

Feedback Form

Distributed Energy Resource (DER) Scenarios and Modelling Study for the IESO's York Region Non-Wires Alternatives (NWA) Demonstration Project – July 27, 2023

Feedback Provided by:

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Following the July 27th DER Scenarios and Modelling Study engagement webinar, the IESO is seeking feedback on a number of questions related to the Study.

Please provide feedback by August 17, 2023 to engagement@ieso.ca. Please use subject header: *DER Scenarios & Modelling Study*. To promote transparency, this feedback will be posted on the [IESO York Region Non Wires Alternatives Demonstration Project webpage](#) unless otherwise requested by the sender.

The IESO will work to consider and incorporate comments as appropriate in the final DER Scenarios and Modelling Study report. Thank you for your contribution.

Specific Questions for Comment/Feedback

Topic	Feedback
<p>What do you see as the benefits and challenges associated with DERs "stacking" distribution and wholesale services?</p>	<p>The primary benefit of stacking would be more complete and accurate recognition of the benefits at both levels provided by the supplier, especially considering that benefits can often be widely disseminated amongst numerous beneficiaries. One major challenge will be defining the conditions under which it is reasonable for a supplier to be remunerated for services provided simultaneously at the Distribution and Transmission level. To be clear, simultaneous remuneration would only be reasonable if all service obligations are being met continuously at both levels. Even with distinct deliverables and measures for the two services, in what cases would payment at both levels be considered inappropriate double-dipping, and in what cases would it be fair recognition of value provided at both levels?</p>
<p>In your assessment, how significant is the opportunity to use DER as NWA (i.e., providing distribution services to defer traditional distribution investments)? What do you expect the scale and pace to be?</p>	<p>The potential is enormous as many parts of the grid are expected to experience rapid growth in demand while construction of new grid infrastructure, both supply and wires, may often be constrained or delayed by permitting and other challenges.</p> <p>The scale and pace of DER growth for NWA purposes is difficult to estimate because so much depends on establishing a set of commercial terms for suppliers that are clear, principled, fair and enduring, as well resolving regulatory and permitting questions. The resolutions may be different for customer-owned DERs vs. utility-owned DERs.</p>
<p>Do the protocols outlined in the study provide sufficient detail and clarity in order to further evaluate the coordination models? What additional details and/or protocols (if any) would be beneficial?</p>	

Topic	Feedback
Does the study's modelling component provide sufficient assurance of the feasibility of using DER for distribution and wholesale services? What additional modelling (if any) would be beneficial?	

General Comments/Feedback

1. Reduction in power losses attributable to DER

As discussed during the July 27, 2023 Stakeholder Engagement meeting, wholesale transformer losses appear to be uncounted in the anticipated reduction of losses attributable to the York Region NWA Demonstration Project. While the EPRI research was intended to assess distribution losses only, the report's findings are easily subject to misunderstanding by anyone who assumes the report is looking at the entirety of system losses. In fact, DERs will often reduce transformation losses at three levels: Wholesale, distribution and customer level. It would be appropriate if later revisions of this report were to acknowledge the much more significant loss reductions attributable to DER overall, even if the central findings of the report are limited to observations about distribution loss reductions.

2. Methodology for estimating benefits

One of the key issues impeding the development of system beneficial DER is the absence of a clear and stable methodology for estimating the value of upstream benefits. In this regard, many in the industry look forward to the upcoming Demonstration evaluation report that will be assessing the estimated T&D deferral benefits derived from the resources that participated in the demonstration. This will be an important step forward that could help to establish conditions for significant future DER market development.

There are some challenging questions of modelling to be addressed in this work, particularly when assessing the value of reliability services provided by a large number of separate units with diverse characteristics. The modelling methods would be an appropriate subject for consultation with stakeholders before the evaluation report is finalized.

3. Assessing the value of other types of ancillary services available from DERs

It would be useful if Ontario electricity market participants had a shared method for assessing the value of other types of ancillary services available from DERs, beyond capacity and the three types of operating reserve that are standard in Ontario. Other types of ancillaries are discussed in the report on page 2-2 (figure 2-1) but it's unclear the extent to which these are covered under current service definitions for capacity and the three standard types of operating reserve. This could bear on the upcoming Demonstration evaluation report.

4. Requirements for wholesale market participation

Under the Dual Participation model, the DER participants/aggregators are able to maintain direct access to wholesale level markets. It would be helpful to know how the requirements for this type of market participation would differ from the well-defined obligations that currently apply to wholesale IESO market participants.

5. Distinction between services and outcomes

The report on page 2-9 describes two broad categories of DER services that can be provided to distributors: first, to "help optimize grid operating costs," and second, "to address physical constraints occurring in planned or unplanned conditions." It would be helpful if the report were to clarify that these are descriptions of the outcomes of DERs providing services to the electricity system, rather than specific services to be quantified by the IESO or DSO, and potentially provided by DERs.

6. Tie-ins with work of NER Sub Committee

The IESO carried out a range of background work in the context of the Non Emitting Resources SubCommittee from 2017 to 2019 that is likely to remain relevant to the current discussion. In particular, the research on "Barriers to participation" for non emitting resources were studied in detail and summarized succinctly in a set of slides distributed by the IESO on April 5, 2018. Barriers to participation were also addressed in the final report of April 25, 2019 and in stakeholder comments. These earlier documents may help to create historical context and allow market participants to chart the progress towards alleviation of barriers over time.