Feedback Form

Enabling Resources Program (ERP) – Distributed Energy Resources (DER) Integration Project – Market Integration

Meeting Date: October 15, 2026

Feedback Provided by:

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Date: October 30, 2026

Following the **October 15, 2026**, engagement session, the Independent Electricity System Operator (IESO) is seeking feedback on the items discussed during the webinar. The presentation and recording can be accessed from the engagement web page.

Please submit feedback to engagement@ieso.ca by **October 30, 2026**. If you wish to provide confidential feedback, please submit it as a separate document, marked "Confidential." Otherwise, to promote transparency, feedback that is not marked "Confidential" will be posted on the engagement webpage.

ERP's DER Integration Project

Please provide your feedback and comments on the information presented this engagement which included the following topic areas:

Front-of-the-Meter DER/A Participation Model

Topic	Feedback
Do stakeholders have any questions or clarifications required on the DER/A requirements to participate in the IAM? **Why is the IESO asking:** To confirm a shared understanding and maintain consistency in messaging related to DER/A requirements.	Narwatt is responding as a distributed energy resource (DER) aggregator and a registered aggregator in the IESO's Save on Energy Peak Performance Program. We would welcome clarification on the following. 1. Contributor size. We read slides 17 and 19 as setting the 1 MW minimum at the DER aggregation (DERA) level, with no minimum size for an individual contributor. Please confirm that small front-of-meter contributors, such as residential-scale systems of roughly 5 to 12 kW, may join a DERA. 2. Multi-station TDIs. Slide 19 requires contributors to be served by the same local distribution company (LDC), and slide 18 allows groups of load serving stations to be assigned to one transmission-distribution interface (TDI). The October 16, 2026 Data Sharing presentation maps each TDI to a host LDC (slide 35) and indicates that wider aggregation boundaries for multi-station TDIs will be assessed case by case through the IESO's connection and registration process (slide 36). Please confirm whether a TDI may include load serving stations that serve more than one LDC and, if so, how the single-LDC requirement for contributors applies. 3. Telemetry. The deck addresses metering but not operational telemetry. In a previous response to feedback, it was stated that the 20 MW DERA limit aligns with the IESO's existing tiered operational telemetry

Topic	Feedback
	performance requirements. Please confirm which tier applies to a DERA, whether telemetry is required at the aggregate level only, the expected resolution and latency, and whether inverter or site-controller data may be used. 4. Capacity. The deck addresses the energy and operating reserve markets. Given the IESO's Capacity Auction Enhancements proposal to enable distribution-connected dispatchable generation and storage resources starting with the 2027 Capacity Auction, please confirm whether a DERA, as distinct from an individual embedded storage facility, would be eligible. 5. Front-of-meter definition. Please confirm whether a battery at a home with its own dedicated, separately metered connection to the distribution system qualifies as front-of-meter under the slide 15 definition (connected on the utility side of the customer's meter at the point of common coupling).

Wholesale Market Settlements – Front of Meter DER/A

Topic	Feedback
Please provide feedback on the potential impacts of this approach, including any barriers, risks, or unintended consequences that could affect DER participation in wholesale markets under a DERA framework. Please provide examples, evidence, or supporting materials that address this trade-off, including how the proposed approach ensures fair treatment of DERs relative to directly connected resources; avoids inappropriate cost shifting or cost avoidance among participants; and maintains efficient market participation while	Narwatt supports a technology-agnostic participation model. However, excluding storage contributors from the treatment they could receive as standalone storage may have an unintended consequence: it would disadvantage the resource type most likely to form DERAs. The IESO has previously summarized stakeholder interest as coming "primarily from aggregations of storage technology types", and the IESO's own DERA examples use battery storage (slides 21 and 22).

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minimizing unnecessary administrative and settlement burdens. **Why is the IESO asking:** The IESO's proposed participation model is technology-agnostic and enables multiple resource types to participate within a single aggregation. This is intended to lower barriers for smaller DERs and facilitate access to wholesale markets. While some technologies have provisions to exempt certain costs (e.g. energy storage may be exempt from certain GA costs/applicable transmission tariffs), DERA-connected resources will not be eligible for technology-specific exemptions as the IESO is taking a technology-agnostic approach. This pragmatic approach balances implementation and ratepayer value.	Under O. Reg. 429/04, a standalone Class B electricity storage facility, whether transmission- or distribution-connected, pays Global Adjustment only on its net withdrawals: the volume it conveys back to the grid is subtracted from the volume it withdraws. Because the IESO has indicated that DERA contributors will not be eligible for technology-specific exemptions, the same battery operating as a DERA contributor would lose this treatment, and its charging energy would attract Global Adjustment without credit for the energy it returns to the grid. The outcome would then depend on how the battery participates rather than on the service it provides, which is not neutral treatment relative to directly connected resources. The IESO's own metering framework principles call for equitable treatment of participants operating under similar conditions and for financial neutrality (slide 32). The likely result is that storage owners able to participate on their own may do so outside a DERA, and that smaller storage will not participate at all. This would work against the DERA's purpose of lowering barriers for smaller DERs. The proposed design provides contributor-level metering and already allocates quantities to host LDC and transmission delivery points (slide 37). The existing Global Adjustment netting could therefore be applied per contributor that meets the regulation's definition of an electricity storage facility, with limited added settlement burden. Because O. Reg. 429/04 ties this treatment to a facility that is itself a Class B market participant or Class B consumer, we ask the IESO to work to secure any amendment needed, if required, rather than ruling the treatment out completely. Limiting relief to energy withdrawn and returned, as the regulation

Topic	Feedback
	already does for standalone storage, prevents cost avoidance on energy consumed for other purposes. On transmission charges, the Ontario Energy Board's storage exemption (EB-2022-0325, effective April 1, 2026) currently applies to transmission-connected storage only. We ask that DERA settlement be designed so that contributor-level treatment remains possible if that exemption is later extended to distribution-connected storage.
Is there any feedback on the IESO's proposal to settle with the MP (aggregator) and not the individual DER contributors? **Why is the IESO asking:** To avoid compensating a DERA twice for the same service, the IESO will act as the settlement agent for a DERA that is registered to participate in the IAM. When participating in the IAM, a DERA signals to the IESO that a portion of its service is intended to meet local distribution system needs/non-wholesale program requirements, or where it deviates from dispatch due to conditions outside of the IESO's control, the IESO shall continue to settle the DERA against the dispatch signal sent to the resource and the response that the IESO measures at the aggregate level. Isolating the services delivered or withheld in response to different stakeholder's needs from a single aggregate's measurement poses a significant technical challenge. To ensure that the wholesale market remains balanced and financially neutral, the IESO expects the aggregator to settle with the relevant stakeholder or distributor for the portion of the service that it has offered to other programs or is unable to deliver in response to an IESO dispatch.	Narwatt supports settling with the market participant (the aggregator) rather than individual contributors. This is consistent with aggregation models in other markets and keeps IESO settlement simple. We recognise that slide 21 defers value stacking, including prioritization, metering and settlement, to a future engagement. Our concern for that engagement is cost recovery for deviations caused by distribution needs. Where an LDC directs contributors for a local need, the aggregator will settle the resulting deviation with the IESO, including real-time buy-back, balancing charges and any operating reserve (OR) accessibility claw-back charges (slide 26), and must then recover those amounts from the LDC. Without standard terms and shared records, that recovery is uncertain and would be negotiated LDC by LDC, which increases risk and financing costs for aggregators. We recommend that the IESO: (1) confirm that services reserved by the LDC and declared through dispatch data (slides 20 and 21) will be scheduled accordingly, and clarify how a reservation that requires withholding or charging, rather than injection, is declared;

Topic	Feedback
	(2) for unplanned LDC directives, such as emergency curtailment, confirm that the aggregator can promptly update real-time offers or submit a derate or outage, and that the IESO and LDC exchange a record of the directive so the aggregator can recover resulting charges from the LDC. The October 16, 2026 Data Sharing presentation indicates that LDCs may request IESO operational support for managing FTM DERA dispatch for emergent LDC needs (slide 38); please clarify how such a request is reflected in the DERA's dispatch instructions and settlement; and (3) work with the Ontario Energy Board and LDCs to develop standard aggregator–LDC settlement terms, so that each LDC does not negotiate them separately.
In the illustrative example on slide 21, where a FTM DER/A is simultaneously offering services both to the bulk and distribution grid during any given interval: *Distributor* What information would the distributor need from the IESO for the distributor to settle with the DER/A for the distribution portion of the service? *Market Participant / Aggregator* In addition to currently available information from the IESO, what additional information would the market participants/aggregators need to accurately settle downstream with the DERA contributors? What challenges do participants/aggregators see with settling individual contributors for performance when the aggregate response to the IESO dispatch involves inefficient or directionally divergent scheduling of underlying contributors? **Why is the IESO asking:**	Distributor. To settle the distribution portion, we believe the LDC would need, for each interval: the DERA's day-ahead schedule and real-time dispatch instructions; the services declared as reserved for the LDC; the aggregate metered response used in IESO settlement; contributor-level meter data; and the market price and wholesale energy amount settled for the reserved quantity, so the LDC can account for wholesale revenue already received and avoid paying twice for the same service. Market participant / aggregator. The IESO will retrieve and validate data from every contributor's wholesale meter (slide 37). Please confirm that existing meter-data access will extend to each contributor's meter in the DERA, with validation, estimation and editing (VEE) flags, and provide a reconciliation from contributor data to the aggregated settlement quantity, including the loss factors applied. This would let the aggregator settle

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Building on the previous question, the IESO proposes to settle with the DER aggregate owner and expects that the aggregate owner will settle with individual DER contributors for their portion of the service. The IESO does not intend to control and will not have visibility into individual DER contributor's response but will only consider the aggregate's response when settling with the DERA.	contributors without collecting a second set of readings. Directionally divergent scheduling. Slide 22 shows a 5 MW DERA meeting a 2 MW dispatch in several ways, including one in which the 3 MW battery discharges 3 MW while the 2 MW battery charges at 1 MW. An aggregator may choose such a combination to manage state of charge across the fleet. The challenges are: (1) the charging contributor's withdrawal must be treated at the DERA's net position, not as separate consumption subject to Global Adjustment, transmission charges or retail billing by the LDC; (2) contributor performance cannot be judged against the aggregate dispatch, so the aggregator must allocate revenue and charges using its own instructions to each contributor; and (3) round-trip losses from energy moved between contributors fall on the fleet and must be allocated among contributors. We recommend that the IESO confirm the treatment of internal charging within a net-injecting DERA, and leave contributor allocation to the aggregator's contracts, supported by access to contributor meter data.

Wholesale Metering – Front of Meter DER/A

Topic	Feedback
Do you foresee any concerns or challenges with adopting the proposed metering implementation approach for FTM DERs directly connected to the distribution system (reference Slide 38)? Are there any barriers that DER operators, aggregators, or any other DER stakeholders will face if required to utilize wholesale metering installations for each of the DER contributors that contribute to a front-of-the-meter aggregation?	In our assessment, the requirement for a wholesale metering installation at every contributor (slides 19 and 37) is a barrier for small contributors. We share the IESO's stated objective of enabling broader FTM DER participation through streamlined wholesale metering requirements while preserving metering data integrity (slide 29), and we recognise that the existing wholesale metering framework requirements will remain (slide

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If so, please describe the barrier in as much detail as possible, including: • Why it is a concern or challenge. • Any business, operational, technical, or financial impacts. • The specific needs or requirements that would help address the concern. • Potential solutions or alternative approaches that could mitigate the issue. • How your proposed solution would benefit DER operators, aggregators, customers, and the broader DER stakeholders and existing market participants. Your feedback will help us better understand implementation considerations and identify practical approaches that support reliable market participation while minimizing unnecessary burden on stakeholders. Besides the IESO, will other entities need access to the meter readings to support their activities? If so, explain a preferred measurement source (i.e., direct meter read), intended usage, read frequency, etc. **Why is the IESO asking:** For FTM DERs that plan to participate in the wholesale market, either on their own or as part of a DER aggregation, the proposed approach builds on existing wholesale metering requirements and *market rules* already used for *embedded generators*. This provides a familiar and practical path forward for implementation. By leveraging established processes, DER owners and aggregators can more easily manage metering registration, metering data collection, and ongoing compliance throughout the life of their assets. In addition, Market Rules Chapter 6, Section 4.6 provides flexibility for *embedded generators* with a capacity below 2 MVA. For example, these *facilities* may be able to use a	32). The options below are proposed within that framework. Scope. We recognise that most residential DER is behind the meter and outside this engagement (slide 33). The barrier described here applies to front-of-meter residential and small commercial contributors with a dedicated connection, and will also apply to behind-the-meter DERAs when they are addressed. Why it is a concern. A wholesale metering installation carries a largely fixed cost per site: the meters (normally a main and/or alternate meter) and any instrument transformers, communications for remote interrogation by the IESO, IESO registration and commissioning, and periodic testing and Measurement Canada reverification. These costs rarely scale down with contributor size, so for a small contributor they are large relative to its expected wholesale revenue. Each installation must also be registered and maintained individually, which adds administrative burden for aggregators and the IESO as fleets grow. Impacts. Business: fewer viable sites, and aggregations made up of a small number of larger commercial batteries rather than many small sites. Operational: one registration and compliance record per contributor. Technical: small sites may lack space or a practical location for a separate wholesale installation. Potential solutions: (1) Accept an LDC-owned revenue meter as the contributor's settlement meter where the contributor has a dedicated, separately metered connection, provided the meter is Measurement Canada approved, verified and sealed, can record acceptable interval data, and can be read remotely. Standard

Topic	Feedback
standalone meter – either main *meter* or alternate *meter* - and may be subject to reduced testing and emergency preparedness requirements. These provisions can help lower both upfront and ongoing metering costs while continuing to meet market requirements. We welcome feedback on whether this approach is practical for your organization, any challenges you foresee, and opportunities to further reduce barriers while maintaining metering accuracy, reliability, and compliance. Please share any suggestions for improving metering data access, clarifying stakeholder roles and responsibilities, streamlining processes, or introducing additional data, controls, or alternative metering approaches. We are also interested in ideas that would support the successful implementation of FTM DERs today while enabling the continued growth and scalability of DER integration in the future.	residential smart meters in Ontario are specified for hourly reads, so this would usually mean an LDC-installed interval-capable meter rather than the existing smart meter. The LDC could act as the registered metering service provider. Other stakeholders raised the use of LDC revenue meters or existing utility-grade metering in earlier rounds, and feedback committed to prioritize exploring alternate approaches to wholesale revenue metering. (2) Allow a standard metering design (meter, instrument transformers, communications and single line arrangement) to be reviewed once through the IESO's conceptual drawing review and then registered at many identical sites, with each site completing only its site-specific items, such as loss adjustments, commissioning and the end-to-end communications test. (3) Consider extending the Section 4.6 tier further for contributors below a size threshold set by the IESO, using Measurement Canada-approved, acceptable interval meters with reduced IESO-specific requirements, while accuracy is assured at the aggregate level through validation and periodic audit. Benefits. These options would let aggregators include smaller sites at a cost proportionate to their value, give customers access to wholesale value from their DER, and make better use of metering infrastructure that LDCs already maintain, while preserving the accuracy and compliance requirements of the existing framework. Other entities needing access. The LDC needs the readings to settle distribution services and verify non-wires performance; the aggregator needs them to settle contributors; and the contributor should have access to its own data. Chapter 6 already provides metering

Topic	Feedback
	database access to the metered market participant, the metering service provider, any market participant settled on that data, and the connecting distributor (section 10.1.3). We prefer a single measurement source, read once by the IESO after each operating day and shared after validation, at the appropriate resolution, rather than multiple parties reading the same meter separately.

General Comments/Feedback