a Contributor curtails an average of 200KW over the season, the total incentive would be around \$5,590. Contributors who qualify for the enabling incentives, an additional \$4,000 (enabling incentive) for a total of \$9,950.

Feedback: Stakeholders supported a simple seasonal payment model and recommended compensation levels to better reflect commercial participation challenges and emphasized the need for incentives to offset upfront costs.

- O Peak Demand Reduction
- O Grid reliability







Scalability



Design Recommendation - Program Participants Eligibility

- A legally registered business entity within the Province of Ontario
- Ability to aggregate a minimum of 500 KW of DR load capacity across enrolled facilities
- Possess infrastructure to:
 - Monitor and verify load reductions
 - Collect near real-time or post-event metering data
 - Communicate effectively with Contributors during DR events.
- Submit a portfolio of Contributors with documented HVAC and non-HVAC systems and curtailment potential
- A Program Contributor may register as a Program Participant provided, they meet the eligibility criteria for the Program Participants.
- Ensure compliance with Program requirements, including data reporting, event participation, Contributor support and eligibility.

Feedback: Alignment with establishing a minimum aggregated HVAC load threshold with allowance for flexibility, emphasis on clear program rules, and eligible load types.

- O Peak Demand Reduction
- O Grid reliability
- O Incremental opportunity



Technology Integration





Design Recommendation - Program Contributors Eligibility

- A single or multiple facilities located within the Province of Ontario
- Connected to the IESO-Controlled Grid or a Distribution System, that is not a contributor for the Capacity Auction
- Non-residential customers and not be a participant in the Industrial Conservation Initiative (ICI)
- Must not have received any other financial incentives from any other DR program or DR initiative funded by the IESO or the Government of Ontario for the same activation season
- Have direct access to or control over HVAC systems, either through a BAS, EMS or manual procedures
- Provide predominantly HVAC DR load with flexibility to include a portion from non-HVAC DR loads

Feedback: Stakeholders highlighted the value of flexible program design to support broader participation. Flexibility in telemetry, baseline methodologies, and verification protocols was seen as essential to reduce onboarding barriers.

- O Peak Demand Reduction
- O Grid reliability
- O Incremental opportunity



Technology Integration





Design Recommendation – Events Parameters

- Season: June 1st to September 30th
- Number and duration of events: Up to 10 events, up to 3 hours within a 4-hr. window, typically between 3-7 pm
- Notification of events:
 - Standby Notice: Issued by the Program Administrator a day prior to a potential event no later than 12:00 pm
 - Activation Notice: Sent no later than 12:00 p.m. on the day of the event
 - Notifications will be sent to Participant, who are responsible for communicating with Contributors
- Events Trigger:
 - System-level peak demand forecasts or Electricity market signals or Grid reliability needs

Feedback: Alignment on a day-ahead standby notice with same-day activation by mid day. Flexibility in event duration and timing, suggesting options like shorter availability windows to reduce disruption. Clear event triggers, limited opt-outs, and coordination with LDCs were recommended for effective and inclusive participation.





Incremental opportunity

Participant engagement



Scalability



Design Recommendation – Performance Parameters

- The performance of Participants in the Program will be evaluated based on their ability to curtail loads during designated HVAC DR events. Each Program Participant to estimate curtailment for their Contributors following each event based on LDC revenue meter data or sub-metering systems
- Settlement performance will be based on LDC revenue meter data, using the seasonal average MW reduction from the top 8 of 10 activated events
- Baseline Methodology The demand response (DR) baseline is derived using a weather-normalized approach, informed by established methodologies from other jurisdictions. It utilizes historical load data adjusted for temperature to estimate typical consumption patterns.
- No Performance penalties

Feedback: Stakeholders generally supported using a weather adjusted baseline aligned with other jurisdictions to reflect HVAC load variability but stressed the need for flexibility and clarity.















Next Steps



Summary of Key Activities

Timeline
Jun 24, 2025 - Complete
Oct 16, 2025
Issue: Oct/Nov 2025
Issue: Oct/Nov 2025 (prior to Capacity Auction)
Jan – Apr 2026
April – May 2026



Next Steps

- All documents associated with this engagement can be found on the <u>Electricity Demand Side Management (eDSM) Framework</u> webpage
- If you have any questions on the information shared today, please contact
 IESO Engagement at engagement@ieso.ca



Thank You

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