Elson
Advocacy

February 17, 2021

BY EMAIL AND RESS

Ms. Christine Long
Registrar
Ontario Energy Board
2300 Yonge Street, Suite 2700, P.O. Box 2319
Toronto, Ontario M4P 1E4

Dear Ms. Long:

Re: Sector Evolution Consultations: Utility Remuneration (EB-2018-0287) and Responding to Distributed Energy Resources (EB-2018-0288)

I am writing on behalf of Environmental Defence to provide comments in relation to the February 3, 2021 stakeholder meeting as part of the above consultations. The OEB issued an invitation for all stakeholders to comment on the findings and recommendations made by the experts at this meeting and to discuss the implications of the expert studies on the appropriate focus areas and sequencing of next steps in these consultations.

These submission focus on proposed next steps for this process. As detailed below, Environmental Defence recommends that the OEB:

1. Commission a report on the value of DERs and valuation methodologies;
2. Help consumers capture the value of DERs through rate design and other means;
3. Incentivize and require utilities to implement cost-effective non-wires alternatives;
4. Strike a working group on capturing the value of electric vehicles (EV) and EV readiness; and
5. Expedite these steps to ensure we can proactively address the electricity capacity deficits forecast to begin in 2025 and the carbon price increases up to $170/tonne in 2030.

Request 1: Commission report on the value of DERs and valuation methodologies

Environmental Defence recommends that the OEB immediately seek to commission a report on the costs and benefits of distributed energy resources (DERs). If the regulatory framework is going to ensure the most cost-effective solutions, there must be an accurate and robust quantification of the benefits and costs of DERs. An OEB-commissioned study could propose a methodology for assessing the value of DERs (i.e. cost-benefit analysis guidelines), provide a

high-level assessment of the value of certain DERs to the system, and recommend ways to capture that value.

Although the value of DERs can be assessed in individual rates and leave to construct applications, that is not a complete or sufficient approach. There are significant benefits to exploring the value of DERs in an OEB-commissioned study:

- An OEB-commissioned study would help to provide consistency across utilities, especially in relation to cost-benefit analysis methodologies.

- An OEB-commissioned study would provide technical assistance that would benefit all utilities, especially smaller ones. Methodologies to quantify the costs and benefits of DERs are not always straightforward. Guidance would be helpful in many cases.

- An OEB-commissioned study would provide additional certainty to utilities. Without this certainty, utilities may be reluctant to propose DER-enabling infrastructure or propose DERs as non-wires alternatives. Utilities are often predisposed to continue pursuing the same wires-based solutions they always have. Regulatory uncertainty around non-wires alternatives reinforces this predisposition and could be reduced with an OEB-commissioned study.

- An OEB-commissioned study could feed into efforts to properly compensate customers for the value their DERs provide to the system (i.e., capture positive externalities). For example, the study could inform discussions of rate design. This will not be appropriately addressed through project-specific cost-benefit evaluations in individual utility applications.

A report on the value of DERs is also needed to address concerns that have been expressed regarding spending to enable DERs. Some participants oppose efforts related to DERs on the basis that the benefits have not yet been quantified. These concerns have been expressed over and over again. A review of the value of DERs would help move past these objections.

A robust cost-benefit analysis methodology would ensure that benefits are accounted for even if they are not easy to calculate. Ignoring a benefit altogether is the least accurate approach. It assumes the benefit is worth $0. It is far better to make best efforts to quantify those benefits then to assume that benefits do not exist or have no value.

One example of the difficulty in accounting for benefits is the challenge of quantifying the value of the risk-reduction benefits of DERs from a project, portfolio, and resiliency perspective. These benefits are described by Synapse Energy as follows:

> Distributed energy resources generally result in reduced risk to the electricity system, relative to traditional supply-side resources. DERs can increase the diversity of the portfolio of electricity resources, reduce reliance upon fossil fuels with volatile prices, reduce planning risk by reducing load growth, reduce risks associated with current and future environmental regulations, and reduce risks

> associated with outages caused by storms and other unexpected events. Distributed energy resources also help to reduce risk through increased optionality and system resiliency. That is, through their distributed and small-scale nature, DER investments offer greater flexibility in helping the system cope with stress and respond to unanticipated changes in the future (relative to large, capital-intensive generation, transmission or distribution upgrades).[1]

These benefits are not as straightforward as some to calculate. However, they are just as important and can be estimated in a variety of ways, such as proxies.[2]

We believe a key objective for this process is to ensure that all the benefits of DERs are accounted for. This is an important step that would greatly benefit from OEB guidance.

Request 2: Help consumers capture value of DERs through rate design and other means

DERs create a number of positive benefits that are not currently accounted for. Steps should be taken to remedy this as soon as possible, including improved rate design. For example, distributed storage can help to avoid or lower distribution, transmission, and generation capacity costs. Similarly, distributed generation can avoid transmission and distribution costs. However, those benefits generally cannot be captured by proponents. This decreases the incentive to implement DERs. On the margin, this means opportunities are being missed to lower energy bills and will continue to be missed.

This is a classic example of the market failure arising from positive externalities. DERs proponents are causing benefits to others that are not reflected in the prices faced by the proponents. As a result, a sub-optimal amount of DERs is being implemented. Monetizing the benefits (i.e., the positive externalities) will ensure that economic efficiency and optimal implementation are achieved.

These positive externalities should be captured in part through better rate design. For example, we recommend that the OEB resume its commercial and industrial rate design process with a renewed focus on capturing the positive externalities from DERs. A report on the value of DERs would outline other ways to capture these benefits.

Request 3: Incentivize and require cost-effective non-wires alternatives

We recommend that the OEB focus on updating its guidelines to clearly require and incentivize utilities to implement non-wires alternatives where they are cost-effective. The current model of utility remuneration impedes these non-wires solutions to the detriment of customers. In some cases, it is uncertain whether utilities are even allowed to implement those kinds of non-

[1] Tim Woolf, Synapse Energy, *Benefit-Cost Analysis for Distributed Energy Resources*, Prepared for the Advanced Energy Economy Institute, September 22, 2014, p. 47.
[2] *Ibid*, p. 45.

traditional solutions even where they would be cost-effective. In other cases, there are strong financial disincentives against implementing those solutions.

DERs can help to avoid traditional supply-wide investments in the electricity and gas systems, which in turn lowers costs and energy bills.[3] However, utilities have a major financial *disincentive* to pursue these cost-effective alternatives. This is a significant problem, but the issue is simple. Utilities generally do not earn a return on DERs alternatives that can be more cost-effective than traditional supply-side investments. Adopting a more cost-effective alternative will actually *lower* a utility's return, which is generally only earned on wires and pipes. This is a conflict between the interests of utilities and consumers.

The Advisory Committee on Innovation described the issue as follows:

> Utilities should be encouraging innovative solutions, including DERs, to meet their system needs when they are cost effective to do so. However, some utilities say, under the current revenue model, that they are not rewarded equally for their own versus alternate solutions. This arises from the fact that utilities earn a rate of return on capital but not on operating expenses. Some innovative solutions involve operating rather than capital expenditures – for example, a contract for demand-response to relieve congestion. Another example, from other sectors that have undergone similar transformations, is contracting for "software as a service" and data-driven solutions rather than making large investments in computer hardware.
>
> … Without a change in the model for remuneration there is limited incentive to change from the past pattern despite the availability of new options that might provide the best long-term value for customers.
>
> Removing any incentive for the utility to prefer one kind of spending over another should also provide customers and service providers more confidence that innovative solutions will be considered equally in the utility's planning process.

A number of specific changes are needed:

- Utilities need to know that they can earn a return on non-wires alternatives whether they are the owner or contract with a third party to implement the alternative. Without clear guidance, utilities will have a strong financial incentive to favour wires-based options because they are the only profitable options.

[3] *Ibid.*

- Utilities need to know whether and/or when they can own non-wires alternatives. We see no reason to prohibit this as it can help fill gaps in immature markets. In any event, utilities would undoubtedly benefit from greater certainty.

- Utilities need to know that they *must* implement non-wires solution where they are the most cost-effective and optimal solution from a total system perspective.

- Utilities would benefit from guidance on how to compare the costs and benefits of wires-based options and non-wires alternatives from a total system cost perspective.

DERs have significant environmental benefits, such as reduced carbon emissions. However, this is not a situation where environmental interests conflict with economic interests. Here they are aligned. If the OEB ensures that the right price signals are sent, we can lower emissions and energy bills at the same time. Although this requires important changes, it is worth pursuing this rare win-win scenario.

Request 4: Special focus on EV preparedness and capturing EV value

Environmental Defence strongly believes this process should include a working group or similar process for focused attention on electric vehicles. The expansion of electric vehicles is going to have a massive impact on our electricity systems, cities, and buildings. This expansion is necessary to meet carbon reduction targets as part of our efforts to avoid catastrophic climate change. Of all the DERs, electric vehicles will likely have the most impact. This deserves special focus.

This consultation process presents an opportunity to examine electric vehicles from a coordinated and holistic perspective. Electric vehicles also need to be addressed in other processes, such as rate hearings relating to investments in infrastructure required for electric vehicles. However, a working group would help to ensure those processes are coordinated and provide high-level guidance and proactive attention to this important issue.

The topics to be addressed could include:

- **EVs as Distributed Storage:** There are 8.7 million cars in Ontario, most of which remain parked most of the time. There is a huge potential to use these vehicles as dispatchable storage to reduce electricity system peaks. This warrants coordinated attention from the OEB as it could greatly reduce system costs.

- **Infrastructure Readiness:** Electric vehicles require investments in electricity distribution infrastructure to ensure the system can handle the increased electricity demand. Steps are needed to ensure the system is ready for this and to ensure that all customers have the opportunity to convert to electric vehicles without barriers from their local distribution company.

- **Rate Design:** Rate design has an important role to play in facilitating the uptake of electric vehicles by ensuring that it is cost-effective to refuel.

- **Charging:** Pursuant to the Environment Plan mandate, the OEB should continue its work to facilitate electric vehicle uptake via improved rules and the removal of regulatory barriers relating to charging infrastructure. The LDCs also should be encouraged to develop and/or facilitate solutions to gaps in the charging market, such as customers with on-street parking.

- **Generation and Transmission Capacity:** Electric vehicle adoption will also impact generation and transmission capacity needs. Steps to address these impacts should be coordinated with other OEB work in this area.

- **Rules, Incentives, and Performance Measures:** The importance of this issue warrants specific rules, incentives, and performance measures to promote best practices across all of the LDCs.

A focus on electric vehicles is also mandated by government policy, including the Made-in-Ontario Environment Plan. The Environment Plan calls for carbon reductions of at least 2.88 Mt CO2e by 2030 from electric vehicles.[4] It also calls for electric vehicle uptake to be facilitated by improved rules and the removal of regulatory barriers relating to charging infrastructure.[5] Of course, the OEB is not the only entity responsible for ensuring that these targets are met, rules are improved, and barriers are removed. But it has an important role to play.

The uptake of electric vehicles is increasing quickly. Work is needed now to ensure the regulatory framework and electricity system are facilitating this process and not putting up unnecessary barriers.

Request 5: Expedite these steps

Finally, Environmental Defence requests that the OEB expedite the above steps to ensure that Ontario can cost-effectively address the electricity capacity deficits that are forecast for 2025 and increased carbon pricing.

The latest Annual Planning Outlook shows that Ontario will face electricity capacity and supply deficits starting in 2025 and increasing thereafter. DERs could in many cases be the most cost-effective way to address these deficits. A clear cost-benefit framework and appropriate price-signals are needed to ensure that DERs are implemented where they are the most cost-effective solutions. Furthermore, LDCs need to be ready for the increasing levels of DERs that will likely seek connections.

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[4] Government of Ontario, *Made-in-Ontario Environment Plan*, p. 24 (The 2.88 Mt CO2e reductions are intended to be primarily from electric vehicles, but also include other low carbon vehicles "in small part." See p. 23.)
[5] *Ibid*, p. 33.

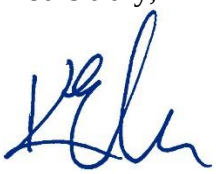
Although 2025 seems a long way away, in regulatory terms it is very soon. The steps described above need to be in place long before the actual DERs are implemented. For example, a cost-benefit analysis framework would only be a first step. Following the completion of the framework, it would then need to be incorporated into LDC planning processes. The LDCs would then need time to make any necessary applications to the OEB. The OEB hearing process will then take time, after which actual implementation and construction can occur. Alternatively, a cost-benefit framework could feed into rate design or other changes to allow proponents to revenue stack. This would involve even more steps to ensure that price signals are in place in time to have new cost-effective capacity coming online in 2025. The time is actually very tight.

Carbon pricing is also important. Carbon pricing is set to increase to $170/tonne in 2030. Before this increase was announced, the IESO was forecasting that the greenhouse gas (GHG) pollution from Ontario's gas-fired power plants will increase by more than 300% by 2030 and by 500% or more by 2040. If this occurs, Ontario will lose roughly 40% of the pollution reduction benefits it achieved by phasing out its coal plants.

DERs could play an important role in avoiding these increases and the associated carbon costs. DERs are particularly adept at addressing peaks in electricity demand when gas plants are relied on most heavily. For example, there is a great potential for energy storage systems to do this, both as stand-alone systems and through millions of parked electric vehicles. DERs can help to achieve carbon goals and lower energy bills through avoided carbon costs.

We hope this process can be expedited so that we do not miss opportunities to cost-effectively meet capacity needs, reduce carbon costs, and ultimately lower energy bills through DERs.

Yours truly,



Kent Elson

cc: Participants in the above proceeding