



LEGISLATION AND REGULATIONS COMMITTEE BRIEFING NOTE

Energy

DRAFT prepared from draft materials- Net Metering (Part 2)

Cabinet July 26, 2017	LRC September 25, 2017	Cabinet October 4, 2017	Introduction FES (TBC)
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Summary of Proposal

Context for Decision:

The Ministry has been conducting an update of the net metering regulations over the past year and has been engaging with stakeholders, sector participants, and Indigenous communities to inform the process. An amended Net Metering Regulation came into force July 1, 2017, which included removal of the 500 kilowatt project size limit and clarifying the eligibility of energy storage paired with renewable technologies, among other things.

This proposal follows Cabinet direction to expand net metering to allow third-party ownership models and virtual net metering demonstration projects through [proposed](#) legislative and further regulatory amendments to the *Ontario Energy Board Act, 1998* and the Net Metering Regulation.

Why does Ontario need these changes? Why now?

Third-party Ownership and Virtual Net Metering emerged during stakeholder consultations as two potential areas for further enhancements to Ontario's net metering framework. The Ministry is preparing to end the Feed-in-tariff (FIT) and MicroFIT programs in 2017, which will make Net Metering the [primary mechanism province's only renewable procurement program to develop renewable distributed generation in Ontario.](#)

[Enabling Third-party Ownership and Virtual Net Metering demonstration projects would also support objectives of the Climate Change Action Plan by facilitating net zero building goals and reducing greenhouse gas emissions from the electricity sector.](#)

How will this proposal impact Ontario?

The proposal impacts consumers and distributors of electricity in Ontario, and provides more choice and options for those looking to [participate in the energy sector meet their electricity demand with renewable electricity](#), and offset their electricity costs. Electricity distributors are the primary stakeholder group that could be impacted by the proposed

measures. However, the ministry advises that the proposal is not expected to have a significant overall impact on distributors.

What is the expected cost to government?

The proposal has no incremental costs to government. The proposal will impact electricity rates, but the Ministry advises that rate impacts are expected to be negligible based on projected program-net metering uptake. The net impact from savings to the cost of supply (\$0.60 per month) and cost-shifting from lower overall demand (\$0.80 per month) is projected to result in an increase to non-participant residential bills of approximately \$0.20 per month by 2022 and remain relatively stable out to 2035.

Comment [HT1]: Energy: How does the \$0.03 per month factor into this number? Should it be added to it to show the total cost from the baseline?

What are the key steps to deliver this proposal?

Timelines	Activities
Q4 2017	LTEP release and introduction of proposed legislative amendments through the Fall Economic Statement
Q4 2017	Proposed regulatory amendments to O. Reg. 541/05 and <u>potentially</u> to O. Reg. 389/10, posted to the EBR and RR
Q4, 2017/Q1, 2018	Consider stakeholder feedback and finalize regulatory proposal
Q1, 2018	Seek LRC/Cabinet approval of regulatory amendments
Q1/Q2, 2018	IESO/ENERGY to develop <u>renewable</u> distributed generation <u>deployment demonstration</u> program proposed in the 2017 LTEP
Q1/Q2, 2018	OEB to determine required code/licensing requirement changes to align with regulation
July 1, 2018	Regulatory amendments to come in force
Q3, 2018	IESO to begin accepting applications for VNM demonstration projects under the distributed generation deployment program
Beginning Q3/Q4, 2018	Monitoring and evaluation of implementation by distributors and OEB

Comment [BW2]: I don't think it's necessary. The \$0.03 reflects the incremental cost from enabling TPO – whereas the costs above represent total net metering costs.

How will the changes be communicated?

Under development

Terms you need to know

- Net Metering** – Net metering is a billing arrangement that allows customers to

generate renewable energy onsite, and to receive bill credits for any extra electricity that they send to the grid. Under the current net metering framework, customers are required to own or operate the renewable energy generation facility that generates electricity for the customer's own use in order to be eligible.

- ~~• A program that allows specified electricity consumers to send excess electricity they generate from renewable resources to the distribution system for a credit toward your energy costs. In essence, it's a "trade" of electricity a customer supplies against electricity they consume.~~
- **Ontario Energy Board (OEB)** – A Crown Agency that independently regulates Ontario's electricity and natural gas sectors in the public interest. Implements an open and transparent process to allow for stakeholders to comment on various items.
- **Local Distribution Companies (LDCs)** – Local electricity utilities, responsible for distributing power from transmission lines to people's homes (e.g., Hydro Ottawa, Toronto Hydro, etc.)
- **Independent Electricity System Operator (IESO)** – An independent corporation and agency of the Ministry of Energy that operates the electricity market in Ontario. Balances the supply of and demand for electricity in Ontario and then directs its flow across the province's transmission lines, including interties with other jurisdictions.

Cabinet Office Analysis

The proposal contains no variance from government direction [TBC].

Comment [BW3]: Confirmed per Variance Memo.

Introduction:

The proposed legislative and regulatory amendments will be announced through the province's 2017 Long-Term Energy Plan (LTEP), projected for public release in October 2017 pending Cabinet approval. The proposal supports key themes of the 2017 LTEP, by supporting innovation in the areas of renewable energy and storage, as well as providing enhanced choices for electricity consumers.

Proposal:

The Ministry is proposing amendments to Section 88 of the *Ontario Energy Board Act, 1998* (OEBA) to expand the scope of regulation-making authority to include:

- Requiring distributors to offer net metering to a customer, where the customer has entered into an agreement with a third party for electricity purchased from a renewable energy generation facility owned and operated by the third party; and
- Prescribing circumstances where the distributor can enter into net metering agreements with customers and generators for purposes of pursuing a Virtual Net Metering (VNM) demonstration project.

Third Party Ownership (TPO)

Under the current net metering framework, the customer is required to own or operate the renewable energy generation facility that generates electricity for the customer's own use in order to be eligible to enter into a net metering arrangement with their LDC. The proposed amendments would allow the customer to enter into an agreement with third party owners for the sale of renewable electricity generated on the customer's property and receive credits on their electricity bill for any surplus electricity that is conveyed into the distribution system.

The ministry advises that enabling TPO arrangements would address barriers to net metering participation related to the high upfront capital cost requirements of installing a renewable generation system by providing more flexible contracting options for industry and consumers. In addition, the regulation of TPO arrangements under the net metering regulation would provide clarity and certainty for distributors, industry and customers on the treatment of TPO models and allow for the types of net metering arrangements that stakeholders have identified as important to facilitate greater uptake of net metering in the market.

VNM Demonstration Projects

Under the current regulatory framework, the customer in a net metering arrangement must have the renewable facility situated on the same site as the corresponding electricity bill that credits are applied to. VNM involves net metering of generation that is not located at the customer site and selling power "virtually" to one or more participants, who receive a credit on their electricity bills for the power generated ~~on their bills~~. VNM projects can be ~~of large-scale~~ or utility-scale depending on the model and specific program restrictions.

Comment [SK(4): Since utility scale generally means large scale, I'd suggest this be deleted to simplify.

The proposed changes would permit LDCs to be able to explore VNM arrangements under prescribed conditions. The ministry is proposing to develop a model where VNM projects proposals would need to be part of the distributed generation deployment program proposed in the 2017 LTEP. The ministry is proposing to use the demonstration project approach in order to inform future policy and regulatory discussions. Demonstration projects would test consumer interest, business cases and technical requirements, such as billing and settlement systems. They could also explore potential for enhanced value to distribution networks and the grid.

Net Impacts

Ministry analysis suggests that the net impact from savings to the cost of supply (\$0.60 per month) and cost-shifting from lower overall demand (\$0.80 per month) is projected to result in an increase to non-participant residential bills of approximately \$0.20 per month by 2022 and remain relatively stable out to 2035. This amount represents a corresponding savings for net-metering participants. Ministry analysis suggests that the incremental increase in new net metering capacity for implementing the 2017 LTEP policies would be about 9% higher or an increase of about 87 MW over a 10-year period, relative to the baseline projections under the current regulatory regime.

The uptake modelling assumes availability of an incentive (such as is currently being developed by the Green Ontario Fund), which will be significant in determining net metering business cases and uptake.

Risks and Considerations:

- Consumer Protection: As net metering activity increases and with the introduction of TPO, there is increased risk of consumer protection issues arising. As with many consumer transactions, especially with new business models, there is a risk of dissatisfied customers if agreements are unclear and customers experience unfair marketing or sales practices. Under the proposal, the OEB would be required to expand its consumer protection oversight functions to include TPO net metering arrangements under the Energy Consumer Protection Act, 2010 (ECPA), as the sale of electricity by third party owners to customers would be considered a form of electricity retailing that would be subject to the ECPA. The Ministry of Energy is engaged with the OEB, and expects to develop and propose regulatory amendments, as may be needed, under the ECPA in the Fall 2017. Such These regulatory amendments would ensure TPO arrangements for the sale of renewable electricity to customers are subject to appropriate consumer protection measures under the ECPA.
- System Impacts: System impacts and the risk of unanticipated costs that could be passed on through rates will be highly closely related to the amount of net metered renewable generation capacity added to the grid over time (net metering uptake) and the ability to manage uptake in a way that maximizes value to the grid. The risk of high unanticipated levels of uptake that could drive system costs are low due to the challenging economics of distributed solar energy under net metering in Ontario at current capital costs and electricity rates.

However, as solar costs continue to decline and with the expected introduction of incentives through the Green Ontario Fund, the business case for customers to invest in renewable generation for net metering will improve, driving increased uptake. It is possible in the medium to long-term (5-10 years) to reach levels of distributed generation penetration that would change the costs and benefit assumptions used to estimate the impact of net metering over time. CanSIA's Distributed Generation Task Force Recommendation Report, released in 2016, suggests that solar PV will reach grid parity in Ontario between 2022 and 2026. `

As grid parity approaches, it is possible that instances of grid defection (customers leaving their LDC and self-supplying all of their required energy) could increase. Full grid defection, however, would require not only reduced costs for solar, but also reduced costs for energy storage (as solar does not produce electricity at all times). Until cost effective residential storage can be deployed to customers, grid defection remains an unlikely outcome of solar grid parity. Additionally, most customers lack sufficient roof space or property to install enough solar generation to meet all of their energy demand.

Further, ~~t~~The Ministry's proposed amendments to the net metering framework would help reduce ~~this risk~~the risk of grid defection as customers are required to be connected to the grid in order to net meter and receive credits for their exported generation. Remaining connected to the grid in order to net meter would help ensure net metered electricity customers continue to pay their fair share of fixed system costs (ex. distribution system costs and the forthcoming Clean Energy Adjustment provided for under the Ontario Fair Hydro Plan Act, 2017). While the Ministry currently anticipates that levels of grid defection to be very low in the future, Government may have to address unanticipated levels of grid defection (including to safe guard CEA payments) through future regulatory amendment. The risk of grid defection, though, is not anticipated to be increased by this net metering legislative proposal.

The Ministry is proposing a measured approach to net metering policy to mitigate the risk of unanticipated levels of net metering uptake and associated cost impacts. The Ministry will undertake regular monitoring and review of impacts of net metering and take steps to propose adjustments to regulations as may be needed. As part of the initial updates to the net metering program regulation introduced earlier this year, the Ministry committed to undertaking a three-year cost-benefit evaluation of net metering in line with the LTEP cycle.

- LDC Capacity: LDCs will need to be prepared for a potential increase in the number of entities applying for net metering due to proposed regulatory changes. The ministry is proposing to mitigate this risk by giving LDCs sufficient time to modify their application processes, if required, and to accommodate potentially greater volumes of net metering as well as Third-Party Owned net metering.
- Ensuring Responsible Project Siting: Expanding eligibility to include TPO may increase the risk enabling greater amounts of poorly sited net metering projects. ~~Edeployment that are sited in areas prohibited under existing procurement programs (i.e. FIT and microFIT) include restrictions on ground-mounted solar PV projects in residential areas and on agricultural land.~~ The Ministry of Energy is working with the Ministry of Environment and Climate Change (MOECC) to include siting restrictions within program rules for Green Ontario Fund incentives for solar PV projects, which is expected to reduce the risk that projects will be built in inappropriate areas in the near-term. This represents a “business as usual” approach as the siting restrictions would be the same as restrictions adopted for the FIT and microFIT Programs. The Ministry is also working with the MOECC and OEB to explore longer-term options for the implementation of project siting restrictions.

Linkages:

- LTEP – The LTEP is the energy sector's roadmap and generally identifies the needs for investments over the shorter term, while broadly mapping out the direction of the energy sector over a 20 year timeframe. The province released LTEPs in 2010, and 2013, and is preparing to release the 2017 LTEP in October.

- Feed-in Tariff (FIT) Program – The FIT Program was launched in 2009 to encourage and promote greater use of renewable energy sources including on-shore wind, waterpower, renewable biomass, biogas, landfill gas and solar photovoltaic (PV) for electricity generating projects in Ontario. Participants are paid a guaranteed price over a 20-year contract term (40 years for waterpower projects) for the electricity they produce and deliver to the province's electricity grid. As a standardized way to contract for renewable energy generation, Ontario's FIT Program was one of North America's first comprehensive guaranteed pricing structures for renewable electricity production, offering stable prices under long-term contracts. Over 4,700XX megawatts (MW) of electricity capacity has been contracted through the FIT program. The final application window for the FIT program was open from stopped accepting application on December 31 November 7 to 25, 2016.
- MicroFIT – The microFIT Program supports the development of small or “micro” renewable electricity generation projects (10 kilowatts (kW) or less in size) such as residential rooftop solar panel installations projects. Participants are paid a guaranteed price over a 20-year term (40 years for waterpower projects) for the electricity they produce and deliver to the province's electricity grid. Over 210 MW of electricity capacity has been contracted through the microFIT program. The program is ending on December 28, 2017, or when theits current 50_MW procurement target for 2017 is reached.
- Cleantech Strategy – MRIS is bringing forward a Cleantech Strategy which would leverage existing competitive strengths and grow cleantech firms. Delivering on the Strategy will establish Ontario's cleantech sector as a leader in North America in fighting climate change and providing a cleaner environment for future generations. The strategy would be focused on four key areas: venture and scale readiness; access to capital; regulatory modernization; and adoption and procurement. The Cleantech Strategy would support both CCAP and the Business Growth Initiative.
- Climate Change Action Plan and Green Ontario Fund– Released in June summer 2016, CCAP reiterated the 2016 Budget commitment to greenhouse gas (GHG) emissions reductions and stated that Ontario intends to invest in initiatives that both reduce GHG emissions and ensure that the net impact of cap and trade would not result in an overall increase in electricity costs for commercial and industrial consumers. CCAP included commitments to implement a number of policy initiatives, including reference to support for community energy mapping and platforms for distributed generation opportunities, and the establishment of a new Climate Change agency that would act as one window for the delivery of climate change-related programs (e.g., low-carbon technology and energy management programs). GreenON was launched in August 2017 and MOECC is currently developing incentives for solar PV that would be delivered through the agency and have an impact on net metering uptake.

Delivery:

The Ministry will work closely with partner ministries, OEB, IESO, and external stakeholders including LDCs during the implementation of the program regulatory framework.

Tracking Mechanisms

It is expected that the process for monitoring and evaluation will be facilitated through the Ministry's engagement with sector participants through the Ministry's Net Metering Advisory Working Group. The Advisory Working Group was established in 2015 to inform initial updates to the net metering framework and continued in its advisory role throughout formulation of the current 2017 LTEP policies. Pending Cabinet approval and release of the 2017 LTEP, the Ministry will re-engage the member organizations to renew the Advisory Working Group's mandate over the next three-year period to assist in the monitoring and evaluation of net metering in Ontario. The ministry also will rely on existing OEB reporting mechanisms to track uptake of net metering facilities over time. The ministry willand keep performance measurement and data sharing needs in mind as it develops the related renewable distributed generation deployment program included in the 2017 LTEP.

Performance Measurement:

The Ministry will monitor and evaluate performance based on several indicators that will inform how the proposed changes and net metering in general meet objectives. The Ministry has identified six key policy objectives (e.g. Manage the uptake and costs of net metering to minimize impacts to ratepayers, and manage the uptake and costs of net metering to minimize impacts to ratepayers etc.) with initial performance indicators for each objective. Objectives and indicators will be further developed, in consultation with the Advisory Working Group leading up to implementation of the 2017 LTEP net metering updates. If objectives are not being met, the ministry will have the ability to re-calibrate the program regulatory framework through different options including additional regulatory amendments or issuing guidelines and consumer education materials.

Stakeholder response:

- General public- Positive- likely support program regulatory changes as they will increase choice and options for individuals who may want to participate in the net metering program but viewed the technical expertise or upfront capital cost required to participate as a barriers.
- Renewables sector- Neutral to Positive- Strongly supportive of TPO and VNM models, but may be critical that, once FIT 5 and the MicroFIT# programs end, the net metering program regulatory framework will be the primary mechanism Province's only renewable procurement program to develop renewable distributed generation in Ontario.
- ENGOS- Neutral to Positive- Likely supportive of program regulatory changes that will result in increased net metering, but may be critical that, once FIT 5 and the MicroFIT# programs end, the net metering program regulatory framework will be the

primary mechanism to develop renewable distributed generation in Ontario. will be the Province's only renewable procurement program.

- Indigenous communities- Neutral to Positive- Likely supportive of program-regulatory changes that will result in increased opportunities for net metering, but may be critical that, once FIT 5 and the MicroFIT programs end, the net metering program will be the primary mechanism to develop renewable distributed generation in Ontario. will be the Province's only renewable procurement program.
- LDCs- Positive- LDCs are generally supportive of TPO and supportive in principle of VNM, and are likely to be supportive of the measured approach proposed.
- Municipalities- Positive- Likely supportive of the changes. Municipalities had previously indicated support for a restricted VNM (e.g. municipalities, universities, etc.).