Feedback Form

Electricity Demand Side Management (eDSM) Framework – April 24, 2025

Feedback Provided by:

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Following the April 24, 2025 engagement webinar, the Independent Electricity System Operator (IESO) is seeking feedback on the items discussed during the webinar. The webinar presentation and recording can be accessed from the Electricity Demand Side Management (eDSM) engagement page

To promote transparency, feedback submitted will be posted on the Electricity Demand Side Management (eDSM) engagement page unless otherwise requested by the sender. If you wish to provide confidential feedback, please mark "Yes" below:

☐ ~~**Yes – there is confidential information, do not post**~~

☐ **No – comfortable to publish to the IESO web page**

Please submit feedback to engagement@ieso.ca by **May 8, 2025**. Please use subject: Feedback: eDSM Engagement Session

2025-2027 Program Plan

Topic	Feedback

What considerations should the IESO keep in mind as we implement the 2025-2027 Program Plan?	**A) Role of Energy Storage as eDSM and Beneficial Electrification** Distributed Energy Resources (DERs), such as energy storage technologies that are integrated Behind-The-Meter (BTM) of a customer's load, bring a paradigm shift to the role of demand-side measures in the electric system. In contrast to insulation and LED light bulbs, their value stack, controllability, and scalability enable "demand-side flexibility" like never before. As such, program design and how program design interacts with the broader enabling framework (e.g., rate design, and future distribution-level programs and markets, etc.), requires consideration from a new perspective. ESC looks forward to ongoing engagement with the IESO on how eDSM funding and program design can accelerate the deployment of energy storage across various customer types in support of the objectives of the eDSM framework (see "How can energy storage provide eDSM and Beneficial Electrification?" in General Comments and Feedback section for further context). Demand-side and distributed energy storage deployed primarily to serve customer or local needs, also provides bulk system-level benefits, and should accordingly receive appropriate incentives to establish the business case for deployment. As a first step, ESC recommends that IESO extends Home Renovations Savings Program eligibility to standalone BTM batteries. At present, the Program requires that BTM batteries are integrated with solar photovoltaics. As discussed in the General Comments and Feedback section (see "How can energy storage provide eDSM and Beneficial Electrification?"), BTM batteries that are not integrated with solar photovoltaics can provide eDSM, and will contribute to the objectives of the eDSM framework, if incentivized to do so. B) Role of LDCs in DERs Procurement and Programs As presented in "From Small To Mighty: Unlocking DERs to Meet Ontario's Electricity Needs" (December, 2024) , LDCs are well-positioned to take on a greater role in the

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	procurement of Distributed Energy Resources (DERs) as eDSM, Beneficial Electrification and as Non-Wires Solutions (NWS). LDCs are ideally suited to this because of their existing relationships with customers and responsibilities in settlement, connection, and administration. They have deep insights into grid capacity, enabling targeted and efficient deployment. LDCs are investing in grid modernization, enhancing their ability to integrate and manage DERs. Their experience with Conservation and Demand Management (CDM) programs and ability to design localized programs further support their role. Additionally, LDC-led initiatives can be more accessible to smaller-scale projects, avoiding the complexities of larger-scale procurements. This strategic positioning allows LDCs to effectively drive DER adoption, improve grid reliability, and support Ontario's energy and economic development goals. The IESO should continue to engage with ESC, LDCs and stakeholders on the design, delivery and administration of eDSM, Beneficial Electrification and NWS programs by LDCs, to ensure alignment between programs, and to ensure their value is maximal to both the bulk and non-bulk electric systems.

Additional Opportunities

Topic	Feedback
The IESO intends to increase the scope and scale of its DSM programming over this longer-term framework – where do you see opportunities that should be considered in the next three to six years	Opportunities to increase the scope and scale of eDSM programming include: accelerating the deployment of energy storage (including standalone BTM batteries as "eDSM", and thermal energy storage as "Beneficial Electrification") across various customer types; and ensuring alignment and coordination between the eDSM Stream 1 Local Initiatives Programs (LIPs), and LDC-led and -delivered eDSM Stream 2 programs, and NWS being considered through the OEB's Benefit-Cost Analysis (BCA) Framework for Addressing Electricity System Needs. Further to this second point, this would include assessing how "locational" eDSM and Beneficial Electrification (i.e., programs targeted to specific areas) could maximize their benefits to all ratepayers, and how programs and budget allocation could evolve and be tailored to that effect over time.

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How would you like to be involved? Are there specific topics or initiatives related to DSM that you would like to provide feedback on in future?	Specific topics or initiatives related to DSM that ESC would like to provide feedback on in future are as follows: A) the role, achievable potential, cost-effectiveness, and enabling frameworks for: individual demand-side batteries; aggregated demand-side batteries; and thermal energy storage, as eDSM and as Beneficial Electrification; B) LDC-designed, -delivered and -administered eDSM and Beneficial Electrification programs targeted to their customers to address local electricity distribution needs while also providing value to the bulk electric system; and C) the interactions of eDSM and Beneficial Electrification with future initiatives related to the integration of demand-side and distributed energy storage into system planning and operations, and use as non-wires solutions.

General Comments/Feedback

A) How can energy storage provide eDSM and Beneficial Electrification?

Further to ESC's comments above on ongoing engagement with the IESO on how eDSM and Beneficial Electrification funding and program design can accelerate the deployment of energy storage across various customer types in support of the objectives of the eDSM framework, please see below additional context on how energy storage can provide eDSM and Beneficial Electrification.

1. Reduce peak electricity demand

1.1 Uni-directional demand response (i.e., on-site load displacement). BTM batteries can respond to time-of-use rates and/or other demand response / dispatch signals, by charging off-peak and discharging to on-site load during on-peak hours. Thermal energy storage can time-shift thermal energy end-uses to off-peak hours in response to time-of-use rates, and/or other demand response / dispatch signals.

1.2 Bi-directional demand response (i.e., on-site and feeder load displacement). BTM batteries can also discharge to the grid during on-peak hours when storage capacity exceeds on-site load to displace feeder load.

2. Reduce electricity consumption.

While storing electricity for later use can result in roundtrip efficiency losses on the demand-side, reducing peak electricity demand on transmission and distribution equipment can reduce line losses on the supply-side. Also, inverters are capable of improving power factor and quality and can thereby deliver further efficiency and conservation gains on both the supply- and demand-side.

3. Addressing Growing System Needs

In addition to the bulk system-level benefits that demand-side and distributed energy storage can provide by reducing peak electricity demand and reducing electricity consumption, the deployment of energy storage can increase flexibility, reduce congestion, and defer or delay other infrastructure investments at the non-bulk system level (i.e., non-wires solutions).

4. Beneficial Electrification

"Beneficial Electrification" (i.e., fuel-switching from fossil fuels to electricity with a lower emissions intensity) is most "beneficial" when the resultant load growth does not have adverse or unintended consequences at the bulk- and non-bulk levels (i.e., the resultant load is coincident with when the required generation, transmission and distribution capacity is most available, and *vice versa)*. The deployment of energy storage to better align the coincidence of demand and load growth with the availability of the required generation, transmission and distribution capacity should be considered an integral element of "Beneficial Electrification".

B)

Throughout the implementation of the eDSM Framework, it would be beneficial for the IESO eDSM team to identify and document barriers that constrain the potential contribution of demand-side measures to cost-effectively addressing growing electricity system needs, and to consumers managing their electricity costs. This information could present an "eDSM lens" to support future decision-making by government, the OEB, and the IESO on system planning, capital investments, and enabling framework development. Examples would include: technical issues such as short circuit limits at certain transmission stations limiting the contribution of DERs to eDSM in certain regions; rate design issues such as non-coincident demand charges that send an inefficient price signal for off-peak battery charging for certain customer classes; and Distribution System Code issues related to the framework for load displacement connections. Removing barriers to DERs deployment will maximize and optimize the cost/benefit of eDSM programming.