Submission to the IESO re: RDGI Fund Virtual Net Metering Investigation Topic

1. Introduction

The Canadian Solar Industries Association (CanSIA) is a national trade association that represents the solar energy industry throughout Canada. CanSIA's vision is for solar energy to be a mainstream energy source and an integral part of Canada's diversified energy mix by 2020. CanSIA also intends for the solar energy industry to be sustainable and operating in a supportive and stable policy and regulatory environment within a similar time frame.

CanSIA applauds the Ministry of Energy and the Independent Electricity System Operator (IESO) for moving forward with the development of Virtual Net Metering (VNM) demonstration projects. The continued evolution of VNM is instrumental to providing more consumers with a variety of ways to participate in the generation and consumption of renewable energy, allowing consumers to make energy choices that match their lifestyle and circumstances.

Seeing as the main purpose of the VNM demonstration projects is to learn and gain experience which can lead to permanent VNM policies and regulations, CanSIA encourages the IESO to approve a diverse range of VNM projects. Furthermore, CanSIA recommends that the Ministry of Energy and the IESO create a plan, along with timelines, that clearly identifies how learnings from these demonstration projects will be utilized to create permanent virtual net metering policies and regulations.

Below is CanSIA's submission related to the questions presented by the IESO in their March 29, 2018 webinar titled, "Renewable Distributed Generation Integration (RDGI) Fund - Public Webinar."

2. IESO Questions and CanSIA Answers

1. ***What different VNM models are potential participants considering (e.g. single entity, multiple entity, etc.)?***

   CanSIA expects that the majority of VNM project proposals submitted will be either single entity and multiple entity VNMtype projects.

2. ***What resource technologies will be employed, preferred project size, project location, etc.?***

   CanSIA expects that solar energy technologies will be utilized for the majority of VNM projects proposals submitted, however, other projects employing other technologies such as wind, hydro and biomass may also be submitted.

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CanSIA is not recommending a project size preference as we believe the program should remain broad to allow for a variety of project sizes. That said, the IESO may wish to consider identifying a project size minimum and maximum (e.g. 100 kW to 5 MW) to ensure that proponents are aligned with the IESO selection criteria.

CanSIA believes that projects should be located in a manner that a) provides value to the grid (based on locational value and regional planning), and b) ensures ample learnings can be realized to assist with the development of permanent VNM regulations post the pilot program.

3. ***What are the different ownership structures (e.g. private, co-op, LDC, Municipal) and how might they work? What are the challenges and opportunities associated with each structure?***

   CanSIA believes that numerous ownership structures, including private, co-op, and municipal, can work within the VNM program and should be permitted. Again, there should be no limitation in the program design to encourage a variety of projects and ensure both creativity and ample learning opportunities.

4. ***What could be the roles of the parties involved in a VNM project? What commercial or other arrangements among LDC, end-customer, and VNM resource provider could be implemented and how might they operate?***

   CanSIA has no comment on this question at this time.

5. ***For multi-entity VNM, how might subscribers/end-customers be grouped (e.g. segmentation by customer class, geography, service territory, etc.)?***

   Again, CanSIA believes there should be no limitation on the program design to ensure both creativity and ample learning opportunities. Various projects are likely to segment subscribers or end-customers differently depending on the type of projects and how the project is developed. For example, a cross-LDC territory VNM project may segment subscribers by both customer class and service territory.

6. ***How effective will new consumer protection provisions be? Are there existing or proposed industry best practices that exceed minimum requirements? If so, what are those practices?***

   CanSIA agrees that protecting consumers is of the utmost importance. Therefore, CanSIA supports the proposed consumers protection amendments being considered by the Ministry of Energy as part of the proposed net metering regulations. CanSIA believes these enhancements that will help lead to greater industry professionalism and customer confidence.

Also, CanSIA has developed a comprehensive Solar Business Code of Conduct, Complaint Resolution and Disciplinary Process, and a Going Solar Guide for consumers. To learn more visit www.cansia.ca/consumer-protection.html.

Furthermore, in response to government and stakeholder requests for stronger consumer protection measures in the solar energy industry, CanSIA plans to develop and implement a suite of consumer protection and awareness initiatives, thus creating a more proactive, comprehensives, and holistic consumer protection program. CanSIA's goal is to develop a 'best in class' program that will build upon the organization's current Consumer Protection Program. CanSIA is currently discussing this proposal with various provincial government agencies in Ontario and across Canada and CanSIA would be happy to discuss this proposal with the IESO.

7. ***What are the primary project activities that will be undertaken and the associated timeframes for them?***

CanSIA has no comment on this question at this time.

8. ***What are the challenges, constraints, barriers, etc. that the IESO should be aware of?***

CanSIA has no comment on this question at this time.

9. ***How will LDC billing mechanisms for VNM function? Will there be significant differences for VNM vs regular net metering? How would these mechanisms change for projects involving more than one LDC?***

CanSIA believes that LDCs are uniquely positioned to provide insight into this question. That said, CanSIA recommends that Time of Use (TOU) bill settlement mechanisms be employed or encouraged for VNM pilot projects. TOU bill settlement for both net metering and virtual net metering is important to ensure that end customers have the proper price signals to match their lifestyle and to assist the Ontario electricity system to achieve peak load shaving and load management.

10. ***Are any LDC costs expected to be rate based?***

For the pilot program, CanSIA believes that all costs incurred should be borne by the Renewable Distributed Generation Innovation Fund, and not covered by the rate base. Furthermore, any

rate basing will require an OEB rate application which will add cost and time to the development process.

11. ***How could VNM support regional planning efforts?***

    CanSIA believes that VNM can help alleviate grid constrained areas (depending on the design and scope of the VNM project) identified within Regional Planning. Furthermore, VNM projects proposals could potentially be matched with regions that have expressed interest in VNM and solar energy solutions within their communities.

12. ***How could LDCs identify specific areas within their service territory that would be better suited for VNM projects? What parameters could be used to make this determination and how could they be measured?***

    CanSIA believes that LDCs are uniquely positioned to provide information to proponents regarding specific areas within their service territory that may be best suited for VNM projects. CanSIA recommends that this information is made publicly available, so industry and stakeholders can factor this information into their decision-making process.

13. ***How should the cost and value of DERs be assessed? (e.g. local value, cost beyond VNM benefits).***

    CanSIA believes it's important that the cost and value of DERs be assessed, particularly regarding locational value and other benefits. For example, subscribers that are located close to the VNM projects may result in less line loss therefore providing more value to the overall grid.

    That said, importantly, the program design again should encourage diverse projects to ensure both creativity and ample learning opportunities.

14. ***To inform IESO's assessment of proposed local value, is there a common framework/approach for its quantification that participants could use in their RDGI Fund applications? Provide details of such frameworks/approaches and their sources if available.***

    Frameworks and information from both the Market Renewal Program and Regional Planning may provide the IESO with suggestions. CanSIA doesn't have any specific frameworks to recommend.

15. ***What RDGI investigation topics should IESO pursue in the future? What barriers to DER integration would each topic address? What research questions need to be answered with regards to any suggested investigation topic? What other learnings would the suggested topics provide?***

    The IESO has identified potential future investigation topics such as non-wires alternatives, enhanced DER aggregation models, hosting capacity/interconnection processes, alternative metering/telemetry, and alternative distribution services. Furthermore, CanSIA encourages the IESO to explore opportunities for TOU bill settlement, microgrids, advanced storage solutions, and blockchain technology applications.

16. ***Are there other/different questions that should be asked? If so, what research questions should be investigated for VNM?***

    Post-Program Transition: Solar PV projects have a lifespan of 20 years or more. What will happen to VNM projects following the 3-year pilot? Is there a way that these projects can get grandfathered or fast tracked into future permanent VNM policies and regulations?

17. ***What are reasonable timelines for potential applicants to the RDGI Fund to develop project proposal once IESO has announced an investigation topic?***

    Each investigation topic will be different, employing different technologies and likely different project development procedures. CanSIA believes that the development timelines for each investigation topic will need to be dealt with separately and will need to be discussed during each investigation topic consultation.

3. Additional Comments

3.1 Future Creation of Permanent VNM Policies and Regulations

Further to the design and implementation of the VNM demonstration project program, CanSIA recommends that a plan be created, including timelines, that clearly identifies how learnings from these demonstration projects will be utilized to create permanent virtual net metering policies and regulations. Other leading energy jurisdictions throughout North America (e.g. New York, California) have implemented virtual net metering regulations and programs and it will be important for Ontario to

quickly adopt VNM best practices, while implementing the Ontario specific learnings, to ensure that Ontario remains an energy innovation leader.

It was mentioned during the webinar, that the Ministry of Energy would be conducting some type of review in 2020 related to innovation and virtual net metering. CanSIA requests that the Ministry of Energy and IESO provide future details regarding the 2020 review, including the review's objectives and area of focus.

3.2 VNM Project Diversity

Seeing as the main purpose of these VNM demonstration projects is to learn and gain experience which can lead to permanent VNM policies and regulations, CanSIA encourages the IESO to approve a diverse range of VNM projects. For example, VNM projects should be a) shared among multiple LDCs with some crossing service territories, b) spread throughout the province, c) utilizing different VNM models and ownership structures, among others.

For example, CanSIA supports and recommends the enabling of cross-LDC demonstration projects, where the generator and customer may be located in different distribution systems. At the very least, CanSIA would suggest including one demonstration project of this type in the pilot phase with LDC input or guidance. While this type of approach may create technical and administrative challenges, that is precisely why it is important to learn from these types of projects in advance of developing future VNM regulations. Furthermore, the key consumer benefit is in addressing the inability of apartment dwellers, renters, and homeowners with small or shaded roofs to participate in standard net metering or behind-the-meter distributed generation.

3.3 Time of Use Bill Settlement

Currently, if a load customer installs a net metering system they are required to move to tiered rates for both their electricity use as well as for the calculation of credits for exported generation. Using tiered rates for the calculation of consumed electricity and excess generation undervalues the generation of a solar PV system and lowers the revenue available to system owners to offset the system cost. It is important for the LDCs to transition from the current use of tiered rates for net metered customers to Time of Use (TOU) rates to improve the economics of solar net metering projects and to make solar energy more accessible.

CanSIA recommends that TOU bill settlement mechanisms be employed or encouraged for VNM pilot projects. TOU bill settlement for both net metering and virtual net metering is important to ensure that end customers have the proper price signals to match their lifestyle and to assist the Ontario electricity system to achieve peak load shaving and load management.

3.4 Milestones:

In January 2018, CanSIA recommended to the Ministry of Energy through its "Submission re: Proposed Enhancement's to Ontario Net Metering Framework" that the VNM pilot program proposal applications should be submitted and approved by the end of Q2 2018, thus allowing for LDCs and project developers to start projects in Q3 of 2018.

The timelines identified by the IESO currently targets to have proposal applications approved by Q4 2018. It is important for the IESO to stick to this timeline to ensure that the learnings from these VNM projects can be applied as quickly as possible to the development of permanent VNM policies and regulations.

4. Closing

Again, CanSIA applauds the Ministry of Energy and the Independent Electricity System Operator (IESO) for moving forward with the development of Virtual Net Metering (VNM) demonstration projects. CanSIA welcomes this opportunity to provide feedback and to continue working collaboratively with the IESO through the development of the VNM demonstration program.