Ontario Energy Board Draft Report – Rate Design for Electricity Distributors (EB-2012-0410)

Joint APPrO-CanSIA submission on rate design and revenue decoupling for distributors
June 9, 2014

Background

The Association of Power Producers of Ontario (APPrO) and the Canadian Solar Industries Association (CanSIA) are pleased to respond to the Ontario Energy Board's (OEB's or the "Board") draft report, *Rate Design for Electricity Distributors*.

APPrO is a non-profit organization representing electricity generators in Ontario. APPrO members produce nearly all the power generated in Ontario from facilities of many types, including gas-fired, hydroelectric, nuclear, solar and wind energy. APPrO members are customers of transmission and distribution utilities in Ontario, and many have current distribution connection applications in development or underway. APPrO members often experience challenges associated with building and operating distribution connections, challenges which can in many cases be helped or hindered as a result of the business models and practices adopted by local distribution companies (LDCs or "distributors") in response to the prevailing rate design solutions.

CanSIA is a national trade association that represents approximately 500 solar energy companies throughout Canada, the majority of which operate in Ontario. CanSIA is recognized as the voice of Canada's solar energy industry. Since 1992, CanSIA has worked to develop a strong, efficient, ethical and professional Canadian solar energy industry with capacity to provide innovative solar energy solutions and to play a major role in the global transition to a sustainable, clean-energy future.

Ontario's power system is changing. Policy objectives and targets have been set for conservation and demand management (CDM) resources (i.e., 30 TWh by 2032), renewable generation supply (i.e., 20,000 MW by 2025), and combined heat and power (CHP) generation supply, that continue the power system's transformation away from historic conventional sources of generation (e.g., coal-fired generation) and toward greater consumer participation. This transformation is likely to have major impacts at the distribution level. That is, consumers now have increased choices to participate in CDM programs and/or self-supply to manage their energy consumption, and therefore the nature of distribution systems is rapidly changing (e.g., becoming two-way energy flow systems as more generation is being connected). As a consequence, traditional regulatory paradigms and methodologies to set customer rates need to be reviewed in order to strike the right balance between how distributors effectively recover costs to maintain their assets and develop new assets in order to serve their customers and maintain reliability, while not stifling how consumers consume energy, how they find new ways to manage their energy consumption (e.g., CDM, self-supply, etc.) and how they seek and adopt

technological innovations in meeting their energy needs. Essentially, these changes bring opportunities to consumers that can mutually create a more efficient power system that facilitates technological advances, while meeting reliability, quality or service and energy policy objectives. Many of these changes can create important types of responsiveness and efficiencies that have not been possible in the past when control systems were not able to monitor and manage as many aspects of the system, or with as many inputs from consumers as they are today. Therefore, going forward, rate design must evolve and acknowledge these changes with a view of facilitating future opportunities for consumers.

APPrO and CanSIA believe the trend of increased connection of generation to distribution systems, and distribution systems becoming two-way energy flow systems, will continue in the future, while consumers will have increased economic incentives to self-supply a portion or all of their energy needs, especially considering the projected significant increases in electricity costs to customers in Ontario. For example, California energy regulators have had to address changes to customer rates in the wake of significant uptake in rooftop solar photovoltaic (PV) installations driven by rapidly declining costs of these installations, which are resulting in lost revenues to utilities with the potential to shift cost recovery for distribution utility assets to non-solar customers[1].

Organization of Submission

- Rate Design for Electricity Distributors (EB-2012-0410)
- Revenue Decoupling Across North America
- Comments on Options and Support for Proposal 3
- Answers to Questions from Draft Report
- CanSIA Submission regarding photovoltaics and net-metering
- APPrO submission focusing on issues of particular concern to APPrO (This
- element is being submitted separately by APPrO)

Rate Design for Electricity Distributors (EB-2012-0410)

As part of the Renewed Regulatory Framework in Electricity (RRFE), the Board indicated that a stakeholder consultation on revenue decoupling would move forward. Therefore, on April 3, 2014, the Board released a draft report prepared by Board staff, *Rate Design for Electricity Distributors*, which is the next step in the Board's process for EB-2012-0410, formerly known as revenue decoupling for distributors.

The Board believes that distributors should have a rate design that provides greater stability for consumers in this context of expected technological change, and sends a price signal to

[1] See *Rate design wars are the sound of utilities taking residential PV seriously* (November 12, 2013), S. Borenstein, and *Tracking the Sun IV: An Historical Summary of the Installed Price of Photovoltaics in the United States from 1998 to 2012*, (July 2013), Galen Barbose, Naïm Darghouth, Samantha Weaver, and Ryan Wiser, Lawrence Berkeley National Lab

consumers that links behavior to cost drivers. An appropriate rate design will more effectively link consumers' planning, investment and operational behavior to distributor planning and overall system efficiency considerations and provide the revenue stream that will allow distributors to make necessary investments. APPrO and CanSIA agree with these points.

This initiative builds on extensive work and consultations previously undertaken by the Board (see Revenue Decoupling (EB-2010-0060); and Rate Design for the Recovery of Electricity Distribution Costs (EB-2007-0031)).

As stated in the draft report, the Board intends to pursue a fixed rate design solution to achieve revenue decoupling. The Board believes that a fixed rate design mechanism for recovery of electricity distribution costs best meets principles of rate-making and responds to the current challenges and policy. APPrO and CanSIA support the Board's direction to pursue a fixed rate design mechanism to achieve revenue decoupling.

Today, Ontario distributors recover costs and earn a return on equity (ROE) based on revenue requirements that set regulated rates for different classes of customers through a combination of fixed charges and variable rates. Variable rates are linked to the volumetric consumption (i.e., energy draw) of consumers, so when consumers decrease their electricity consumption distributors effectively lose revenue (i.e., this circumstance is often referred to in the industry as losing revenue resulting from "sales"). This can be problematic for distributors because less revenue means less ability to recover their fixed costs and meet ROE, and therefore less profitability. Therefore, this issue can produce endemic disincentives for distributors to effectively promote and administer CDM initiatives and programs, distributed generation (e.g., solar, combined heat and power, etc.), and other technologies (e.g., storage, etc.) despite applicable government policies.

Because of the issue defined above, revenue decoupling is a rate-making mechanism that 'decouples' revenues from sales, and can therefore mitigate resulting distributor disincentives. By decoupling revenues from sales, distributors should have increased revenue certainty to recover their costs and meet their ROE while not providing disincentives to promote and administer CDM, distributed generation, and other technological initiatives.

Revenue Decoupling Across North America

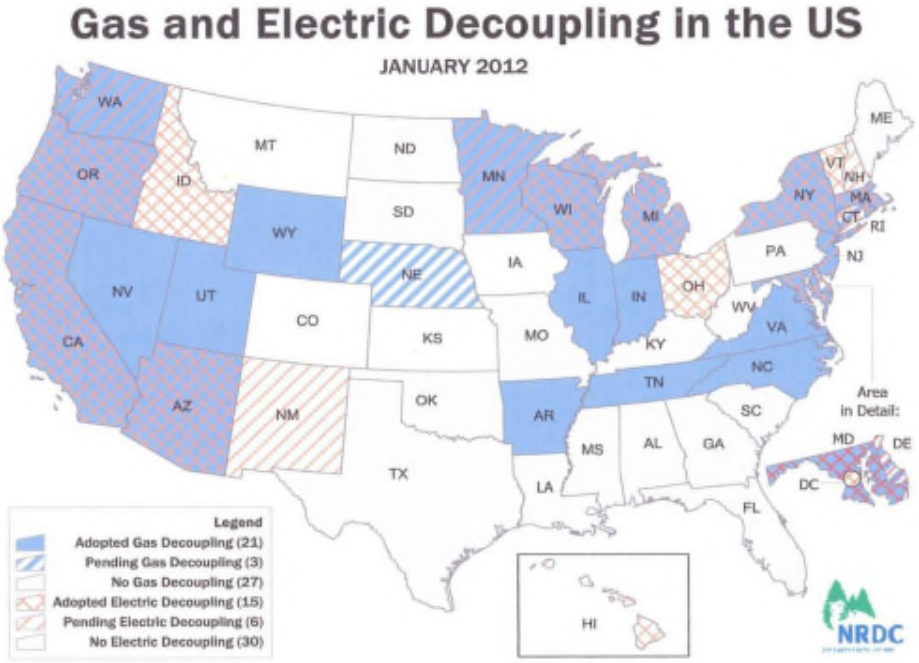
As of 2013, in the U.S., over 25 electricity utilities in over 13 states have adopted some form of revenue decoupling[2] through a variety of mechanisms.

It is important to note that the form of revenue decoupling mechanism varies. For example, true-up mechanisms through a combination of a revenue decoupling mechanism (RDM) and a revenue adjustment mechanism (RAM) have been used in a few Canadian jurisdictions and in

[2] See graphic on p. 4 from the U.S. Natural Resources Defense Council (NRDC) for an early 2012 view of state activity regarding revenue decoupling for electricity and natural gas distributors

many U.S. states, lost revenue adjustment mechanisms (LRAM) have also been used across Canada and the U.S., and fixed variable pricing (i.e., higher proportion of revenue being recovered through fixed charges versus variable rates) is also common. In recent years, more U.S. states have made sizable steps in the direction of fixed variable pricing by re-designing rates for low volume customers to raise fixed charges and lower volumetric charges substantially[3].

Closer assessment of the impacts of implementing revenue decoupling mechanisms in the U.S. finds that rate impacts to applicable customers are small[4]. This result suggests that revenue decoupling mechanisms can be workable in accomplishing their objectives while not significantly increasing customer rates. Therefore, considering the projected growth in CDM programs, increased uptake of distributed generation, and the penetration of emerging technologies, revenue decoupling mechanisms (e.g., RDM/RAM, LRAM, fixed variable pricing, etc.) may become standard for applicable rate-making.



When comparing Ontario to other jurisdictions, the Board's fixed charge regulatory policy as a revenue decoupling mechanism is understandable because of its strong linkage to the requirement for distributors to bring forward five-year capital plans in accordance with the RRFE framework. That is, mechanisms such RDM/RAM or LRAM likely create less certainty simply due to their forward revenue true-up or balancing nature.

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[3] See *Alternative Regulation for Evolving Utility Challenges: An Updated Survey* (January 2013), Mark Newton Lowry, Matthew Makos, and Gretchen Waschbusch, Pacific Economics Group Research LLC for Edison Electric Institute

[4] See *A Decade of Decoupling for US Energy Utilities: Rate Impacts, Designs, and Observations* (February 2013), Pamela Morgan, Graceful Systems LLC

Comments on Options and Support for Proposal 3

In determining the most appropriate rate design for low volume electricity customers, the Board will have regard to the following objectives:

- Providing stability and predictability to consumers on their bills;
- Enhancing consumer literacy of energy rates;
- Providing consumers with tools for managing their costs;
- Focusing distributors on optimal use of assets and improving productivity;
- Removing or reducing regulatory costs; and
- Supporting the achievement of public policy objectives.

Regarding public policy objectives, the OEB specifically states that the Ontario Government's Long-Term Energy Plan (LTEP) "indicates a continued emphasis on … small generation … meeting supply needs … identifies the intention to shift micro (under 10 kW) renewable distributed generation installations to net metering ... Under the current rate structure, this shift to net metering and onsite generation would decrease distributors' revenues as consumers with onsite generation reduce their energy draw. Many jurisdictions have begun to develop plans to address the distribution revenue impact of increased penetration of distributed generation. A rate design that focuses on the fixed costs of the distribution system will ensure that consumers' decisions to engage in generation are guided by the correct price signals in terms of the costs of the infrastructure. Distribution systems are changing … from systems that rely entirely on power from … transmission system to supply end customers, to one where many points are providing power to the distribution system, creating a complex network of inputs and two-way flows. The LTEP … encouraging options for consumers to self-generate, store energy and have their demands managed in response to development of markets … these changes will impact how the distribution system is fundamentally used. The way that users pay for use of the distribution system should be aligned with this emerging reality. Moving to a fixed rate design will ensure that all system users are treated equitably and with appropriate price signals in the collection of distribution costs to support a reliable system."

The OEB presents three proposals for a fixed rate design for low volume electricity customers.

> **Proposal 1** – a single monthly charge which is the same for all consumers within the rate class.
>
> **Proposal 2** – a fixed monthly charge with the size of the charge based on the size of the electrical connection.
>
> **Proposal 3** – a fixed monthly charge where the size of the charge is based on the use during peak hours.

APPrO and CanSIA support Proposal 3.

Along with the objectives listed on the previous page, the following principles listed on page 5 of the Board draft report[5] are used to provide rational for supporting Proposal 3:

- Full cost recovery for distributors including an ROE with appropriate risk premium;
- Fairness including cost causality, simplicity, and lack of controversy; and
- Efficiency to encourage maximum use and rational growth of the system.

While Proposals 1 and 2 can provide full cost recovery for distributors through stable and predictable means, they likely do not relatively achieve optimal use of distribution assets and their efficiency to meet system growth when compared to Proposal 3.

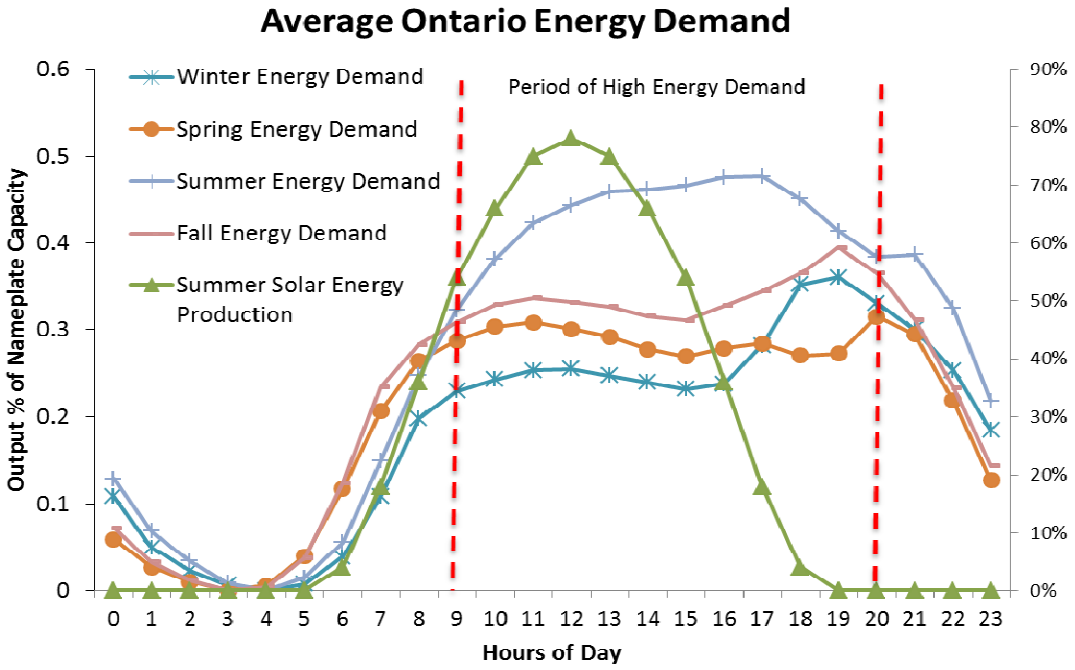
Proposals 1 and 2 do not allow customers to take actions to reduce their distribution costs through investments in CDM and self-generation (i.e., distributed generation). By the same token it does not create strong incentives for consumers to organize themselves to use distribution facilities more efficiently or strong economic signals to the distributor as to the required level of distribution investments its consumers will need in the future. Proposal 1 is a single fixed charge independent of usage and Proposal 2 is a charge based on connection size (a design parameter that is likely to be selected only when a home is first built or remodeled). The Board has emphasized a regulatory framework that is customer-centered and provides consumers with the tools and information that will allow them to make decisions over time to manage their energy costs. This focus appropriately reflects Ontario's conservation-first policy direction as conveyed in the LTEP. Of the three proposals, only Proposal 3 provides customers with strong on-going incentives to reduce their costs of distribution service through CDM and/or self-supply that also will reduce the future cost of service for their respective distributors.

Proposal 3 thus presents a more dynamic and therefore effective way to accomplish distributor cost recovery while incentivizing consumers to best match their energy needs and consumption based on peak demand when spot prices are high and the power system is most stressed. Therefore, Proposal 3 better achieves optimal use of distribution assets and their efficiency to meet power system requirements, and therefore better aligns with the reliability requirements to which distributors make decisions on maintaining their assets and building new assets. Further, if Proposal 3 can be designed effectively (i.e., number of tranches to determine usage during peak demand periods, fixed charge discount for not consuming during peak demand periods, and the time frame over which customer usage is assessed (e.g., monthly, seasonal, or annual)), it also better meets principles of cost causality and can be conceptually aligned with time-of-use pricing that impacts derivation of the Regulated Price Plan so as to bring commodity pricing into alignment with distribution cost recovery. While the rate design details are still to be consulted on, APPrO and CanSIA believe the detailed rate design to be very

[5] See *Principles of Public Utility Rates*, James C. Bonbright, et al., Public Utilities Reports Inc. (1988), pp. 383-384

important in order to ensure that Proposal 3 is effectively implemented so as to meet its objectives and being workable for distributors.

By using solar PV generation as an example, the graphic below shows that energy production from sources of distributed generation are highly coincident with peak energy demand. The same point can be made for CDM resources, in particular demand-response. Therefore, consumers will still have incentives to meet applicable policy objectives and targets (e.g., CDM, renewable and CHP generation supply through distributed generation, etc.) while distributors are better assured of revenues to recover their costs under Proposal 3.



Answers to Questions from Draft Report

The OEB has requested comments from stakeholders by June 6, 2014, along with answers to the following questions.

- How would the different approaches affect achievement of the Board's (i.e., OEB's) goals of: providing stability and predictability to consumers on their bills; enhancing consumer literacy of energy rates; providing consumers with tools for managing their costs; focusing distributors on optimal use of assets and improving productivity; removing or reducing regulatory costs; and supporting public policy?
- Should distributors be allowed to choose which method they will use or should it be consistent across the province?
- What are the implementation issues that the Board should consider for each methodology regarding timing and consumer impacts?

APPrO and CanSIA offer answers to the above questions below.

How would the different approaches affect achievement of the Board's (i.e., OEB's) goals of: providing stability and predictability to consumers on their bills; enhancing consumer literacy of energy rates; providing consumers with tools for managing their costs; focusing distributors on optimal use of assets and improving productivity; removing or reducing regulatory costs; and supporting public policy?

The Board's draft report is correct in stating that any of the three Proposals can provide stability and predictability to consumers on their electricity bills. However, for the reasons listed above, Proposal 3 can best work to enhance consumer literacy regarding energy rates if the fixed charge for distribution is tied to energy consumption during peak energy demand periods. That is, consumers will better understand energy rates if they have incentives to respond to energy rates in accordance with peak energy demand periods that coincide with higher spot prices. This in itself provides consumers with tools to help manage their energy costs because Proposal 3 provides the most incentive to participate in CDM programs and/or self-supply through distributed generation.

Also listed above are reasons why Proposal 3 best incentivizes optimal and efficient use of distribution assets, as they relate to consumers changing their energy consumption during peak demand periods through use of CDM programs and/or self-supply. This also creates a more efficient and optimal linkage to distributor five-year capital plans, as distributors will be better equipped to design capital plans based on stronger incentives for consumers manage their energy consumption during peak demand periods which helps to mitigate risks of distributors over-building their systems.

Finally, Proposal 3 is better aligned with the LTEP's 30 TWh CDM objective to be met by 2032, 20,000 MW of renewable generation supply by 2025, and CHP generation supply (where the majority of renewable and CHP generation projects will connect to distribution systems), for reasons listed above.

Should distributors be allowed to choose which method they will use or should it be consistent across the province?

Although a single method across the province is preferable for the purposes of simplicity, if the Board finds distinctions in the circumstances of distributors that are reasonable and which therefore justify flexibility, it is reasonable for distributors to select different fixed charge methods so long as standard principles are being met. APPrO and CanSIA recognize that there is a wide range of distributors based on size, number of customers, types of customer classes, infrastructure needs, etc.

What are the implementation issues that the Board should consider for each methodology regarding timing and consumer impacts?

APPrO and CanSIA encourage the Board to implement Proposal 3 in a way that ensures that customers can take actions that result in a meaningful reduction in their costs for distribution service. For example, the Board presents a sample tariff for fixed charges based on peak hourly use in the summer months of June to August. This sample tariff has only three levels of fixed charges, with the middle level (i.e., $25 per month) encompassing the middle 70% of users. It is likely that a consumer who begins at the upper end of this large middle group could make significant investments in CDM or self-generation, achieve a major reduction in peak period usage, but not realize any savings because the customer would only move to the lower end of this broad range. Thus, as a general principle, the implementation of Proposal 3 should be granular enough to provide a meaningful opportunity for consumers of all sizes to impact their costs if they make significant investments to reduce their peak period use. APPrO and CanSIA believe that this can be accomplished without unduly compromising the Board's goal to implement a rate design which is understandable for customers.

Additionally, the principles discussed in the draft report apply only to network costs of distribution infrastructure. It would be deleterious to the competitive market and to the efficiency of the system if commodity costs were collected through fixed charges in any way, shape or form. Therefore, safeguards should be put in place to prevent leakage of competitive costs into fixed charges collected by distributors.

As well, education of the public is more crucial than ever in this area. Initial reaction to a single fixed distribution charge is likely to be skeptical amongst low volume electricity customers. Therefore, fixed charges should only be implemented in concert with a well-developed education effort to ensure consumers understand why it's beneficial and how.

Finally, there are several variations within the design and implementation of Proposal 3. For example, the peak-based fixed charge can be set monthly, annually, or on other bases. Therefore, the charge need not be absolutely fixed, and rather a demand charge may be used much like that which is used for larger customers.