Feedback to AWG

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CanSIA
CANADIAN SOLAR INDUSTRIES ASSOCIATION | L'ASSOCIATION DES INDUSTRIES SOLAIRES DU CANADA

AGENDA

- Introduction
- Current Status of the Industry
- Business Models
- Outstanding Info Items
- Targeting Non-Hardware Costs

INTRODUCTION

- Ontario's distributed solar industry has been examining the transition to a net metering based framework since 2015

- While there is variation amongst companies (ex. residential, commercial, EPC, owner/operator), many were beginning to see a transition to net metering as economically viable
  - Commercial sized systems more so than residential
  - Third party owned more so than turn-key
  - Rural or commercial customers more so than suburban or urban
  - Early adopters more so than mass market

- CanSIA's recommendations through our Distributed Generation Task Force (DGTF) and Long Term Energy Plan (LTEP) submissions were designed to solidify that transition and guide the market towards larger uptake rather than focussing only on subsets of the market and early adopters
  - Moving to TOU rates for net metering customers
  - Revisions to the net metering regulation
  - Transitional capital cost incentive

CURRENT STATUS OF THE INDUSTRY

- Residential systems
  - Install costs of $2.60 – 2.85/w
  - LCOEs 16 – 30 ¢/kWh
- Commercial systems
  - Install costs of $2.10 – 2.60/w
  - LCOEs of 12 – 22 ¢/kWh
- The imposition of the Fair Hydro Plan's 17% reduction in the cost of electricity will make most third party models uneconomic
  - largely focused on volumetric portions of the bill (commodity/electricity charge, HST, regulatory charge) and are thus going to impact the economics of solar net metering as this is the portion of the bill that can be reduced by a net metering system.
- The market for turnkey solutions is already beginning to see impacts due to the pushing out of payback periods and the uncertainty created with regards to potential future changes to the cost of electricity
- Implementing an open net metering framework is essential to expanding customer base, driving volume, and lower costs for customers
  - Other changes to the net metering framework are also required including: TOU rates and a transitionary capital cost incentive

ON-SITE TRADITIONAL NET METERING

- There is interest in continuing to provide this service to customers
- Most companies would continue to offer turn-key solutions for customer owned net metering systems for both residential and commercial customers
- There is larger interest from companies in providing turn-key solutions for commercial customers because of greater areas of usable roof space, more openness to longer payback periods, and higher loads
- Uptake is generally considered to be small for both the residential and commercial segments of the market because:
  - This model continues to rely on customers having suitable sites, access to capital, and the economic incentive to reduce consumption (i.e. higher loads and higher overall electricity costs)
  - Fixing of portions of the electricity bill (with potential to fix transmission costs in the future)
  - The imposition of the Fair Hydro Plan

ON-SITE TRADITIONAL NET METERING

- Interaction of third party installer with LDC and customer should be permissible and standardized
  - Ease the process of requesting and securing connection
  - Ensure that interactions are conducted in a timely fashion with experts
  - Provides assurances to third party installer that communications can occur
  - Interactions on behalf of the customer could be formalized/authorized via customer sign-off

- Further regulatory revisions are not likely required for the implementation of this business model
  - Addressing soft costs, however, would help lower costs for business and customers. Soft costs will be addressed below

ON-SITE THIRD PARTY OWNED

- More than 26 different US states permit Third Party Ownership and PPA models
  - More than 72% of US residential system were third party owned in 2014 (63% in 2015)
  - Even under microFIT, third party involvement has seen the largest amount of activity
- This model provides the greatest potential for customer uptake because it does not rely on the customer having the upfront capital to make the investment
  - Enabling a high degree of customer choice;
  - Focusing on delivering solar at a low cost to customers;
  - Encouraging an array of different business models; and
  - Simplicity/ease of adoption
- This model also has the greatest amount of risk in the absence regulatory framework certainty
  - In order for companies to seek large blocks of financing they need to know the rules of the game.
  - Even after the regulatory framework is solidified, it will take time for companies to seek and secure sufficient financing to operationalize long term financing, leasing, or PPA models

ON-SITE THIRD PARTY OWNED

- Companies in Ontario are actively considering all three legal frameworks in order to offer systems to customers
  - Equipment leases
  - Loans
  - PPAs
- Allowing multiple business models will permit more companies to offer systems and services to customers
  - US states have moved through the process of permitting third party ownership which has increased deployment
  - PPAs could also be better suited to facilitating future business models including:
    - Incorporation of storage
    - Participation in demand response or capacity markets as aggregated resources
- Regulatory revision required depends on current interpretation of existing regulation
  - Long-term equipment leases and loans may be currently permissible, however, ambiguity could lead to differing interpretations from LDCs
  - PPA's very likely not currently permitted
  - In all cases, clarity on the permissibility of third party ownership models provides benefits to business and customers
    - Ex. Lack of clarity creating uncertainty under existing microFIT framework which has made financing more difficult

ON-SITE THIRD PARTY OWNED

- Interaction of generator with LDC and customer should be permissible and standardized
  - Ease the process of requesting and securing connection
  - Ensure that interactions are conducted in a timely fashion with experts
  - Provides assurances to third party owners that communications can occur
  - Interactions on behalf of the customer could be formalized/authorized via customer sign-off

SINGLE ENTITY VIRTUAL NET METERING

- Types of customers considered
  - Municipalities
  - Campuses (schools)
  - Industrial facilities
  - Agricultural operations

- Meter eligibility: As large a range for meter eligibility as possible is preferable
  - Expands the roster of potential customers
  - Allows the solar generation to be sited where most appropriate to maximize production and lower development costs
  - Utilizing LDC service territory as the delineator provides the most options

SINGLE ENTITY VIRTUAL NET METERING

- Valuing exported generation credits
  - Within single entity virtual net metering the recipient of the exported generation credits should have the ability to be settled based on the rate class of their load account (i.e. the load account receiving the credits) rather than based on the rate class of the account where the generation is occurring, or the wholesale rate

MULTI ENTITY VIRTUAL NET METERING

- Types of customers considered
  - On-site
    - Multi-unit residential buildings
    - Campuses
  - Off-site
    - Community solar (with residential off-takers)
    - Cooperatives
    - Commercial/industrial consumers

- This model should be able to work for situations wherein there are multiple credit off-takers or a single credit off-taker
  - Either by design (i.e. that model should be permitted to be set up from the start) or by necessity (i.e. a project could have multiple subscribers that eventually ends up with one because of closures, moving or other such circumstances).
  - Ability to have multiple subscribers (and to add subscribers should original subscribers drop out) is critical to de-risking for financing purposes

MULTI ENTITY VIRTUAL NET METERING

- Meter eligibility: As large a range for meter eligibility as possible is preferable
  - Expands the roster of potential customers
  - Allows the solar generation to be sited where most appropriate to maximize production and lower development costs
  - Utilizing LDC service territory as the delineator provides the most options
    - Precedent in the United States for both virtual net metering and community net metering regulations/programs. For example, programs in Washington, Massachusetts, Colorado, Minnesota, New York, California, Maine, Vermont all allow eligible meters to virtual or community net meter provided those meters are located within the same utility service territory

- Valuing exported generation credits
  - Within multi entity virtual net metering the recipient of the exported generation credits should have the ability to be settled based on the rate class of their load account (i.e. the load account receiving the credits) rather the wholesale rate or a new created rate

MULTI ENTITY VIRTUAL NET METERING

- Participant eligibility
  - Experience in the U.S. has illustrated that programs restricted to utilities or community groups (as organizers, developers and owners of projects) result in small numbers of projects constructed (often 1~2 per state) and higher costs to customers
  - In contrast, programs such as those in New York, Massachusetts, Minnesota and Colorado which have opened up participation to a full range of public and private entities have garnered robust response, attractive pricing, and material amounts of development.

- Becoming a licensed generator for the purposes of providing multi-entity virtual net metering services is not considered a major barrier

CAPACITY AVAILABILITY AND QUEUE MANAGEMENT

- The Ministry should consider utilization of either the IESO or LDCs to continue the practice of publishing capacity availability information to guide the placement of net metering systems
  - Participants in the FIT Program have found this information very helpful in the past

- Depending on the final framework for allowing multi-entity virtual net metering, the Ministry should consider implementing clear project-maturity rules that will prevent an oversaturated queue and involving utilities early in defining attractive locations for adding capacity
  - This would minimize wasted cost and effort and make the program work best for all stakeholders
  - Could be operationalized in conjunction with the Regional Planning process

OUTSTANDING INFO ITEMS

- There are several pieces of outstanding information that are required for businesses to evaluate the potential to deliver net metering systems (whether providing turn-key solutions or owning)
- Impact of the Fair Hydro Plan on TOU and tiered rates for residential customers, and volumetric GA costs for commercial/industrial customers
- Can HST charges be affected by a net metering system?
  - This has generally been understood to be impacted by consumption, however, businesses are seeing inconsistent treatment across LDCs
- Can a solar (or solar plus storage) system be utilized for net metering while simultaneously used for participation in the Industrial Conservation Initiative (ICI)?

OUTSTANDING INFO ITEMS

- Will LDCs be permitted to levy additional charges on customers with net metering systems?
  - Ottawa Hydro is the only LDC known to have done this so far
- How does existing consumer protection legislation apply to solar?
- Does load displacement solar have the same requirements (connection limitations and thresholds, LDC interaction etc.) as net metered solar?

TARGETING NON-HARDWARE COSTS

- There are several key issues that the Ministry of Energy should work with LDCs, the OEB and potentially the IESO to address. Addressing these additional issues would help to reduce soft costs and compensate for reduced revenue potential due to the Fair Hydro Plan
- Finalizing the removal of the 1% of peak load restriction per LDC service territory
  - This was identified by the OEB as being able to be removed but has not yet been completed
- Standardization of net metering and connection processes across LDCs
- Standardization of connection requirements
  - To the extent possible, standardization of connection costs
    - Ex. Meter costs for residential systems
    - Ex. SCADA and Transfer Trip for larger commercial systems

TARGETING NON-HARDWARE COSTS

- Addressing connection thresholds
  - HONI's 7 – 10% restriction for micro-generation
- Simplified and standardized building permit application processes across municipalities
- Reducing home retrofit costs by formalizing PV ready construction requirements
  - NRCan is currently finalizing guidelines for PV ready homes which could be considered for implementation as building code requirements through MMAH's upcoming consultation process to implement the CCAP
- Non-disturbance agreements for residential and commercial systems
- Smart meter data sharing (Green Button Initiative)