Stakeholder Feedback and IESO Response

Commercial HVAC DR Program – June 24, 2025

Following the June 24, 2025, Commercial HVAC DR Program engagement webinar, the IESO invited stakeholders to provide comments and feedback on the materials presented by July 8, 2025.

The IESO received written feedback submissions from:

- Electricity Distribution Association (EDA)
- Hydro One
- Hydro Ottawa
- Rodan Energy Solutions Inc.
- Edgecom Energy
- Edo Energy
- Voltus Energy Canada
- EnPowered

The presentation materials and stakeholder feedback submissions have been posted on the Electricity Demand Side Management (eDSM) Framework engagement webpage for this engagement. Please reference the material for specific feedback as the below information provides excerpts and/or a summary only.

Program Enrollment

Stakeholder Feedback	**IESO Response**
How can we best ensure that facilities demonstrate their readiness for effective participation, particularly regarding the potential HVAC DR capacity, operational parameters, and metering readiness. What additional factors should be considered? 1. Stakeholders acknowledged the importance of ensuring facilities demonstrate readiness for effective participation, particularly	The IESO appreciates the feedback provided by stakeholders. 1. The IESO recognizes the importance of ensuring that program contributors are technically prepared and capable of delivering reliable demand response (DR) capacity. To that end, the Program will establish DR events readiness assessment at application/enrolment stage as part of its program rules that the IESO intends

regarding HVAC DR capacity, operational parameters, and metering capabilities. 2. Stakeholders indicated that leveraging existing systems such as the Online IESO could streamline enrollment and reduce administrative burden. One stakeholder believed that creating a new "HDR" resource category would allow aggregators to self-select weather-sensitive loads and simplify the enrollment process. 3. Stakeholders emphasized the need for reliable, near-real-time interval data, either through LDC meters or sub-metering, to validate HVAC curtailment performance. They appreciated the value of using historical interval data and building automation system (BAS) capabilities to assess site-level readiness. Stakeholders also noted that a well-defined testing regime, including HVAC-specific metering (e.g., current transformers), could help verify actual contribution during events. Stakeholders believe that onboarding incentives or funding support would be beneficial, particularly for aggregators working with mid- to large-commercial customers, whose participation may require more advanced data management and control strategies. They recommended enabling bidirectional integration with building systems to support automated DR and long-term energy efficiency. 4. Stakeholders appreciated the need to avoid conflicting program participation and suggested implementing registration checks to prevent double enrollment. They also noted that the program should remain flexible in its definition of eligible loads and questioned whether HVAC-specific curtailment should be a strict requirement.	to finalize towards end of November 2025. These will include required data submissions details following each event such as interval data, reporting details and timelines requirements. 2. To support streamlined enrollment, the IESO notes the recommendation to leverage existing systems and processes, including the potential creation of a new "HDR" resource category within Online IESO. The program team is currently evaluating the feasibility of integrating with existing Online IESO systems to align with applicable requirements and reduce administrative complexity. However, achieving this integration may be challenging if program management is outsourced to a third-party service provider, as currently planned. While we understand aggregators' concerns about enrolling participants across multiple platforms, a unified system may not be feasible in the near term. With that in mind, the program is exploring options for a solution that is streamlined and user-friendly to minimize administrative burden. 3. The IESO recognizes that bidirectional integration with building systems and the use of automation are important enablers of both DR participation and broader energy efficiency outcomes, in addition to initial onboarding and integration costs. The IESO will take this into consideration as the program evolves. The Retrofit program offered by the IESO provides incentives for businesses to install energy-efficiency upgrades, including building automation systems under the Custom stream, that prospective contributors of the Commercial HVAC DR program can apply for through the Retrofit program. 4. With respect to enrolment in other IESO DR programs, the program will coordinate and ensure that no conflict in participation between DR programs (e.g. Capacity Auction and Commercial HVAC DR).

5. Finally, stakeholders highlighted the critical role of Local Distribution Companies (LDCs) in enrollment and coordination. They recommended that LDCs be given visibility into enrolled resources, including facility locations and committed DR capacity, to support distribution system planning and reliability. Stakeholders indicated that participant agreements should be non-exclusive to allow for service stacking and participation in both transmission-level and local eDSM programs.	5. The IESO appreciates stakeholder feedback highlighting the important role of Local Distribution Companies (LDCs) in supporting the successful implementation of the Commercial HVAC DR Program. The IESO recognizes that LDC visibility into enrolled resources—including facility locations and committed DR capacity—can support distribution system planning, operational reliability, and coordination during DR events. The IESO is exploring options to ensure that LDCs are appropriately informed of program participants within their service territories. The recommendation to define a clear LDC role in aggregator and resource enrollment is noted and will be considered as part of ongoing program design.

Incentive Structure

Stakeholder Feedback	**IESO Response**
What is your perspective on the proposed standard payment incentive structure and payment timelines? Do you see any challenges or opportunities with this approach? 1. Stakeholders acknowledged that a simple and predictable $/MW-season payment model offers clarity and can support enrollment, particularly for participants and contributors. Stakeholders appreciated the alignment of seasonal payments with program goals and the potential for straightforward administration. 2. However, several stakeholders indicated that the proposed compensation levels may be insufficient to drive meaningful participation, especially for HVAC loads where operational adjustments and tenant comfort are key concerns. Stakeholders believe that event-based performance payments, in addition to seasonal capacity payments, could enhance engagement and better reflect the value of participation. Stakeholders noted that multi-	The IESO appreciates the range of perspectives shared by stakeholders on the proposed standard payment incentive structure and payment timelines. 1. The IESO recognizes the value of a simple and transparent $/MW-season model, which can support ease of understanding, administrative efficiency, and alignment with the program curtailment objectives. In designing this program, the IESO is aiming to strike a balance between program flexibility and implementation simplicity, while also ensuring that the design is fit-for-purpose for the commercial HVAC segment. Unlike the Capacity Auction, which is designed to accommodate a broad range of resource types and operational models, the HVAC DR Program is intended to target contributors whose participation is aligned with seasonal HVAC-driven curtailment opportunities. This includes facilities that may not be well-suited for the 6-months summer season availability and performance requirements of the Capacity Auction.

day or consecutive dispatches are particularly challenging for HVAC systems and suggested that graduated or enhanced payments for later events in the season could help sustain participation. Some also recommended incentives to offset upfront costs such as automation, metering, or software. 3. Stakeholders appreciated the opportunity to provide input and emphasized the importance of local value recognition. Several suggested incorporating local incentive adders, similar to the Retrofit program, to reflect distribution system benefits and encourage participation in constrained areas. Overall, while the payment timeline was generally acceptable, stakeholders expressed that greater flexibility, higher compensation, and layered incentives would improve program attractiveness and effectiveness.	2. The capacity auction clearing price reflects a competitive, market-based valuation of capacity. Increasing the DR incentive above this level could distort market signals and create inconsistencies across resource types. Overall, the IESO is committed to developing a program that is responsive to the needs of the commercial HVAC sector, while remaining administratively manageable and complementary to existing DR offerings. Stakeholder input will continue to inform refinements to the incentive structure and broader program design. 3. The IESO appreciates stakeholders' input on the importance of recognizing local value. We acknowledge the suggestions to incorporate local incentive adders, similar to those used in the Retrofit program, to better reflect the benefits that distributed resources can provide at the distribution level—particularly in constrained areas. The program is open to assessing the inclusion of local incentive adders where available and are committed to working with LDCs to explore and implement these opportunities. Additionally, we recognize the ongoing Ontario Energy Board "OEB" consultation on the Distribution System Operator "DSO" model as a key enabler in unlocking the potential for local incentives and will continue to monitor and align with its outcomes as we refine program offerings.

Eligibility Requirement – Program Participants

Stakeholder Feedback	**IESO Response**
What would be a reasonable minimum DR threshold for the Program to consider; what other eligibility elements should be considered? 1. Stakeholders acknowledged the importance of setting eligibility criteria that balance program accessibility with meaningful system impact. Several stakeholders indicated that a 1 MW minimum aggregated HVAC load	The IESO appreciates the diverse and constructive feedback received on eligibility thresholds and participation criteria for the Commercial HVAC DR Program. 1. The IESO understands the broad alignment for a 1 MW aggregated HVAC curtailment threshold, which is consistent with the program's design intent and aligns with thresholds used in other DR programs. The

threshold is generally reasonable, especially if aggregation across multiple sites is permitted. This approach was seen as enabling participation from mid-sized commercial customers while maintaining program effectiveness. 2. Stakeholders appreciated the flexibility to aggregate load across zones or service territories, though some noted that geographic restrictions—such as limiting aggregations to individual LDC service areas—could support local visibility and coordination. Stakeholders also noted that setting the threshold too high could hinder participation, particularly in the program's early stages, and suggested considering a lower threshold (e.g., 500 kW) to encourage broader engagement and learning. 3. Stakeholders believe that aggregating HVAC with other weather-sensitive loads could enhance program value and reduce barriers to entry. They also emphasized the need for clarity around HVAC-only eligibility, verification protocols, and the treatment of transmission- vs. distribution-connected resources and the need to provide clarity on the eligibility of Class A customers. One stakeholder recommended prohibiting mixed aggregations to ensure operational accountability and alignment with system needs. Finally, stakeholders appreciated the opportunity to provide input and encouraged the IESO to design eligibility criteria that support competition, inclusivity, and scalability, while maintaining program integrity.	IESO will also assess the need to reduce this limit to 500KW as suggested by some stakeholders. 2. The IESO is considering how to balance regional representation and administrative simplicity. Stakeholder support for aggregation across zones and applying minimum thresholds at the zonal level is noted and will be reviewed in the context of system planning needs and program delivery logistics. 3. The IESO appreciates stakeholders' feedback on the potential benefits of aggregating HVAC with other weather-sensitive loads. We recognize that this approach could enhance program value, improve flexibility, and reduce barriers to entry for a broader range of participants. We also acknowledge the importance of providing clear guidance on HVAC-only eligibility, and verification protocols. These considerations will be carefully reviewed as we refine program design to ensure clarity, fairness, and alignment with system needs. With respect to Class A customers, the IESO recognizes that these facilities represent a significant demand response opportunity. However, Class A customers already benefit from the Industrial Conservation Initiative (ICI) and are typically highly responsive to Global Adjustment (GA) signals, which are often aligned with high system peak days—precisely when HVAC DR events are most likely to be called. As such the program is assessing the potential participation of Class A contributors in the HVAC DR Program where incentives will not be paid for GA days where an HVAC DR event might occur.

Eligibility Requirement – Program Contributors

Stakeholder Feedback	**IESO Response**
Are there any additional factors or considerations we should consider?	1. The IESO recognizes the importance of contributor readiness and is exploring ways to

1. Stakeholders acknowledged the importance of designing contributor eligibility criteria that support both program integrity and broad participation. Several stakeholders indicated that flexibility in implementation—such as allowing pre-cooling, staggered curtailments, and behind-the-meter (BTM) battery integration—could improve participation across a wider range of building types. Stakeholders suggested a pre-season readiness test event, with compensation, to verify contributor capability and build confidence in performance expectations. Stakeholders also noted the need for clear guidance on telemetry requirements, baseline methodologies (especially with weather adjustments), and acceptable verification protocols to reduce onboarding barriers and ensure transparency. 2. Stakeholders believe that contributors equipped with Building Automation Systems (BAS) are particularly well-suited for participation due to their ability to deliver automated, reliable curtailment and provide high-resolution data for accurate measurement and verification. 3. Some stakeholders emphasized the importance of enabling contributors to participate in both IESO and LDC-led DR programs, provided incentives are non-duplicative, to maximize local and system-wide value. Others recommended recognizing the additional system value of contributors located in or connected to constrained areas and suggested that eligibility criteria should reflect this. 4. Finally, stakeholders noted that exclusivity rules such as prohibiting contributors already participating in HDR—should be carefully considered to avoid unnecessarily limiting	assess technical capability in a manner that minimizes administrative burden. Rather than implementing a pre-season readiness test, the program will focus on collecting HVAC-specific parameters—such as system size, operational characteristics, and control capabilities—to help assess curtailment potential and readiness assessment at application/enrollment stage. Details on these requirements are expected to be outlined in the program rules, which are planned for release toward the end of November. 2. The IESO agrees that facilities equipped with Building Automation Systems (BAS) are particularly well-positioned to participate, given their ability to automate HVAC control, support advanced curtailment strategies, and help provide real-time feedback on curtailment activities. . While BAS is not expected to be a requirement, its presence may enhance contributor performance and simplify integration. 3. We acknowledge the importance of enabling contributors to participate in both IESO- and LDC-led demand response programs, provided that incentives are non-duplicative. This approach aligns with broader system planning objectives and supports maximizing both local and system-wide value. We also recognize the additional system value that contributors located in or connected to constrained areas can provide. As such, we will explore ways to reflect locational value in the eligibility criteria to ensure the program supports regional reliability and planning needs. 4. Finally, we appreciate the concerns raised regarding exclusivity rules, including the prohibition on contributors already participating in HDR. At this point contributors will not be able to participate in both HDR/Capacity Auction and HVAC DR for the summer season. This is mainly to ensure clarity in program

participation, especially in the program's early stages.	participation and avoid double-counting of capacity contributions.

Events Parameters

Stakeholder Feedback	IESO Response
Are there any additional factors or considerations we should consider? Is the notification period adequate, or would a different notification period better suit your needs and why? 1. Stakeholders acknowledged the need for clear and flexible event parameters to support effective participation and minimize disruptions. They indicated that a day-ahead standby notice with same-day activation by 12:00 p.m. is generally sufficient, though some noted that facilities with manual systems may require earlier notice. Stakeholders appreciated the proposed 3–7 p.m. event window and up to 3-hour duration, but suggested allowing shorter availability windows (e.g., 2 hours) to enhance flexibility and participation. 2. Stakeholders believe that clear and transparent event triggers—such as system load thresholds or market signals—are critical for building trust and enabling proactive	The IESO appreciates the thoughtful feedback received on event notification timing and operational considerations for the Commercial HVAC DR Program. 1. The IESO understands that the proposed day-ahead standby with same-day dispatch by 12:00 p.m. is generally suitable for many commercial facilities, particularly those with centralized or automated controls. At the same time, the IESO recognizes that some facilities—especially those with manual processes or more complex operational workflows—may benefit from earlier notification. To that end the suggestion to consider a standby notice by 6:00 p.m. the day before and activation by 8:00 a.m. on the day-of is noted and will be reviewed as part of the final program design. 2. The IESO will continue to refine event parameters with a focus on transparency, flexibility, and alignment with the operational realities of commercial HVAC systems. The program will include a limit on the number of

planning. They noted that frequent or consecutive activations could strain building operations and occupant comfort and recommended allowing limited opt-outs without penalty to maintain operational flexibility. 3. Stakeholders acknowledged the importance of strong coordination with Local Distribution Companies (LDCs). They emphasized that LDCs should be informed of participants in their service areas, notified of events in advance, involved in planning, and given visibility into locational targeting and activations. It is also suggested enabling LDC-initiated activations for local benefits and recommended future-proofing the program to support Stream 2 collaboration. 4. Finally, stakeholders requested clarification on whether cross-zonal aggregations are permitted and how such aggregations would be managed in terms of event notification and coordination.	consecutive events (e.g. max three consecutive events). The program will also explore a provision for opt-outs allowance without penalty. 3. We acknowledge the need for timely communication, transparency, and collaboration to ensure local reliability and effective program delivery. The recommendation to provide LDCs with visibility into participant locations, event notifications, and locational targeting is well taken and will be considered as part of program design refinements. The program will explore ways to ensure it is flexible to accommodate future Stream 2 LDC activities. 4. Cross-zonal aggregations will be permitted under the HVAC DR program. To support effective coordination and maintain local reliability, the IESO will explore how to ensure that relevant information is provided to LDCs. This will include visibility into which contributors participate within each LDC's service territory during events.

Performance Parameters

Stakeholder Feedback	**IESO Response**
Are there any additional factors or considerations we should consider? Would using the Capacity Auction baseline methodology with a weather adjustment factor pose any concerns? 1. Stakeholders acknowledged that using the Capacity Auction baseline methodology with a weather adjustment factor is a reasonable foundation for evaluating HVAC DR performance, as it reflects temperature-driven variability in HVAC loads. 2. Stakeholders indicated that the weather adjustment factor should be flexible enough to capture the full range of HVAC consumption patterns. Suggestions included widening the adjustment range (e.g., 0.5–	The IESO appreciates the detailed and constructive feedback that provided valuable insights into the program's baseline methodology. 1. The IESO is exploring ways to tailor the baseline approach to better reflect HVAC-specific operational patterns, while maintaining alignment with established practices. The IESO is also reviewing stakeholder suggestions on expanding the weather adjustment factor range. The details of the baseline methodology are planned to be provided by end of November 2025 as part of the program rules. 2. While some stakeholders recommended test events to validate the baseline methodology prior to program launch, the IESO is aiming to balance the value of such validation with the

1.5) and incorporating dynamic scaling methods similar to those used in other jurisdictions (e.g., ERCOT). Stakeholders noted that lack of clarity in the adjustment methodology could lead to disputes or mistrust. Additional considerations included: • Running test events to validate and calibrate the baseline approach before full program launch. • Providing onboarding support or incentives to address metering and data readiness gaps. • Clarifying the role of LDCs in performance assessment, especially for distribution-connected resources. • Re-evaluating submetering requirements, with suggestions to limit mandatory submetering to a sample of contributors while relying on LDC meter data for settlement. • Ensuring timely visibility into performance results, rather than waiting until the end of the season.	need to minimize administrative burden for participants. The IESO is currently evaluating how best to support baseline confidence through data-driven readiness assessments. • With respect to onboarding Support, we are exploring options to provide onboarding support or incentives to help contributors address metering and data readiness gaps. • With respect to LDCs' role in performance assessment, we acknowledge the important role LDCs play in assessing distribution-connected resources and at post season, where the program would require LDC metered data as part of performance validation. • With respect to submetering requirements, we are considering a hybrid approach—requiring submetering for a representative sample of contributors while relying on LDC meter data for settlement across the broader portfolio. • With respect to timely performance visibility, recognizing the need for timely feedback on performance, the program is exploring mechanisms to provide interim performance insights throughout the season, rather than waiting until the end, to support transparency and participant engagement.

General Comments/Feedback

Stakeholder Feedback	**IESO Response**

1. Stakeholders expressed strong support for the proposed Commercial HVAC DR Program, recognizing its potential to address a key gap in Ontario's demand-side management strategy. They viewed the program as well-designed, particularly in its focus on aggregated HVAC loads, performance-based incentives, and a summer curtailment window—elements that align with broader decarbonization and electrification goals. To ensure success, stakeholders emphasized the importance of streamlined enrollment, clear measurement and verification protocols, and transparent baseline methodologies. They also recommended providing early guidance, readiness tools, and flexibility in control strategies to accommodate diverse participants. 2. Collaboration with Local Distribution Companies (LDCs) was seen as essential, with suggestions that LDCs play a role in both participant engagement and operational dispatch, and that recommendations from the Transmission-Distribution Working Group (TDWG) be integrated to support coordination. 3. Additional opportunities included leveraging LDC account managers for outreach, allowing HVAC DR participation in the Capacity Auction during non-summer months, and ensuring sufficient lead time for stakeholder coordination.	The IESO appreciates the strong support expressed by stakeholders for the proposed Commercial HVAC DR Program and thanks participants for their thoughtful feedback. 1. Stakeholders recognized the program's potential to address a key gap in Ontario's demand-side management strategy, particularly through its focus on aggregated HVAC loads, performance-based incentives, and a summer curtailment window. 2. The IESO acknowledges the value of LDCs in both participant engagement and operational coordination and will consider how best to incorporate recommendations from the Transmission-Distribution Working Group (TDWG) to support seamless integration between bulk and distribution system operations. 3. Additional opportunities identified by stakeholders—such as leveraging LDC account managers for outreach, allowing HVAC DR participation in the Capacity Auction during non-summer months, and ensuring adequate lead time for stakeholder coordination—are appreciated and will be considered as part of the broader implementation strategy. The IESO remains committed to a transparent, flexible, and stakeholder-informed approach, and will continue to work closely with market participants to ensure the program delivers value to both contributors and the electricity system.