

Feedback Form

Pathways to Decarbonization – February 24, 2022

Feedback Provided by:

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Following the February 24 engagement webinar, the Independent Electricity System Operator (IESO) is seeking feedback from stakeholders on the items discussed during the webinar. The webinar presentation and recording can be accessed from the [engagement web page](#).

Please submit feedback to engagement@ieso.ca by March 16. Please attach research studies or other materials for consideration by the IESO to support your submission.

If you wish to provide confidential feedback, please submit as a separate document, marked "Confidential". Otherwise, to promote transparency, feedback that is not marked "Confidential" will be posted on the engagement webpage.

Topic	Feedback
Policy	
<p>Are the assumptions indicated reasonable and comprehensive in terms of scale and timing?</p>	<p>The study assumptions should reflect the seriousness and urgency of addressing climate change, which is the real purpose of the work. The study should include a scenario that reflects the science-based need for immediate and committed reduction in GHG emissions- and reaches zero GHG emissions by 2030. Ontario is in the fortunate position of having an electricity grid with multiple sources of energy and less reliance than most on fossil fuels- we can do this.</p> <p>The Moratorium scenario, should be framed by emissions, rather than contracts. Emissions should be frozen at the level actually achieved in 2017.</p> <p>The scope of the study should include influencing demand so that it can be more cost-effectively met by future electricity resources, in order to guide provincial policy on decarbonization of heating, transportation and industry. It should include scenarios where:</p> <ul style="list-style-type: none"> - <i>Demand is leveled</i> (peaks are significantly reduced or eliminated) through selection of electric heating technologies (ground-source heat pumps and district energy instead of air source heat pumps), consumer-end storage (utility-connected EVs and home battery systems) that are implemented. - <i>Waste energy is harvested</i> from industrial processes, waste water and stored, and used for heating. This could significantly reduce the total demand.
<p>Are there other considerations for the IESO?</p>	<p>The study should demonstrate the professional strength and vision of the IESO, establish Ontario as a North American leader, and provide a robust, innovative, and flexible roadmap for rapidly transitioning the grid to net zero in a decarbonized province. As currently framed the study is backward-looking and will be obsolete before it is complete.</p>
Demand	

Are the assumptions indicated reasonable and comprehensive in terms of scale and timing?

“Societal decarbonization Goals” should be aligned with Transform Toronto’s Net Zero plan and the pending federal climate action plan.

The assumptions should be based on the changes needed to meet the National Declared Commitment to emissions reductions, and aligned with the pending federal climate action plan. Relying on existing or expected regulations is backward-looking and will result in a report that does not address the reality of the future.

Residential and commercial space and water heating should specifically investigate the potential of district heating with geexchange, harvesting of waste energy, and/or thermal energy storage to manage the demand spikes during cold winter weather. The business case for this proven technology is in its ability to stabilise demand for electricity and avoid the need for expensive resources and transmission facilities to serve short, infrequent peaks in demand. Alternatively, relying solely on air source heat pumps will make demand peaks during cold winter periods more and more expensive to serve. This report should determine the resource cost avoided by the smoother demand pattern that district heating produces, as a basis for policy decisions on heating technologies.

Residential and commercial storage should address the potential of consumer-level storage to manage fluctuations in demand. Residential and commercial consumers are acquiring significant home storage in the form of vehicle batteries, storage associated with PV systems, and for backup purposes. If integrated with the grid (eg through bidirectional chargers) this storage can become a resource during peak periods of demand. This report should determine the resource cost avoided by the smoother demand pattern that utility-connected consumer storage can produce, as a basis for policy decisions on local storage and its integration with the grid. (This distributed storage also increases local resilience.)

General Comments/Feedback

In order to be useful to guide plans and policies going forward, the scope of the study needs to address the urgency of GHG emissions reductions directly, and be expanded beyond the narrow view of the IESO's mandate. We are entering a transformational time when demand is in transition (and can be influenced), and the structure of the systems is becoming less centralised with growing roles for electricity distribution and consumers. This study is a golden opportunity to explore the potential contribution that these changes can make, and guide Ontario toward leadership in the energy transformation.