ONTARIO ENERGY ASSOCIATION

UTILITY REMUNERATION AND RESPONDING TO DERs: EB-2018-0287/0288

SEPTEMBER 16, 2019

To shape our energy future for a stronger Ontario.

Ontario Energy Association

ABOUT

The Ontario Energy Association (OEA) is the credible and trusted voice of the energy sector. We earn our reputation by being an integral and influential part of energy policy development and decision making in Ontario. We represent Ontario's energy leaders that span the full diversity of the energy industry.

OEA takes a grassroots approach to policy development by combining thorough evidence based research with executive interviews and member polling. This unique approach ensures our policies are not only grounded in rigorous research, but represent the views of the majority of our members. This sound policy foundation allows us to advocate directly with government decision makers to tackle issues of strategic importance to our members.

Together, we are working to build a stronger energy future for Ontario.

The recommendations contained in OEA papers represent the advice of the OEA as an organization. They are not meant to represent the positions or opinions of individual OEA members, OEA Board members, or their organizations. The OEA has a broad range of members, and there may not always be a 100 percent consensus on all positions and recommendations. Accordingly, the positions and opinions of individual members and their organizations may not be reflected in this report.

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EXECUTIVE SUMMARY

The OEA welcomes the opportunity to participate in the OEB's consultation on utility remuneration and distributed energy resources (DERs), and offers this submission as a suggestion as to how to best set-up and frame the consultation for success.

The OEA believes that the initiative should take into consideration the numerous aspects of Ontario's electricity system that make it different from other jurisdictions, including:

- Large public ownership/investment in power production assets;
- Public ownership of distribution and transmission assets;
- A green grid: Ontario's electricity system is already about 96% emissions free;
- Ontario only has one load-serving entity (LSE), unlike many jurisdictions where LDCs are responsible for procurement or production; and
- Bulk system planning is the responsibility of the government.

The unique characteristics noted above suggest that caution should be exercised in attempting to import the policies of other jurisdictions to Ontario. In many of these jurisdictions, they are developing and experimenting with aggressive DER policies for power procurement reasons – to "green the grid". The policies are often designed to require utility LSE's, who are responsible for power procurement or production, to incorporate green DERs.

In other cases, because of their geography, they are using the DER strategy to deal with grid reliabilities related to their geography (e.g. New York and Hawaii). Finally, given the predominance of private ownership of grid infrastructure in other jurisdictions, the public (i.e., taxpayers) does not face any risk or implication (e.g. stranded assets) from DERs – those are private risks.

The OEA also believes that the OEB should take into consideration the role of the natural gas system in this policy initiative.

With this in mind, the OEA recommends that the OEB take the following approach in proceeding with this initiative:

Review Current Utility Remuneration Framework

The OEA should provide an assessment of the performance of the current remuneration framework from a variety of perspectives. Before making changes, all stakeholders should have a grounding on the existing system's performance.

Provide a Problem Statement for Remuneration

LDCs currently have requirements to explore grid modernization and non-wires alternatives (NWAs). The OEB should examine example cases where utilities have pursued NWAs and where they haven't, and identify for stakeholders where they believe there are problems that require consideration.

Review Current DER Situation in Ontario

The OEB should research and provide information on the amount of DER activity in the province beyond the contracted electricity resources identified by the IESO. As part of this analysis, the OEB should identify the current drivers of DER investments (e.g. inherent customer economics vs. public policy) in Ontario's energy (electricity and natural gas) system .

Problem Statement for DERs

As with utility remuneration, the OEB should delineate for stakeholders the specific problems that have been identified that are presenting barriers to DERs and include consideration of the natural gas system.

DER Impacts in the Ontario Context

The OEA should evaluate the impacts of DERs under various growth scenarios in Ontario, to consider the impacts on various customers and the role of natural gas. This should include different customer types, including low-income customers, and geographic considerations.

Coordination Between Government, IESO and OEB

The OEB's approach to utility remuneration and DERs overlaps with the government's responsibility for sector policy, system planning and procurement of energy, and the IESO's responsibility for system planning and management. For this reason, the OEA believes that the OEB should be working closely with the provincial government and formally partner with the IESO in this consultation.

INTRODUCTION

The OEA welcomes the opportunity to participate in the OEB's consultations on utility remuneration and distributed energy resources (DERs). These are significant issues, and policy or regulatory actions that are taken related to these issues will have a significant impact on Ontario's energy system, utilities, market participants and consumers. For this reason, the OEA believes that these consultations by the OEB should take a thoughtful, considered approach. This starts with a proper set-up and framing of the exercise. This submission will speak to some of the steps required to create a process for a successful outcome for Ontario.

BACKGROUND

On July 17, 2019, the OEB issued a letter outlining its plans for stakeholder engagement regarding the issues of utility remuneration and responding to DERs. The letter indicates that the two issues will be integrated with respect to consultation processes.

Two primary rationales were provided for the two consultations:

1) the emergence of DERs has the potential to affect costs and enhance value and choice for consumers, but may introduce particular risks and complications into planning processes; and
2) how utilities are remunerated can influence their ability and motivation to take advantage of emerging opportunities that can promote efficiency and delivery long term value to customers

Given that this represents the start of a process to work towards an optimal policy and regulatory framework, this first submission focuses on the research and framing necessary to set up a successful consultation and to help focus the discussion and efforts of participants in the consultation where they can be most effective.

THE ONTARIO CONTEXT

An important starting point for this consultation is to frame it in the Ontario context. There are aspects of Ontario's electricity system that make it unique compared to other jurisdictions in North America and elsewhere. These unique characteristics need to be kept in mind as the provincial government, the IESO and the OEB contemplate policies that may have significant impacts on the sector. These unique characteristics mean that caution should be applied in attempting to translate policies from other jurisdictions that have different industry structures and issues to Ontario. Some unique aspects of Ontario's industry structure are outlined below.

Public Ownership/Responsibility for Power Production

One aspect that makes Ontario different from most U.S. jurisdictions (and the United Kingdom) is the dominance of public (i.e., government) ownership of the major centralized power production resources. The provincial government, through OPG, owns Darlington Power Station, the majority of the hydro power plants in the province, and some natural gas plants with OPG's recent acquisitions.[1] In addition, the province, through the IESO, has entered into a long-term contract with Bruce Power for the refurbishment of the Bruce Nuclear Generating Station.

Overall, most generation capacity in the province is either produced by OPG with rates regulated by the OEB, or through long-term contracts with the IESO. As noted by the IESO, "The majority of the IESO's contracts are for 20-year operating terms, while some are shorter and certain hydro and nuclear contracts are longer. Contracts will begin to expire in the 2020s and a majority of the contracts for generating facilities will expire by the end of the 2030s."[2]

Altogether, this means that provincial taxpayers, residents and businesses are heavily invested in centralized power generation in Ontario, and own or are responsible for paying for the majority of the power generating assets in Ontario.

Public Ownership of Distribution and Transmission Assets

Another unique aspect of Ontario's electric industry structure compared to many U.S. jurisdictions (and the UK) is the public ownership of transmission and distribution infrastructure. In Ontario, most of the Local Distribution Companies (LDCs) are owned by municipalities. The provincial government also currently owns 48.9%[3] of the shares in Hydro One, the largest distribution and transmission company in Ontario. Here again, provincial taxpayers, residents and businesses are heavily invested in the distribution system and transmission system of the province.

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[1] https://www.opg.com/media_release/opg-subsidiary-reaches-agreement-with-affiliates-of-tc-energy-to-acquire-natual-gas-assets/

[2] http://www.ieso.ca/-/media/Files/IESO/Document-Library/market-renewal/IESO-Approach-to-implement-MRP.pdf?la=en

[3] https://en.wikipedia.org/wiki/Hydro_One

Different Context for Natural Gas Utilities

With respect to the natural gas system, there is a much different structure. Most of the natural gas used by Ontarians comes from other jurisdictions. Most of this energy is stored in Ontario at the Dawn Hub, the largest underground natural gas storage facility in Canada.

In contrast with the electricity system, the natural gas system is predominately privately owned, involving little Ontario public ownership in natural gas production facilities, transmission facilities or distribution facilities.

Importantly, in terms of end-use demand, natural gas accounts for 28% of Ontario's energy consumption compared to 16% for electricity.[4]

Overall, it appears that neither the integration, impact and role of DERs involving Ontario's natural gas sector nor the remuneration of capital intensive natural gas utilities under the current model has been given much consideration by the OEB as part of this policy initiative. The OEA submits that the natural gas sector should be part of this consultation given the critical importance of this fuel in meeting Ontario's energy needs. The OEB will need to clarify issues related to the natural gas sector that need addressing as part of this process to allow participants to respond to those identified concerns.

Ontario's Green Grid Infrastructure

Another difference between Ontario and many jurisdictions is the low emissions level that has been achieved by Ontario because of investments in grid infrastructure, including coal plant retirements with replacement by natural gas peaking plants, nuclear refurbishments plans, and significant wind and solar power investments. According to the IESO, Ontario's electricity system is now approximately 96 percent emissions free[5], making it one of the cleanest electricity systems in the world. Many jurisdictions still have a long way to go to achieve the level of emissions reductions Ontario has achieved. As a result, they may have a need to implement relatively aggressive policies to achieve emissions and/or environmental goals that are not relevant in the Ontario context.

One Load-Serving Entity

Unlike many other jurisdictions, Ontario currently has only one load-serving entity (LSE) for electricity customers – the Independent Electricity System Operator (IESO), which makes the IESO unique among other system/market operators in North America. In some of the U.S. jurisdictions which may be raised for comparison purposes, the local distribution companies are vertically integrated utilities that are also LSEs and responsible for procuring or producing power for their customers. In addition, many U.S. LSEs serve natural gas customers in addition to their electricity customers.

[4] https://www.cer-rec.gc.ca/nrg/ntgrtd/mrkt/nrgsstmprfls/on-eng.html
[5] IESO. Power Perspectives. 2018

Utilities regulated by the OEB in Ontario do not have the responsibility for procurement of power on behalf of customers. In some jurisdictions, the regulations and policies surrounding utility remuneration and DERs are designed to achieve public policy objectives for procurement of power (e.g. to promote renewable power) rather than being related to distribution or transmission system requirements.

Another significant aspect of Ontario's system, compared to other jurisdictions, is that long-term bulk system planning decisions (and some distribution level planning decisions) are the responsibility of the Government (through the Minister of Energy) and the IESO (e.g., transmission, generation, conservation and demand management). Most of the costs of these planning decisions are socialized across all ratepayers (and in some cases taxpayers). This decision making regime is also unique to Ontario.

TRANSLATING EXPERIENCE FROM OTHER JURISDICTIONS

The consultant reports by London Economics International and ICF released on August 28th, 2019 refer to the experience of some other jurisdictions with respect to both utility remuneration and DERs.

While it may be helpful to look at the experience in other jurisdictions, as mentioned above, the uniqueness of the Ontario market suggests caution in assessing whether the approaches in other jurisdictions are appropriate in the Ontario context. Two jurisdictions in the U.S. that have taken aggressive DER strategies are New York, through the Reforming the Energy Vision (REV) process[6], and Hawaii with a transition to performance based regulation for utilities to encourage adoption of renewable DERs.

In New York state, the New York Power Authority generates about 25 percent of the state's power needs, most of which comes from hydro assets[7], so New York state citizens are not invested in power production infrastructure to the same extent as Ontarians, and legacy hydro assets will likely remain very competitive for a long time. The remaining 75 percent of New York's power production is provided by independent power producers contracted through LSEs or power marketers. New York's electricity system is characterized by higher emissions than Ontario, and concerns about grid reliability became prominent after the outages experienced by storm Sandy. To address this, New York is exploring a change to the utility remuneration model to encourage greater adoption of renewable DER power production by utility LSEs through the REV strategy, which is being led by the Governor of New York.

In Hawaii's case, the state is currently dependent on petroleum and coal for most of its electricity generation, so has set a target to generate 100% of its electricity from renewable sources by 2045.[8] In addition, because of its geography and climate, Hawaii has been facing grid reliability challenges. Moving to a more decentralized DER system with renewables is seen by Hawaii as the path to a greener and more reliable system. To that end, the Hawaii Public Utilities Commission has launched a new Performance-based regulation (PBR) for utilities to encourage them to move away from LSE-owned central power production towards connecting DERs quickly.[9]

Given that Ontario has a relatively clean and reliable grid system, policy makers may not see the same impetus for reform that is driving change in these jurisdictions. While there is much to be learned from relevant experience in other jurisdictions, it is important is that we understand the policy impetus and the unique circumstances of each jurisdiction to ensure we are considering those specific policies and regulations that support the Ontario government's, OEB's and IESO's broader vision and objectives for the energy sector and consumers.

[6] https://rev.ny.gov/
[7] https://www.nypa.gov/power/generation/generation-overview
[8] https://www.eia.gov/state/?sid=HI#tabs-2
[9] https://puc.hawaii.gov/energy/pbr/

RECOMMENDATIONS FOR CONSULTATION

Review of Current Utility Remuneration Framework

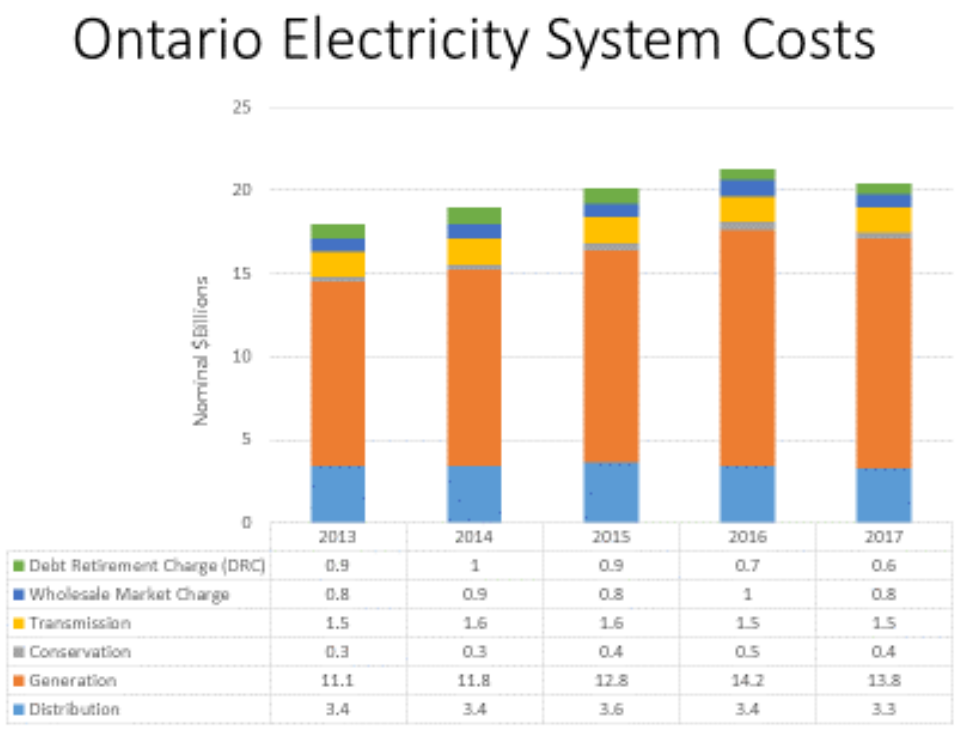
The OEA believes that an assessment of the performance of the current remuneration framework is an important starting point for a consultation on potential changes to the framework. To that end, the consultation on utility remuneration should begin with an analysis, assessment and review by the OEB of the current utility remuneration framework and its recent history. This analysis should provide valuable data on how the utility remuneration framework has performed compared to the OEB's intended outcomes and legislated objectives.

For example, following legislated OEB objectives may be considered relevant for the performance of the current utility remuneration model:

- To protect the interests of consumers with respect to prices and the adequacy, reliability and quality of electricity service
- To promote economic efficiency and cost effectiveness in the generation, transmission, distribution, sale and demand management of electricity
- To facilitate the maintenance of a financially viable electricity industry
- To promote the use and generation of electricity from renewable energy sources in a manner consistent with the policies of the Government of Ontario

The OEB should assess if the current regulatory framework needs to change to ensure that utilities are provided the opportunity to earn a fair return. This should include an assessment of how actual returns achieved by regulated entities compare to allowable regulated rates of return, and comparisons between different jurisdictions in North America (with the comparisons taking into account the different regulatory and/or market structures in other jurisdictions).

As an example, the chart below outlines available data on Ontario's electricity system costs for 2013-2017. It shows that the costs for the distribution and transmission systems, the core responsibility of the OEB, have been falling since 2015. This suggests relatively good performance of the regulatory and remuneration system from the perspective of protecting consumer interests with respect to price, and for promoting economic efficiency and cost effectiveness – two core mandates for the OEB. Performance against other objectives over the same time frame (e.g. reliability, adequacy and quality) could be added to this type of analysis to frame an opening assessment.



	2013	2014	2015	2016	2017
Debt Retirement Charge (DRC)	0.9	1	0.9	0.7	0.6
Wholesale Market Charge	0.8	0.9	0.8	1	0.8
Transmission	1.5	1.6	1.6	1.5	1.5
Conservation	0.3	0.3	0.4	0.5	0.4
Generation	11.1	11.8	12.8	14.2	13.8
Distribution	3.4	3.4	3.6	3.4	3.3

Source: IESO; 2019.

Problem Statement for Remuneration

The OEB's consultation rationale states that how utilities are remunerated can influence their ability and motivation to take advantage of emerging opportunities that can promote efficiency and delivery long term value to customers.

Related to this, the OEB's filing requirements for electricity distribution rate applications state that distribution plans should include information on:

> Planned investments for the development and implementation of the smart grid to support grid modernization and expenditures as required by legislation. Grid modernization involves investing in innovative solutions that make systems more efficient, reliable and cost effective and more prepared for technological changes, such as electric vehicles and distributed energy resources, and provide more customer choice.[10]

LDCs are exploring these innovation solutions (e.g., non-wires alternatives, NWAs) in their capital planning process.

[10] OEB. *Handbook for Distribution Rate Applications.* Chapter 5, July 2018.

As part of the review of the performance of the existing system, the OEB should examine example cases where utilities have pursued NWAs, and where they haven't, and how the current remuneration system affected those decisions and customer outcomes. Such an analysis would be invaluable in assessing whether the current remuneration system is a serious impediment to optimal consumer outcomes, or whether the system is working relatively well and requiring only minor tweaks to achieve optimal outcomes. As part of this analysis, the OEB should be seeking feedback from a broad array of sector participants to get feedback on the performance and issues related to the current system.

Clearly evaluating the performance of the current system would be helpful in providing guidance to the OEB on the types of reform paths it needs to consider for further consultation. This will help focus future consultation activities related to this initiative to ensure that all efforts are supported by evidence.

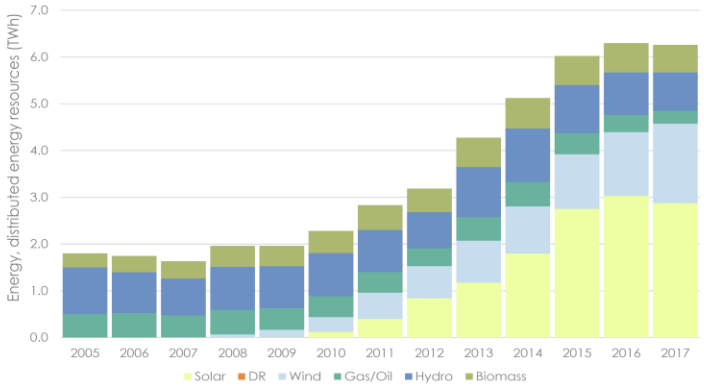
Review of Current DER Situation in Ontario

The DER consultation should begin with an analysis of the DER situation in Ontario. The first step should be to define what constitutes a DER for the purposes of the consultation (e.g. are demand response and energy efficiency considered DERs?).

This analysis could build on the IESO enumeration of contracted distributed energy resources. The most recent reports (end of Q1 2019) from the IESO indicate that there are over 3400 MW of contracted generation capacity embedded within LDC service territories.[11] The energy produced by this generation capacity has increased significantly (see chart below). However, it is important to note that the IESO data only includes contracted resources, it does not include all embedded resources (e.g., resources that do not participate in the IESO-administered market).

The OEA recommends that the OEB, IESO, and both electric and gas stakeholders work together to develop a more complete picture of the current state of installed DERs in Ontario (e.g., net metered and non-injecting facilities).

A detailed analysis on DER activity will be a helpful starting point to understand the current state and trends in DER investment in Ontario and the extent to which DERs are being driven by public policy versus the inherent economics from the customer's perspective.



Source: IESO. Presentation to 2018 Technical Planning Conference. September 13, 2018

[11] http://www.ieso.ca/-/media/Files/IESO/Document-Library/contracted-electricity-supply/Progress-Report-Contracted-Supply-Q1-2019.pdf?la=en

Review of Example Projects

The OEB should review some of the recent DER NWAs undertaken by LDCs in Ontario. This review should involve discussion with project participants to better understand how the current system either facilitated or was a barrier/challenge to the project.

Problem Statement for DERs

In order to facilitate an informed discussion, the OEB should enumerate the issues and challenges associated with DERs based on requests for specific feedback from consultation participants and include consideration of the natural gas system. A clear understanding of the priority issues that need addressing will allow all participants to better participate in this consultation and will better inform potential solutions for Ontario.

DER Impacts in the Ontario Context

It is highly likely that a consultation on DERs will result in a wide array of differing opinions of stakeholders on priority of regulatory changes related to DERs. Some will support aggressive policies to promote DERs, citing the benefits of DERs. Others will suggest caution and point to potential negative system and customer impacts of a proliferation of DERs.

To deal with this, the OEB will need to evaluate the impacts of DERs under various scenarios in Ontario, to consider the impacts on various customers and the role of natural gas. As identified on slide 6 in the ICF report prepared for this consultation, DERs can provide a wide array of benefits for Ontario's grid system. At the same time, proliferation of DERs could also have costs that need consideration (e.g. stranded assets; cost shifting between consumers; cost increases for all consumers on the grid; grid modernization costs to manage DERs). As part of this consultation, the OEB should arrange for an independent analysis of both costs and benefits of expanded DER scenarios in Ontario on various types of consumers, including any geographic or low-income consumer impacts.

Coordination Between Government, IESO and OEB

The OEB's approach to utility remuneration and DERs overlaps with the government's responsibility for sector policy, system planning and procurement of electricity, and the IESO's responsibility for system planning and management. For this reason, the OEA believes that the OEB should work closely with both provincial government and the IESO in this consultation.

The ICF report prepared for this consultation identified a variety of system impacts from DERs (shown below). Only four of the 18 impacts listed relate to the distribution system. For this reason, it is important that the OEB develop a DER strategy that is coordinated with the government's broader energy policies and the IESO's planning objectives. The

IESO's interest in DERs was reflected in the recent paper by the Energy Transformation Network of Ontario's (ETNO) recent report on DERs[12].

Value Category		Benefit (+) or Cost (-)	# of Studies
Utility System Impacts			
Generation	Avoided Energy Generation	+	15
	Avoided Generation Capacity	+	15
	Avoided Environmental Compliance	+	10
	Fuel Hedging	+	9
	Market Price Response	+	6
	Ancillary Services	+/-	8
Transmission	Avoided Transmission Capacity	+	15
	Avoided Line Losses	+	11
Distribution	Avoided Distribution Capacity	+	14
	Resiliency & Reliability	+	5
	Distribution O&M	+/-	4
	Distribution Voltage and Power Quality	+/-	6
Other Costs	Integration Costs	-	13
	Lost Utility Revenues	-	7
	Program and Administrative Costs	-	7
Societal Impacts			
Broader Impacts	Avoided Cost of Carbon	+	8
	Other Avoided Environmental Costs	+	9
	Local Economic Benefit	+	3

Given the overlap of interests and the importance of this consultation to Ontario's energy systems (electric and natural gas) broadly, the OEA suggests that the OEB partner formally with the IESO in the consultation on DERs, and that Ministry officials also participate in the process.

[12] Energy Transformation Network of Ontario. *Structural Options for Ontario's Electricity System in a High-DER Future: Potential implications for reliability, affordability, competition and consumer choice.* June 2019.

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Let's unravel complex energy challenges, together.