



Electricity Distribution Rate Design for Commercial & Industrial Customers

Consultations

Fall 2017

Purpose

- Why Change
- Approach
- Potential Impact

Balancing OEB Objectives

- Connection & capacity
- Cost shifting
- Support innovation for customers
- Increase efficiency
- Ease of implementation & support for system integrity

Historical approach to the electricity system

- Central supply of electricity
- One way flow of electricity to customer:
 - For large customers, peak demand was a simple and reasonably accurate way to determine the bill
 - For low volume customers, 'volume' was a substitute for demand using a cheaper meter

Transitioning to the Future

- The distribution grid was built to serve customers
 - Distribute central supply
 - Meet peak demands
 - Use long-life assets
- The grid needs to transform in order to support changing customer expectations
 - Old 'cost' model does not match 'new' use model
 - There is the potential for significant shift of costs to 'traditional' customers
 - Need to reflect value being delivered

Changing customer expectations

- Customer desire to control and manage their energy use and costs are leading to:
 - Investments in behind the meter generation (btm) technologies
 - Decreasing metered volumes (load displacement)
 - Increasing two-way flow of energy on the distribution system
 - Decreasing demand and flatter profiles
 - Grid support still expected
 - Back up supply to augment and replace self generation
 - Virtual energy storage for future use (net metering)

Transitioning to the Future

- Changing expectations from customers can mean:
 - Changes in distribution planning based on flow and demand
 - Additional distribution investments in technology
 - Regulatory changes for charging costs to customers reflecting the value they receive from the distribution system
 - Regulatory consideration of distribution revenue to provide expected services

Impact Overview

- Customers that invest in behind the meter generation reduce their metered use and could avoid paying their fair share
- Customers are making these changes now, and it is expected to increase as the cost of behind the meter technology continues to reduce.
- Without changing the manner in which customer distribution charges are determined, the costs will increasingly be shifted to the traditional customers
- By addressing this emerging shift now, the OEB can develop approaches that ensure fairness and establish connections between the customer value of using the grid and the cost charged to the customer.

Fixed Distribution Rates for Residential Customers

- Utilities began moving residential customers to fixed rates Jan 2016
- Individual actions of low volume customers have no impact on the distribution system. The cost to provide the meter, the connection, the poles and wires and the customer information systems remain the same
- The OEB determined that each distributor would develop a fixed charge to all their residential customers, to be transitioned over 4 – 8 years
- Impact
 - 60% of customers minimal change
 - 20% of customers will see a decrease of more than \$5 per month
 - 20% of customers will see an increase of more than \$5 per month
- The OEB recognized that it was critical to identify rate mitigation strategies
 - Stakeholders representing lower income customers set a limit of \$5 per month as the most that a low income household could absorb
 - OEB analysis showed that most utilities could keep increases in fixed charge under that limit if the change was implemented over 4 years
 - HONI was allowed to use a longer time frame to keep it under the limit

Fixed Distribution Rates for Residential Customers

- The move to fully fixed distribution rates will ensure that distribution system costs are fully recovered from all residential customers, including net metered customers who need the assurance of a reliable back-up supply from the distributor.
- This will remove any incentive for utilities to resist technologies that can help residential customers better manage their electricity use and costs, and enable innovation that will bring benefits to customers and the electricity system as a whole.
- It also means that the customers that chose these technologies are not shifting distribution system costs to other customers.

OEB Commercial & Industrial rates

- OEB consulted with various stakeholder groups in 2015 and early 2016
- OEB issued a discussion paper in March 2016 reviewing options for calculating distribution charges for C&I customers
- Distributor and customer groups supported time dependant rates
 - Stakeholder feedback suggested minimizing changes
 - EDA and SEC suggested having a fully fixed charge for GS<10kW as a subset of GS<50kW rate class
- Next step is consulting with customer groups
 - To understand the impacts on customers, get ideas for mitigation strategies, develop an implementation plan that works for business

Approach being considered

- Change from KWh ‘volume’ based rates to:
 - GS < 10 – fixed rate (similar to residential)
 - GS 10 – 50 Non coincident peak demand (NCP) rate
- Smaller commercial businesses GS<10 have an electricity use profile and system impact similar to residential customers
- Larger GS<50 customers have a greater potential impact on the distribution system. Shift from volume to peak demand
 - Can help the 50kW boundary issue

Expected Value Outcomes

- Ensure fairness such that all customers pay for access to the services that they expect from the distribution system
- Cost shifting to non-participating customers is reduced
- Small C&I customers get a simple, stable distribution charge, will protect non-participants
- Customer investments will lower their use, Non coincident peak [NCP] & bills
- NCP is a better predictor of the customer impact on the system design & costs than consumption
 - Increases alignment of distribution system use
 - Improves bill stability
 - Can help the 50kW boundary issue

Sample monthly customer distribution charge impacts

- GS<10 change from volumetric to fixed (\$40.62)
 - Low volume (168 kwh) from \$28.83: 40% ▲
 - Average use (991 kwh) from \$40.42: ~0%
 - High volume (1352 kwh) from \$45.48: 11% ▼

**Analysis based on CLD/Entegrus data set and assuming PowerStream tariffs*

Sample monthly customer distribution charge impacts

- GS 10 – 50 (volumetric to demand rate)
Move small commercial to hourly NCP like GS>50
 - Harder to predict bill impacts when billing determinant is changing
 - **Low volume (2487 kwh) low NCP**
 - \$61 to \$67: 10% ▲
 - **Mid NCP**
 - Low volume (2466 kwh) \$62 to \$77: 24% ▲
 - High volume (9748 kwh) \$165 to \$77: 53% ▼
 - **High volume (10429 kwh) high NCP**
 - \$175 to \$95: 46% ▼

**Analysis based on CLD/Entegrus data set and assuming PowerStream tariffs*



Total Bill Impacts for GS<10kW customers

Distributor	Decrease	Increase less than 20%	Increase more than 20%
Orangeville Hydro	35%	55%	10% (average ~\$11 per month)
Powerstream*	35%	50%	15% (~\$12)
Toronto Hydro	35%	30%	35% (~\$24)
HONI UGe	35%	30%	35% (~\$20)
HONI GSe	30%	15%	55% (~\$35)

Total Bill Impacts for GS 10-50kW customers

Distributor	Decrease	Increase less than 20%	Increase more than 20%
Orangeville Hydro	40%	40%	5% (average ~\$50 per month)
Powerstream*	50%	45%	5% (~\$50)
Toronto Hydro	50%	40%	12% (~\$90)
HONI UGe	50%	40%	10% (~\$114)
HONI GSe	40%	35%	25% (~\$120)

GS>50kW Customers

- No change to underlying rates
- Distributed generation customers would have to pay a Capacity Reserve Charge
 - to pay for emergency backup service
 - based on the faceplate capacity of the generation
 - Based on underlying demand charge

Intermediate and Large Customers

- No change to underlying rates
- Distributed generation customers would have to pay a Capacity Reserve Charge based on the faceplate capacity of the generation to pay for their choice of
 - Emergency Backup Service
 - With reliability ratchet as generation proved reliable
 - Maintenance Service
 - Generator maintenance in off-peak periods

Next steps

- Customer Outreach - September
 - Engage small business
 - Seek a better understanding of this diverse group
 - Further study the sample data to understand impact/implications (consultant)
 - Hold discussions about rate mitigation
- Issue paper for consultation – Fall 2017
 - Seek stakeholder feedback

Consultation Questions

- GS customers
 - What is an appropriate mitigation strategy?
- Capacity Reserve Charge
 - Can we exclude renewable generators?
 - Can we exclude ICI participants?
 - Can we allow distributors to waive?

Staff Design Proposal

Class	Current Rate Design	Staff Proposed Rate Design
General Service under 10 kW	Monthly Service Charge + consumption charge (per kWh)	Monthly Service Charge (fully fixed – average cost)
General Service 10 to 50 kW		Monthly Service Charge + demand charge (per kW)
General Service Over 50kW	Monthly Service Charge + demand charge (per kW)	Monthly Service Charge + demand charge (per kW) +Capacity Reserve Charge
Large (over 5000 kW)	Monthly Service Charge + demand charge (per kVA)	Monthly Service Charge + demand charge (per kVA) +Capacity Reserve Charge <ul style="list-style-type: none"> • Emergency Backup • Maintenance

Discussion

