Feedback Form

Local Achievable Potential Study Webinar – August 21, 2025

Feedback Provided by:

Name: James Nowlan

Title: Executive Director

Organization: City of Toronto

Email: [redacted]

Date: September 18, 2025

To promote transparency, feedback submitted will be posted on this engagement webpage unless otherwise requested by the sender.

Following the Toronto Local Achievable Potential Study (L-APS) webinar held on August 21, 2025, the Independent Electricity System Operator (IESO) is seeking feedback on the draft findings. A copy of the presentations as well as a recording of the session can be accessed from the engagement web page.

Please submit feedback to engagement@ieso.ca by September 11, 2025.

Topic	Feedback
What feedback do you have on the L-APS draft findings?	We appreciate the depth and rigor of the study, including the calibrated digital twins and transformer station level mapping. Together, these provide a practical map to guide electricity demand-

Topic	Feedback
	side management (eDSM) across the city and a strong, data-driven foundation for next steps. The draft clearly distinguishes technical, economic, and achievable potential, which is helpful. At the same time, the large gap between technical and achievable potential suggests that some conservative assumptions, such as adoption ceilings, may understate what is possible with stronger program design and targeted delivery. The adoption ceilings for solar PV and battery storage also appear conservative . For example, residential PV is capped at about 12 percent and commercial or industrial at 36 percent. The 10 percent battery-to-PV attachment rate may understate future pairing potential, and the 2 percent cap on standalone battery storage seems restrictive given its role in demand management and resilience. In addition, standalone storage appears to be screened out by conservative inputs that use average avoided costs without locational deferral value, no capacity payment, and limited value stacking. This may understate the real value of storage at constrained stations where aggregated distributed energy resources (DERs) can help defer upgrades.
Is there additional information that should be considered before L-APS findings are finalized?	1) Standalone and aggregated storage: The draft treats batteries mainly as Demand Response (DR) or PV-paired DER and does not capture the potential of aggregated distributed storage. Aggregated, coordinated BTM batteries can perform like centralized storage, providing bulk and local capacity, operating reserve, grid support, and demand flexibility. The L-APS could include aggregated BTM storage and quantify its achievable potential and locational value at constrained stations. 2) Enabling Resources Program: Given the IESO's Enabling Resources Program is creating wholesale participation pathways for aggregated DERs, including aggregated behind-the-meter storage, the L-APS should account for these pathways through 2045. It is not clear whether this has been incorporated.3) Distribution value and locational targeting: Beyond bulk benefits, eDSM measures such as aggregated batteries provide distribution value. Since capacity and deferral are location specific, a single generalized distribution benefit can overstate totals, but omitting locational value can undervalue measures. Toronto Hydro's Cecil TS Local Demand Response Program demonstrated that eDSM resources, including batteries and demand response, can provide local capacity relief. It is not clear whether a similar locational incentive is reflected in the L-APS cost-benefit analysis. If locational incentives are outside the L-APS cost-benefit scope, station-level valuation through Toronto Hydro's emerging Distribution System Operator (DSO) role or the IRRP, supported by

Topic	Feedback
	targeted local programs or trials at constrained stations, can assess how aggregated eDSM contributes to avoided upgrades, reliability, and other locational benefits. If possible, please run: A) Constrained-locations and delivery check: at the top 5 to 10 constrained stations, raise the BTM storage cap, apply a bulk capacity credit and a simple locational deferral value, allow basic stacking, and assume third-party delivery with aggregator-owned assets and PPA-style enrollment. Report the extra peak demand reduction and the indicative costs, compared with the current assumptions . B) Citywide cost-trajectory check: apply falling storage costs and revisit the 2 percent cap to show how achievable potential shifts. C) Ceilings sensitivity: Lift the 10% pairing cap and allow PV-plus-storage systems to also participate in demand response and report added peak relief and costs. D) Future incentives sensitivity: IESO and the OEB are developing a new DER incentives framework. Since it is not yet in place, the L-APS reflects current rules. Please note this limitation and add a simple sensitivity that layers indicative future incentives and participation pathways to show the impact on economic and achievable potential. If out of scope now, please include in a future iteration. These checks could indicate where aggregated BTM storage may add value by comparing peak relief and cost, and they can inform incentives and pilot sites. If not feasible now, please consider them in future updates.
Are there specific modelling methodology or assumption topics that you would like to see discussed in the final public report?	1)Provide more detail on battery inputs, including capex by year in dollars per kW and per kWh instead of per unit of area, and financing assumptions, and whether costs decline over the study horizon. 2)Provide a short comparison of ramp rates and ceilings for solar and batteries against examples from Massachusetts, New York, and recent National Renewable Energy Laboratory (NREL)work. 3) Please share a short step-by-step breakdown from raw rooftop potential to the 11.98% and 36.20% ceilings, showing each reduction as its own step. Technical potential for solar was reduced after accounting for existing installs, structural suitability, and station constraints. Can you clarify how much of the reduction is driven by hosting-capacity limits versus other factors, and whether those limits persist over time or are adjusted in later years to reflect Toronto Hydro's planned capital investments? 4) Please confirm which avoided costs are included in the program administrator cost test (PAC) for L-APS : energy, capacity, transmission, distribution, losses, and carbon. If distribution is excluded because the study is city-wide, please indicate how station-level deferral value will be addressed outside PAC, for example through IRRP or LDC valuation,

Topic	Feedback
	and provide brief guidance on using L-APS alongside locational screening. 5) Please also comment on how hourly load shapes are expected to evolve over the study period with heat pumps and EVs, and how eDSM will help manage shifting peaks.
How can the IESO best communicate with communities and stakeholders on actioning the additional electricity demand-side management opportunities identified in the study?	1) The L-APS, calibrated with Toronto Hydro data, highlights which buildings and transformer stations offer the greatest potential for load reduction. To act on this, the IESO should publish station-level hot spots and the top measures that drive savings, broken down by sector or building archetype, so the City, Toronto Hydro, and partners can align on locational programs.2) An L-APS community guide could translate these technical results into practical steps, with clear maps, measure summaries, and simple reference materials that local partners can use to design their own programs. 3)The IESO could co-develop a simple collaboration framework for eDSM pilots with local partners, or authorize and fund distributors including Toronto Hydro to run pilots and scale successful programs.4) If possible, establish a secure, co-governed planning dataset sandbox led by the utility data owner and IESO, using aggregated data with permissioned access so partners can co-build tools, validate L-APS insights, and better target local programs without security risk.

General Comments/Feedback

1) We note that resiliency and community preferences can be considered outside the PAC test. We wish to reiterate the importance of resiliency to the City and the net-zero value that DERs contribute.2) We understand why vehicle to grid and vehicle to building were not modeled in the L-APS given current uncertainties. The IESO and the City, together with Toronto Hydro, could explore opportunities with municipal fleets to gauge interest and practical considerations. If there is interest, the parties could scope a small, targeted trial to examine bidirectional charging, interconnection needs, tariffs, and dispatch, and then share results to inform future planning.