Best practices, current trends, and recommendations
OEB Stakeholder Meeting – Utility Remuneration and Responding to Distributed Energy Resources
September 18, 2019
CanSIA’s view on OEB’s Questions:
- What specific problems or issue should each initiative address?
- What objectives should the Utility Remuneration and Responding to DERs initiatives aim to achieve?
- What principles should guide the development and selection of policy options?

Consideration of industry trends, lessons learned and best practices
### What specific problems or issue should each initiative address?

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<th>Responding to DERs</th>
<th>Utility Remuneration</th>
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<td>Distribution System Planning (e.g., DER integration and optimization, etc.)</td>
<td>Continued evolution of remuneration frameworks (e.g. shared savings mechanisms, performance incentive mechanisms, etc.)</td>
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<td>DER connections*, hosting capacity and information sharing</td>
<td>Costs allocations, pricing and rate design</td>
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<td>Coordination at the transmission-distribution interface</td>
<td>Non-wires alternatives sourcing (e.g., treatment of capex/opex, procurement practices, etc.)</td>
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*DER Connection Review (EB-2019-0207)
What objectives should the Utility Remuneration and Responding to DERs initiatives aim to achieve?

- Customer-centric approach that recognizes the value of DERs and ensures that benefits are realized by all customers
- Improved planning and coordination amongst the industry (e.g., LDCs, IESO, OEB, Government, and customers) on matters related to power system planning, DER integration, operability, etc.
- Common understanding of technology capabilities, challenges and solutions to be implemented
- Establishment of clear investment signals for customers and DER solutions providers
  - Transparency in data and decision-making
  - Enduring and predictable
- Framework for future grid upgrades (i.e., not just for the purpose of one project, enabling private sector investment, etc.)
What principles should guide the development and selection of policy options?

- Ensure protection of customer investment in response to price signals (e.g., managing how changes are implemented recognizing customers investment is not protected by “change of law” contract provisions)
- Promote competition and enable market-forces to drive lowest cost solutions
- Be understandable and addressable by customers
- Encourage economic efficiency
- Consider broader system-wide costs and benefits
Best Practices and Industry Trends
The deferral value would be greatest where the current peak load is near the capacity of the distribution feeder and where the solar is coincident with the peak load on the feeder.

The value of solar to the customer can be increased by controlling and temporally shifting electricity output using energy storage and other load control devices, an approach referred to as “solar plus”.

O'Shaughnessy et al (2018) show that “solar plus” can increase on-site solar use and that these benefits can justify the incremental costs of “solar plus” devices for a variety of technologies (e.g., batteries, smart appliances, smart plugs, air conditioning units, hot water heating, electric vehicles), geographies, and customer load profiles.

Customer benefit associated with “solar plus” is greatest when:
- electricity output is sold to the grid at a lower value than the customer’s retail rate
- time-of-use rates peak periods do not coincide with solar output
- demand charge rates for load peaks do not coincide with solar output, and
- electricity delivery charge rates are significant and/or vary with consumption
BEST PRACTICES FOR DISTRIBUTION SYSTEM PLANNING

- Framework outlined by the Advanced Energy Economy (AEE) in 2018:
  - Encourage DER to be sited in areas where it can be most beneficial to the grid
  - Make hosting capacity and non-wires solicitation information available to participants
  - Build appropriate transparency into the planning process (catalyst for innovation and private capital investment that complements utility investment)
  - Owners/operators of non-utility DERs that provide grid services should be provide appropriate information that allows the utility to optimize their value for the benefit of all customers
BEST PRACTICES FOR DISTRIBUTION SYSTEM PLANNING

CanSIA looks forward to the next steps!

Questions?