

ONTARIO ENERGY ASSOCIATION

PROPOSAL TO ENABLE A NEW
VOLUNTARY ENHANCED TIME-OF-
USE RATE INCLUDING
CONSIDERATION OF A NEW
ULTRA-LOW OVERNIGHT PRICE
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To shape our energy future for a stronger Ontario.

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 document.

TABLE OF CONTENTS

INTRODUCTION	2
SUBMISSIONS	2
SYSTEM AND ENVIRONMENTAL PERSPECTIVE OF OPTIONAL RATE	2
CUSTOMER PERSPECTIVE OF OPTIONAL RATE	3
ADDITIONAL ELECTRICITY SECTOR OPPORTUNITIES	5
NEXT STEPS	8

INTRODUCTION

On November 16, 2021, the Minister of Energy issued a letter asking the Ontario Energy Board (OEB) to report back and advise on the design(s) of an optional enhanced Time-of-Use (TOU) rate to further incent demand-shifting away from peak periods to lower-demand periods.

On January 24, 2022, the OEB issued a letter inviting interested parties to a stakeholder meeting on February 17, 2022, to seek input on the design of an optional enhanced TOU price plan. The OEB's February 17 presentation requested feedback from stakeholders on the proposed price design, supporting data and related cost recovery through eight questions included in the presentation.

On February 9, 2022, the Ministry of Energy (the Ministry) posted a proposal seeking input on creating an optional enhanced time-of-use electricity rate to encourage consumers to shift electricity use to low-demand periods, modelled after the OEB pricing pilot which included an ultra-low overnight price. The Ministry is also seeking input on ways to address barriers to further enable electric vehicle adoption.

The OEA welcomes this opportunity to participate in the Ministry's consultations on the design of an optional enhanced TOU rate. Pricing policies have the potential to be a very useful tool in providing the right incentives to achieve decarbonization objectives in the most efficient and cost effective way for Ontario consumers. Policy and regulatory actions that are taken related to these issues will have a profound impact on Ontario's energy system, utilities, market participants and consumers.

The OEA appreciates and is extremely supportive of the Ministry's efforts to advance this issue. The OEA's submissions will address the questions posed by the Ministry in the posting.

SUBMISSIONS

System and environmental perspective of optional rate

1. To what extent could a new optional province-wide enhanced TOU pricing plan help shift RPP electricity demand to lower-demand, overnight periods for activities such as EV charging?
2. How might an increased electricity price during periods of high demand (e.g. weekday afternoons/evening) and a lower electricity price during periods of low demand (e.g. overnight) help to integrate new sources of electricity demand, such as EV charging, into the distribution system? What impact might it have?
3. How might government, its agencies and partners make use of the best available information, for example consumption data and EV ownership figures, to understand and forecast charging demand and profiles to inform a new rate design that ensures full cost recovery?

Ontario's electricity system has significant underutilized capacity at night. Therefore, Ontario's electricity grid will be able to absorb a large volume of EV charging (or other potential beneficial uses) at night, without major grid infrastructure upgrades required, although local upgrades are likely necessary in areas experiencing high customer uptake of EVs.

Ultimately, the ability of a new plan to shift demand and its impact on the grid will depend on the rate design, which is still to be determined. However, the Minister's November 16, 2021, letter indicated that "There is an opportunity to consider new rate designs that could anticipate increased electrification and support the decarbonization of the economy..." Based on the Minister's statement, to maximize the value of this initiative, the OEA believes an enhanced TOU rate design should also take into consideration the impact of rate design on other forms of electrification (e.g., heating and cooling; storage).

For example, in June 2018, the California Public Utilities Commission (CPUC) held a [Forum to review and evaluate electric rate designs](#) with regards to the state's zero-emission vehicle goals. The CPUC noted the following with [respect to rate design](#):

- Technology-specific rates are generally disfavored
- Should not be creating rates that are designed to solely benefit EVs
- Setting rates should reflect the cost impact of EVs on the grid (which depends on the time of charging)

The OEA believes that this initiative would benefit from key principles with respect to rate design and increased electrification, as well as expectations regarding the average revenue to be recovered by the rate design option(s), bill impacts, and expected shift in peak demand under different enrollment assumptions. Further, to effectively assess the impacts of the rate options on consumer behaviour, peak shaving and overall decarbonization goals, it would be beneficial to identify, baseline and measure key metrics. Having the option to adjust rates, accordingly, will also be key to maintaining effective pricing signals and outcomes over time.

Currently, the OEB's description and methodologies regarding price setting, cost recovery and analysis of the enhanced TOU option are not sufficient to evaluate the costs, benefits, and risks of the proposed rate (e.g., bill impacts, cost causality and recovery, persistence of savings, uptake, incentives to increase electrification, etc.).

Customer perspective of optional rate

1. How might an increased electricity price during periods of high demand and a lower electricity price during periods of lower demand help to remove barriers to households or small businesses in adopting EVs or other clean technologies? What impact might it have?

The OEA believes that an enhanced TOU with a greater ratio of peak to off-peak pricing is likely to have a limited impact on removing barriers to EVs and other electrification technologies. For example, the [RPP Pilot Meta-Analysis Final Report](#) found that the average monthly bill saving for participants in the Overnight Pilot was approximately \$5/month. However, the pilot also resulted in under-recovery of costs (15%) from participants. These circumstances point to customers opting into an enhanced TOU design achieving modest savings compared to the current TOU structure.

It is important to recognize that the barriers to households or small businesses in adopting EVs (and other clean technologies) go beyond the commodity price of electricity, and specific to EVs, range anxiety/charging infrastructure. For example, work published by the International Energy Agency has identified the [top 5 barriers to EV adoption](#):

1. Lack of charging infrastructure
2. Lack of appropriate EV type (i.e., lack of model diversity, such as SUVs and trucks)
3. Capital cost
4. Operational aspects (e.g., charging time)
5. Uncertain/ underdeveloped policy landscape for EVs

Further, a [survey conducted in Guelph, Ontario](#) found the major barriers to EV adoption were the initial high capital cost, safety, reliability and performance related to batteries, charging time and availability of charging stations, and lack of model diversity.

Therefore, while a low overnight rate will provide an incentive for efficient charging in terms of the electricity system, it should be noted that the price of electricity for the purpose of charging was not identified as a top barrier to adoption in either study. While the OEA sees the potential significant marketing value in providing a low overnight charging rate for EV users, it should be kept in mind that a broader package of initiatives that addresses the primary barriers identified by consumers is necessary to promote significant EV adoption to take advantage of underutilized capacity.

2. What factors would be important to encourage consumers to opt into the new optional enhanced TOU rate plan?

The OEA believes that it is important for the Ministry to be clear with customers when communicating potential energy savings and decarbonization goals. The Ministry should emphasize to consumers that significant fuel cost savings will result from switching from an internal combustion engine vehicle to an electric vehicle. For example, the [Minister of Transportation](#) has stated that “Charging electric vehicles costs less than purchasing gasoline and diesel for internal combustion engines. The average driver can save between \$1,500-\$2,500 per year on fuel and maintenance costs.”

The Ministry of Energy (as well as the Ministry of Transportation and the OEB) could similarly stress the environmental benefits of electric vehicles and other electrification technologies (e.g., hybrid heating and storage) more broadly, as well. While it is likely the case that the immediate driver is consumer cost savings in terms of fuel switching and lower electricity bills, related communication should also place a value on the environmental benefits for all electricity customers. For example, the [Ministry of Transportation](#) states that “Drivers could reduce their vehicle’s greenhouse gas emissions

by 60-90% by driving battery electric vehicles or plug-in hybrid electric vehicles and using Ontario's low-carbon electricity to power their vehicles." Similarly, the Ministry of Energy and OEB could emphasize that during overnight periods Ontario's electricity is generated largely from non-emitting sources.

Various factors are likely to be important to different customers in terms of providing encouragement to opt into a new plan. There are also some practical limitations, for certain customers. For example, from what the OEB and Ministry have presented to date, the proposed enhanced option seems focused largely on an enhanced commodity price for residential customers that provides an incentive for existing EV owners with home chargers to shift charging to off-peak hours. It is not clear what impact the proposed rate will have on other RPP eligible-customers and what the implications of the impact will have on uptake, cost recovery, bill impacts, and risks.

Further, a broader customer assessment is necessary because there are likely to be significant differences in the ability of the different RPP customers above (e.g., detached residential v. multi-residential building; residential v. the many different types of small volume customers) to access, benefit and/or participate in any enhanced option(s).

Directly engaging with these different customer groups to gain an understanding of their views of different pricing options (in terms of both their understanding of the option(s) and their ability, reasons, and willingness to participate) will be a necessary part of this analysis. Engaging with customers now will better equip the Ministry and OEB to educate customers about the final rate option(s) during the implementation period of the new TOU option(s).

It is likely that the assessment will point to the need for additional options in the longer-term. For example, in California, utilities offer [separate EV TOU rates for commercial and residential customers](#). This is also the case in Illinois: [Residential](#) and [Businesses](#).

Lastly, experience has shown that many customers find electricity rates confusing. If (and when) an enhanced TOU option is offered, it will be important to ensure that there is clear plan for educating customers (as done in 2020 to prepare customers for the option to choose between TOU and the tiered pricing plan) on the rationale for having two separate TOU choices and a tiered rate option. Once implemented, any new rate design should be subject to a regular review to ensure it is meeting its intended public policy objectives.

Additional electricity sector opportunities

1. LDC connection processes be improved for at-home and/or commercial charging infrastructure?
2. How can government better facilitate information sharing between LDCs and future EV users so LDCs can make appropriate infrastructure investments and be prepared to meet needs?

3. How could distribution costs for larger customers billed on a demand basis be changed to support activities such as EV charging? How could this be accomplished while mitigating any impact to other electricity customers?

The OEA recognises that more comprehensive rate design initiatives may not be feasible in the short-term for the purposes of the OEB's April 1, 2022, report to the Minister; however, other rate design enhancements that fully reflect associated principles, such as cost causation, cost recovery, consumer benefits and affordability, will be necessary to facilitate increased electrification efficiently and fairly (i.e., through customer-specific and/or demand charges). The consideration and analysis of these broader rate design changes should begin as soon as possible following the implementation of this new rate.

For example, in 2019, the [CPUC issued a decision](#) on the following related to EV rate design for PG&E commercial and industrial customers:

“PG&E is authorized to implement a new subscription-based EV rate design for commercial and industrial customers, a group that includes transit fleet operators, owners of electric delivery trucks, and providers of public charging stations. The new rate eliminates demand charges and instead implements a subscription model similar to cell phone bills, with time-of-use volumetric energy charges that encourage customers to charge off-peak. Customers will be able to “buy” a block of capacity that should meet their highest demand and then manage charging to not surpass it. The subscription charge replaces the typical demand charge, which assesses a monthly fee based on customers’ highest monthly usage. SB 1000 (Lara, 2018) directed the CPUC to, within an existing proceeding (or proceedings), consider strategies to help customers transitioning to EVs reduce and manage demand charges, and this Decision was a first step in the CPUC’s implementation of that legislative directive.”

4. How could LDCs effectively invest in their infrastructure to support EV adoption in the province ahead of demand materialization? What role could non-wires alternatives play in such investments?

The OEA believes that the Minister’s November 16, 2021, letter, and the Minister’s November 15, 2021, Mandate letter to the OEB are supportive steps towards the objective of LDCs effectively investing in their infrastructure to support EV adoption and electrification more broadly. The Minister’s mandate letter stated:

“The OEB should continue to prioritize its work facilitating and enabling innovation and adoption of new technologies where it makes sense for customers [...] Developing policies that support the adoption of non-wires and non-pipeline alternatives to traditional forms of capital investment, where cost-effective, will be essential in maintaining an effective regulatory environment amidst the increasing adoption of Distributed Energy Resources.”

“Increased adoption of electric vehicles (EVs) is expected to impact Ontario’s electricity system in the coming years and the OEB must take steps to facilitate their efficient integration into the provincial electricity system, including providing

guidance to Local Distribution Companies (LDCs) on system investments to prepare for EV adoption.”

The OEA and its members look forward to working with the OEB as it implements and advances the direction given by the Minister. Our members are also actively working towards these goals through the OEB’s Framework for Energy Innovation and Innovation Sandbox as well as through the IESO’s Enabling Resources Engagement and DER Market Vision and Design Project.

More specifically, the OEA believes that there is limited existing regulatory guidance on utility use of third-party owned DERs (beyond the existing OEB Bulletins regarding [net metering](#) and [behind-the-meter storage](#)), including how these resources can be leveraged as non-wires alternatives (NWAs) in a cost effective manner that continues to ensure safe, reliable operation of the system for the benefit of our customers. Further guidance on these issues would be helpful, including DERs/NWAs deployed in partnerships or joint ventures with utilities or other parties.

Finally, a recent newspaper [article](#) is instructive towards our infrastructure needs if we want to encourage more EV adoption and take advantage of excess system capacity to increase efficiency to decarbonize our transportation system. The article outlines the experience of someone who lives in multi-residential housing and cannot install a home EV charger. They did not have a good experience with EV charging. In Ontario, 46 percent of households do not live in a single-family home. In urban areas, this percentage is much higher. The OEA believes that there is a clear role for Ontario’s LDCs, with clear direction from government and the OEB, to ensure there is sufficient easily accessible public EV charging infrastructure to ensure Ontario meets its transition and decarbonization goals. The OEA recommends that the provincial government make this a particular policy focus to complement its TOU strategy.

5. How could residential net-metering arrangements (i.e., rooftop solar and battery storage) support residential EV charging, reduce electricity bills and reduce the need for distribution infrastructure?

The OEA’s electric utility members are advancing the energy transformation in Ontario constantly through actively working with customers to enable DER connections and NWA solutions, while managing the impacts on the electricity system.

However, EV adoption as well as increased uptake of rooftop solar, battery storage and other technologies (e.g., hybrid heating), will increase the need for distribution system and other infrastructure upgrades. For example, investments will be required for increasing distribution grid capacity, peaking generation services to meet charging needs and increased electricity consumption, and infrastructure investments to accommodate two-way flows of electricity.

Greater electrification will require further analysis into enhanced rate designs beyond the commodity price of electricity and the associated supply costs. The costs (and benefits) of increased electrification from decarbonization will go beyond system supply costs, affecting the electricity system at different levels. For example, there will be local grid

constraint implications to distribution systems through changes in both coincident and non-coincident demand that will increase distribution infrastructure needs.

For the reasons above, the OEA believes that the Ministry should keep in mind the total energy costs for Ontario consumers and not just electricity bills and electricity system costs. As noted above, by switching to an EV the average driver can save between \$1,500-\$2,500 per year on fuel and maintenance costs. Similarly, examining potential energy cost savings from adopting hybrid heating and/or net metering options as well as environmental benefits should be examined and considered by the Ministry.

The OEA also believes that greater electrification will require a renewed commitment regarding demand response and energy efficiency to mitigate or postpone the need for additional infrastructure (distribution, transmission, and generation). Ontario has been very successful in developing a new capacity auction in which demand response resources compete to provide low-cost energy capacity to our system. Demand response aggregators bring together electricity users who are willing to reduce their consumption in times of peak need. By reducing peak demand, the reliance on expensive, under-utilized peaking resources is reduced and in most cases carbon emissions are lowered. This resource has the potential to grow and to cost-effectively enhance Ontario's grid capacity with existing aggregation strategies.

Further, Ontario's grid capacity can be enhanced through increased energy efficiency. Energy efficiency is a proven low-cost system resource in Ontario. As we look to expand the capability of our electricity system to replace carbon fuels, energy efficiency will have significant cost-effective potential. A [2019 study by Navigant \(now Guidehouse\)](#) found that by 2038, Ontario could reduce its electricity system peak by up to 3,000 MW for under \$0.04 kWh for a set of incremental energy efficiency measures.

Next Steps

Given that the Minister has set a goal of having the new TOU option(s) available by April 2023 the OEA recommends that, as the Ministry and OEB focus upon finalizing the rate design(s) and quickly move towards implementation, that the need to effectively engage and educate consumers on the objectives and opportunities of the rate design changes be top of mind. Similarly, ensuring that electric utilities have sufficient time to adequately prepare their billing systems and develop the associated business and customer support processes will be instrumental towards ensuring a smooth launch of the new rate TOU rate option(s) and a positive customer experience.

Other implementation issues such as the extent of shifting in peak demand, risk of under-recovery of costs and allocation of costs among the different RPP plans, are likely to be of less magnitude and therefore of lesser urgency at the present time since the current rate of broad electrification through EVs is relatively low. For example, for the first three quarters of 2021, Statistics Canada reported that 2.7% of new vehicles registered in Ontario were battery electric vehicles (BEV) or plug-in hybrid electric vehicles (PHEV).

Further, the OEA stresses that the Ministry should take a holistic view of energy use and energy bills. Given that most energy consumption happens outside of the electricity system, Ontario needs a comprehensive energy strategy. Ontario needs to develop an ongoing

and evolving comprehensive energy plan that adapts to our increasing experience with alternatives. This strategy must take into consideration the complementary roles that all energy sources can play to meet the low carbon energy needs of the future at the lowest cost for consumers.

In closing, the OEA and our members fully support the efforts of the Ministry of Energy, OEB, and Ministry of Transportation to design electricity rate options, promote transportation fuel-switching, and pursue infrastructure investments necessary to support Ontario's decarbonization goals, benefitting Ontario energy consumers and the environment.

The OEA looks forward to working together with the Ministry of Energy (and its agencies) as well as the Ministry of Transportation in implementing this vision.

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