

Ontario Energy Board



Report of the Ontario Energy Board

***Defining Ontario's Typical
Electricity Customer***

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ACRONYMS

kWh: Kilowatt hours

GWh: Gigawatt hours

RPP: Regulated Price Plan

LDC: Local Distribution Company

1 Defining Ontario's Typical Electricity Customer

1.1 Summary

Since late 2009, the Ontario Energy Board (OEB) has been using 800 kilowatt hours (kWh) as the standard for reporting the monthly electricity consumption of a typical residential customer. This standard consumption is widely used by distributors and the OEB to measure and illustrate how changes in electricity rates and charges will impact electricity customers.

A recent review indicates that average residential consumption has declined significantly since the standard was last established. As a result, the OEB has determined that the standard used for illustrative purposes should now be 750 kWh per month.

1.2 Context

The OEB regulates the electricity market with a focus on delivering outcomes valued by customers. The OEB's customer-centric regulatory framework enables innovation and readies the energy sector for tomorrow's opportunities while supporting a sustainable energy network. It empowers energy customers by providing greater opportunities to influence policy and participate in decision-making. The OEB's goal is to engage with customers, both to hear the voices of the very people who pay the bills, and to provide customers with greater control over their electricity use. Consumers and business owners need to be informed in order to be able to make choices – choices that make a difference on their monthly bill, and that, collectively, contribute to a stronger, more efficient energy system.

As part of this effort, the OEB has many tools that help to put costs into perspective. Its public communications on rate changes, including its official notices to inform potentially affected groups of a hearing being initiated, regularly include an estimate of the change in monthly cost to a typical customer. Its website shows how distribution rate changes, or changes to other charges, will impact customer bills. And its policy papers and decisions strive to set out clearly the cost consequences of its determinations when it is able to.

A key part of putting this approach into practice relies on defining how much a typical residential consumer spends on electricity each month, and consistently applying that data to report bill impacts and other cost changes. The consistent application of this standard also supports the OEB's performance-based approach to rate-setting, since it acts as a benchmark that allows comparisons between distributors.

To ensure that the bill impacts the OEB reports are as broadly relevant as possible, the OEB has defined a typical residential customer's monthly consumption by using data provided by distributors. This data includes the annual amount of consumption reported by residential users, and the total number of customers each year.

2 Sectoral Changes Driving Changes in Residential Use

Since late 2009, the OEB has defined the typical residential customer as a household that consumed 800 kWh of electricity per month. Prior to that, the OEB standard was 1,000 kWh per month.

Given the evolution of the electricity sector since the last time the residential standard was defined, the OEB has considered whether it was time to update this level in light of more recent conservation achievements and trends in the electricity sector.

The broadest of these changes is the Ministry of Energy's adoption of a Conservation First vision for the electricity sector. The conservation framework for the period 2011 to 2014 set a target of 6,000 gigawatt hours (GWh) of savings to be achieved by distributors. The OEB final results show total savings of 6,553 GWh were actually achieved.¹ According to the IESO, conservation efforts achieved 1,184 GWh of cumulative energy savings among residential customers from 2011 to 2014.²

Another change since 2009 is the completed rollout of time-of-use pricing across the province. An OEB study showed that the move from tiered to time-of-use pricing had a demonstrable conservation effect for residential users. Yet another factor is many apartment and condominium-dwelling customers' consumption is now read individually rather than being aggregated with others. The increased use of individual metering also promotes conservation by allowing customers to be responsible for their own usage.

¹ EB-2010-0215, [Conservation and Demand Management Report 2011-2014 Results](#), Page 6

² See [IESO's 2011-2014 Final Results Report](#), pages 8-9.

The OEB also recently released its RPP Roadmap³. That report indicated that customer education could be an element at least as significant as the pricing structure when it comes to optimizing the effectiveness of time-of-use pricing as a demand response and conservation measure.

This makes updating the OEB's standard for typical consumption all the more significant, since an accurate and representative benchmark contributes to keeping customers informed about costs and consumption patterns. In turn, better informed customers can take steps to assert greater control over their bills and take steps to manage and better understand their costs.

2.1 Analysis and Results

In order to assess what today's typical residential consumption might be in a given month, the OEB analyzed the data provided by distributors to compile the OEB's annual yearbook of electricity distributors.

The OEB looked at different data over different time periods, such as three years and five years, and different groupings of distributors. This approach helped to control both for variations in the weather in any given year and for geographic factors.

The annual data from all Ontario distributors from 2010 to 2014, the last year for which annual data is available, was considered. The OEB tested four different sets of LDCs to compile a weighted average for each set. In addition to using all the data on record for all of Ontario's reporting distributors, which totalled 72 in 2014, the OEB also constructed a sample based on distributors in the Greater Toronto Area (GTA)⁴, where nearly half of all customers reside.

Analysis tested the effects of including and excluding Hydro One's 1.1 million customers, many of which receive service in low density, rural areas where reliance on electricity for home heating is more common. The OEB also tested the results using all Ontario residential customers and only Hydro One's most populous residential class, known as R1.

³ EB-2014-0319, [Regulated Price Plan Roadmap](#)

⁴ GTA distributors included: Oshawa PUC Networks Inc., Whitby Hydro Electric Corporation, Veridian Connections Inc., Toronto Hydro-Electric System Ltd, PowerStream Inc., Newmarket-Tay Power Distribution Ltd., Hydro One Brampton Networks Inc., Enersource Hydro Mississauga Inc., Oakville Hydro Electricity Distribution Inc., Milton Hydro Distribution Inc., Burlington Hydro Inc., Horizon Utilities Corporation, and Grimsby Power Incorporated.

The results of the OEB's analysis are shown in Table 1 below.

Table 1

Weighted Average Monthly Residential Class Consumption, 2010 - 2014				
	GTA	Ontario Total	Ontario less Hydro One	Ontario with only Hydro One R1
2014 Average	678 kWh	743 kWh	684 kWh	706 kWh
3 Year Average 2012-2014	699 kWh	753 kWh	699 kWh	721 kWh
5 Year Average 2010-2014	715 kWh	764 kWh	713 kWh	735 kWh
2010 Average	747 kWh	785 kWh	741 kWh	762 kWh

OEB analysis identified the following:

- In all cases, the annual average was lower in 2014 than 2010.
- Three-year averages were always lower than five-year averages, independent of the population sampled.
- The GTA average residential consumption is generally comparable to the Ontario average consumption Ontario excluding Hydro One.

The overall Ontario three-year average residential monthly consumption is 753 kWh.

While isolating the exact contributions of different causes to the decline requires intensive analysis, the conclusion is clear: average residential consumption in Ontario is falling. In light of this trend, the OEB has determined it appropriate to update its standard definition of a typical customer's monthly consumption so that it provides consumers with a more accurate picture of how their bill will be impacted by rate changes and other new charges.

Effective immediately, the new standard definition of a typical residential customer's monthly consumption will be 750 kWh.

The choice of 750 kWh as a standard will have varying impacts on the OEB's calculation of the cost impacts of decisions and rate-setting activities.

To provide an indication of the overall change to a typical residential customer's bill as a result of the updated standard, Table 2 below compares detailed costs for 750 kWh and 800 kWh of monthly consumption, reflecting the updated Regulated Price Plan prices effective May 1, 2016, which the OEB announced on April 14, 2016.

Table 2

Typical Residential Costs at 750 kWh and 800 kWh per month at May 1, 2016 RPP Rates		
	750 kWh	800 kWh
Electricity	\$ 83.88	\$ 89.47
Distribution	\$ 30.21	\$ 30.81
Transmission	\$ 9.20	\$ 9.72
Line Losses	\$ 4.35	\$ 4.64
Regulatory	\$ 4.98	\$ 5.30
Total Bill (before taxes)	\$ 132.62	\$ 139.94
HST	\$ 17.24	\$ 18.19
Total Bill	\$ 149.86	\$ 158.13

3 Considerations

Geographic variation will always be a factor in a province as large as Ontario. Some distributors, particularly those in the north, and those whose customers do not have access to natural gas and use electricity for heating, will not find this standard to be representative of their customers. Their typical customers use more than those elsewhere in Ontario.

To ensure that representative bill impacts can always be assessed for specific populations and customer groups when necessary, distributors will continue to be responsible for defining their own typical consumption levels, in addition to reporting changes in cost at the 750 kWh consumption standard. The OEB's online bill calculator will continue to enable customers to select specific consumption levels to estimate their costs and compare costs across distributors and supply options.

4 Conclusion and Next Steps

Effective immediately, the OEB will report the bill impact for residential customers on the basis of 750 kWh of consumption per month. Going forward, the OEB will review its standard definition of typical residential consumption a minimum of every five years, and reset it when needed.

Filing requirements and supporting documentation will be updated to reflect the new standard.