

Ministry of Energy Considerations for GreenON Solar PV Incentive

Issue:

The Ministry of the Environment and Climate Change (MOECC), with support from the Independent Electricity System Operator (IESO), is designing an incentive for home and business owners to install solar photovoltaic (PV) systems. The residential incentive program is proposed to be delivered through Local Distribution Companies (LDCs). The Ministry of Energy (ENERGY) understands that GreenON is still in discussions regarding the preferred delivery approach for the incentive program for business owners (e.g. LDCs or the IESO).

ENERGY does not believe there is a strong policy rationale for providing an incentive for solar PV projects, as Greenhouse Gas reductions would come at a high cost and more costs would be shifted to non-participating ratepayers.

Key Consideration:

1. Achieving Limited Greenhouse Gas (GHG) Reductions

- With the closure of the province's coal-fired generating stations, the electricity system is already relatively clean and there are limited and expensive options for deriving further GHG savings from the system.
- Ontario has already made significant investments in renewable generation to build a clean electricity system and GHG emissions from Ontario's electricity sector are already low.
- Preliminary generation data for 2017 shows that approximately 95 per cent of electricity generated in Ontario came from non-GHG emitting resources.
- Ontario's electricity sector is forecast to account for only about two per cent of Ontario's total GHG emissions in 2017 and the emissions are forecast to be more than 80 per cent below 1990 levels. Emissions are forecast to remain relatively flat until 2035.
- Emission reduction from solar PV alone would be expensive relative to other CCAP/GreenON measures (i.e. those that target reductions in direct use of fuels such as natural gas, oil or propane). Accordingly, GGRA revenues could be better spent on other measures in order to drive greater GHG reductions.

- IESO analysis estimates that the cost per avoided tonne from solar PV will range from \$200 – \$270/tonne depending on system size. Estimates range as high as \$450/tonne for projects incorporating energy storage.
- IESO analysis also suggests a Societal Cost Test result of 0.81 for the portfolio of solar PV incentives currently being considered by the Green Ontario Fund. This means, on the whole, the avoided energy costs and other non-energy benefits do not outweigh the costs of administering and participating in the program.

2. Shifting More Costs to Non-Participant Ratepayers

- The proposed Green Ontario Fund incentive for solar PV would be primarily directed towards net-metered systems. Net metering allows residential customers to avoid paying some or all commodity costs for delivered electricity, including the Global Adjustment (GA) and transmission costs.
- Avoiding these costs reduces the pool of total customers paying these costs, which increases per-unit electricity costs for non-net-metered customers.
- Ministry of Energy analysis suggests that for roughly 450 MW of net metering added over a period of 10 years that the net impact to system costs would be on average \$37 million per year from 2018 – 2035.
- The impact on Class A industrial customer bills would vary from year to year depending on market conditions including the Class A and Class B share of Global Adjustment (GA).
- Under the *Ontario Fair Hydro Plan Act* (“the Act”), system cost increases will not impact the bills of residential consumers (and other specified consumers under the Act) in the short term. In accordance with the structure of the GA refinancing program, deferred GA and the cost of refinancing will be recovered from residential and other specified consumers during the recovery period (currently forecast to begin in 2025). The impact from 2025 to 2035 for the typical residential customer is estimated to be \$0.50/month on average.
- Ontario’s current net metering framework already provides for an appropriate incentive for solar PV. It is designed to align compensation to generators with the value net metering provides to Ontario’s electricity system, as well as to fairly allocate costs and benefits among all ratepayers. Compensation at volumetric electricity rates are a proxy for system value.
- Previous analysis by the Ministry of Energy has estimated the portion of retail rate over and above the value to the grid as a 3.5 cents/kWh subsidy.
- Providing additional incentives through the Green Ontario Fund could exacerbate cost shifting by inducing higher levels of net metering uptake.

Other Considerations

3. Exacerbating Current Capacity and Energy Surpluses

- Ontario currently has a robust supply of electricity, sufficient to meet Ontario's foreseeable demand well into the next decade. Today and in the near term, additional solar PV would exacerbate the capacity and energy surpluses.
- As specified in the 2017 Long-Term Energy Plan (2017 LTEP), the IESO forecasts that Ontario will have adequate existing supply to meet demand into the mid-2020s.
- As a result of Ontario's strong supply situation, the Minister of Energy directed IESO to end or suspend a number of electricity procurements including, the energy-from-waste program, microFIT and FIT programs, and, the second round of the Large Renewable Procurement (LRP II).

4. Regional Constraints

- Transmission capacity has confined the siting of renewable energy projects in past FIT, microFIT, and LRP I procurements.
- Existing transmission capacity availability is limited to specific areas of the province, generally Central, East, Southwestern Ontario, as well as the GTA. In past FIT and LRP procurements, the Northwest, Northeast, Sault, Bruce, West of London, Chatham-Windsor and Niagara areas have been unavailable or had limited availability for connecting new projects.
- New generation projects would be limited to "pockets" of the province where transmission capability still exists. Commercial-scale generation projects will be particularly challenged to find available connection capacity.
- These technical system restrictions mean that incentives for solar PV cannot be made available province-wide.

5. Consumer Protection Considerations

- Consumer protection issues were present through previous solar PV programs, such as the microFIT program. Some examples of issues included:
 - Failure to fulfill contracts as promised by companies.
 - Consumers receiving misleading estimates of solar power or revenue generation.
 - Damage to homes where installations took place with failure to rectify.

- Irregularities in information provided to IESO and/or utilities where companies apply for incentives on behalf of applicants without their knowledge.
- Currently, consumers can purchase, finance or lease solar PV equipment and arrange to net meter (self-consume the electricity generated and send excess to the grid for credit). Consumers are expected to have some coverage under Ontario's *Consumer Protection Act* for purchases and leases of solar equipment.
- Regulatory changes recently approved will enhance consumer protection through disclosure requirements regarding generating equipment for all net metering agreements as of October 1, 2018.
 - It is expected that consumers who wish to purchase solar PV systems may also net meter to lower their electricity costs. The enhanced disclosures that will come into effect in October 2018 will protect consumers by ensuring they are aware of key details including the type of agreement (lease, financing, hosting, etc.), cancellation/termination costs, transfer rights, warranty rights, insurance obligations and removal costs.
- A proposal for LDCs to deliver the incentive helps mitigate consumer protection concerns, however, if a solar PV incentive is available before October 1, 2018, consumers purchasing systems for the purpose of net metering will not have the added consumer protections of enhanced disclosure.

Background:

- There has been growing pressure from solar industry stakeholders over the past year to provide continued support to Ontario's solar industry in order help sustain the sector that has been built up through renewable procurements enabled by the *Green Energy and Green Economy Act, 2009*.
 - Solar PV experienced tremendous growth in Ontario through the microFIT and FIT procurement programs, which concluded in 2017. Since 2009, more than 27,000 microFIT solar projects and nearly 2,800 FIT solar PV projects have come online.
 - The province has committed through the 2013 and 2017 Long-Term Energy Plans to enhance its net metering framework to provide continued and new opportunities for renewable energy projects.
- In addition, approximately 600 MW of microFIT, FIT and LRP I solar PV contracted capacity remains in the pipeline to be constructed.
- According to research undertaken by Compass Renewable Energy on behalf of the Ministry of Energy, this additional solar PV capacity will generate over \$2.1 billion of investment in the solar sector between 2017 and 2021:
 - 63%, or \$1.4 billion, will be spent and invested in Ontario.

- An estimated 17,000 FTEs will be created from new build solar projects over this period.
- Further, current Ministry of Energy analysis estimates that over 450 MW of net-metered solar PV capacity could be added to the electricity system over the next 10 years, without any incentive in place.
- Connection Availability

The map below was produced by the IESO for the LRP II procurement and is illustrative of the type of connection availability map that would be created for larger commercial projects receiving Green Ontario Fund incentives.

