



**> LET'S TALK ELECTRICITY**  
Fact Book



2013-2014

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## > Hydro Ottawa at a Glance

Hydro Ottawa Holding Inc. (Hydro Ottawa) is a private for-profit company that is wholly-owned by the City of Ottawa and governed by an independent Board of Directors appointed by its shareholder.

The company's core businesses are:

- > electricity distribution,
- > renewable energy generation, and
- > energy conservation and management services.

Hydro Ottawa owns and operates two subsidiary companies.

### **HYDRO OTTAWA LIMITED**

- > is a regulated electricity distribution company operating in the City of Ottawa and the Village of Casselman;
- > is the third-largest municipally-owned electrical utility in Ontario, serving over 310,000 residential and commercial customers;
- > has a 1,104 square kilometre service area, roughly equal to the cities of Toronto and Hamilton combined;
- > transports power from the provincial electricity grid across a distribution network comprising 85 distribution stations, 2,700 kilometres of underground lines, 2,900 kilometres of overhead lines, 35,400 transformers and 48,300 hydro poles;



- > delivered 7,570 gigawatt hours of electricity in 2012, representing about 5.4 percent of the electricity distributed province wide;
- > will average capital investments of \$100 million per year to 2016; and
- > accounts for about 87 percent of capital assets and 92 percent of the revenues of Hydro Ottawa.

### **ENERGY OTTAWA INC.**

- > is a generator of renewable energy and provider of commercial energy management services;
- > is Ontario's largest municipally-owned producer of green power;
- > generated 320,000 megawatt hours of renewable energy in 2012, enough to power 38,000 homes for a year;
- > has 38 megawatts of capacity from hydroelectric generators at Chaudière Falls;
- > has 10.2 megawatts of capacity from landfill gas-to-energy plants through joint ventures at the Trail Road Landfill and the Laflèche Landfill site in Moose Creek, Ontario; and
- > saved the City of Ottawa more than \$403,000 in 2012 through energy management services.



## > Our Customers

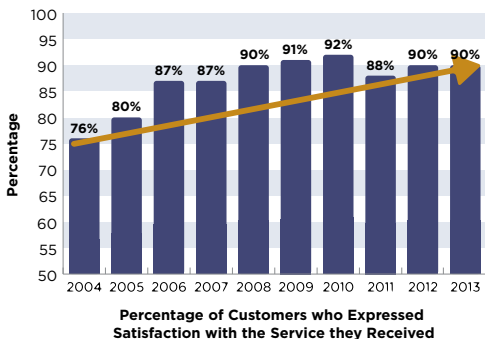
### TYPES OF CUSTOMERS

Residential	282,396
Small Commercial	23,922
Large Commercial	3,421
<b>Total Customers</b>	<b>309,739</b>

Source: Hydro Ottawa, December 31, 2012

Hydro Ottawa measures customer satisfaction using an independent, third-party survey. Through a concerted focus on customer service, our scores continue to remain strong and above the provincial average.

### Customer Satisfaction



## > Our Employees

The quality of our workforce is our strength and we strive to hire and retain the best qualified people. We are committed to maintaining a safe, secure and healthy work environment.

### DID YOU KNOW?

- > We have more than 650 employees, many of whom are long-service and highly skilled, committed to serving our customers and communities.
- > Almost 70 percent of our workforce is represented by the following bargaining agents: International Brotherhood of Electrical Workers, Local 636, Unifor, Local 33 and Unifor, Local 73. Union/management relations are healthy and positive.
- > Hydro Ottawa's energetic and dynamic workforce is part of a long-term stable industry. We promote the development of young talent through summer and co-op student opportunities as well as our apprenticeship and internship programs.

Power up your future and join our team!  
Visit [www.hydroottawa.com/careers](http://www.hydroottawa.com/careers) to view employment opportunities.



**50 Most  
Engaged  
Workplaces™**

## > Employee Health and Safety

The health and safety of our employees is a primary focus for Hydro Ottawa.



### DID YOU KNOW?

- > Hydro Ottawa's integrated health, safety and environment management system has achieved and maintained certification to international standards (OHSAS 18001 and ISO 14001). We conduct audits of the management system every year to ensure conformance to the standards.
- > Hydro Ottawa also has a management framework which provides oversight of the occupational health, safety and environment activities of the company.
- > A Joint Health and Safety Committee led by worker and management co-chairs performs regular inspections of the workplace, reviews programs, and makes recommendations to management.
- > Hydro Ottawa provides safe work practices training for all employees consistent with industry best practices.

## > Key Business Statistics

	2012	2011
<b>Total assets</b>	\$925.9 million	\$814.4 million
<b>Revenues (excluding power recovery)</b>	\$190.8 million	\$176.3 million
<b>Total revenues</b>	\$900.8 million	\$840.1 million
<b>Normalized net income</b>	\$31.0 million	\$27.6 million
<b>Dividends declared</b>	\$18.6 million	\$16.6 million
<b>Shareholder equity</b>	\$367.7 million	\$353.0 million
<b>Retained earnings</b>	\$138.2 million	\$123.9 million
<b>Gross capital expenditures</b>	\$121.7 million	\$101.1 million
<b>Renewable energy generation</b>	161 gigawatt-hours	142 gigawatt-hours
<b>Customer satisfaction</b>	90% (provincial average: 88%)	88% (provincial average: 86%)

### Credit Ratings:

- > Standard & Poor's Rating Services Inc.      A (stable)
- > Dominion Bond Rating Service Inc.      A (stable)



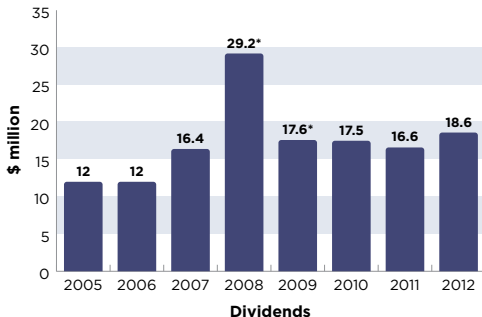
## > We Provide Value to the City of Ottawa

Hydro Ottawa is both a community asset and an investment for our shareholder, the City of Ottawa.

### DID YOU KNOW?

- > Since Hydro Ottawa declared its first dividend arising from 2005 operations, it has provided dividends of \$139.9 million to the City of Ottawa, while growing shareholder equity in the company by \$117.8 million.

### Hydro Ottawa Dividends



\* Includes \$12 million in dividends in 2008 and \$0.9 million in 2009 based on the net gain from the disposition of shares in Telecom Ottawa companies.

## > We Invest in the Community

### DID YOU KNOW?

- > Our United Way workplace campaigns have raised more than \$1.3 million since 2000.
- > Since 2011, the Hydro Ottawa Brighter Tomorrows Fund has granted more than \$326,000 to frontline agencies in Ottawa serving the homeless and those at risk of becoming homeless to complete energy efficient retrofits and upgrades.
- > Every year we distribute more than \$150,000 in grants to low-income households to help pay their electricity bills.
- > Since 2005, we have reached more than 150,000 students with presentations on electrical safety and energy conservation.
- > Each year about 35 Hydro Ottawa volunteers help provide more than 900 physically and mentally challenged children with exclusive access to the Gloucester Fair.
- > Hydro Ottawa sponsored the construction of Christie Lake Kids' new Hydro Ottawa Sustainable Youth Leadership Centre at Belle Island on Christie Lake in support of their Leaders in Training program for inner city youth.



## > Ontario's Electricity System

**Electricity Generation:** Ontario makes electricity using hydroelectric, nuclear, fossil fuels, wind, biomass, biogas, and solar power.

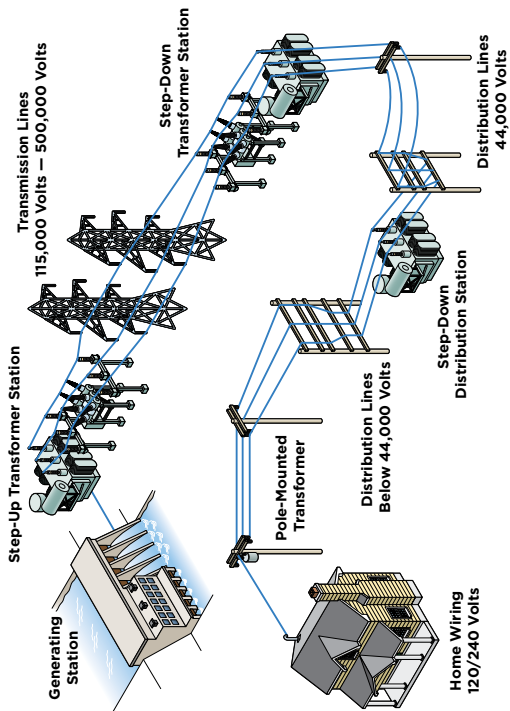
**Electricity Transmission:** Electricity is transmitted along the province's high-voltage transmission grid to distributors, large industries and to neighbouring states and provinces.

**Electricity Distribution:** Distribution companies send the electricity at lower voltages along local power lines to homes, businesses, hospitals, schools, and factories.

### KEY PLAYERS

- > **Independent Electricity System Operator:** Oversees the electricity system, balancing supply and directing the flow of electricity across the transmission system. It operates the wholesale electricity market and manages the financial settlements process.
- > **Ontario Power Authority:** Coordinates conservation efforts, plans the electricity system for the long term, and contracts for clean electricity resources.
- > **Ontario Energy Board:** Regulates the province's electricity and natural gas sectors.
- > **Electrical Safety Authority:** Works to improve electrical safety in Ontario.
- > **Ontario Ministry of Energy:** Establishes energy policy for the province.
- > **Ontario Power Generation:** Produces power for use in homes, schools, hospitals and businesses in Ontario.

# How Electricity Gets to the Customer

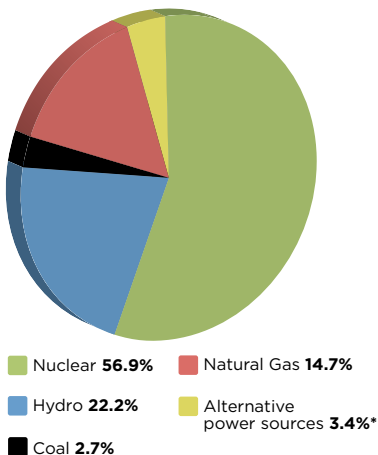


## > Ontario Electricity Generation

Electricity generation in 2012 was 141.3 terawatt hours (or 141.3 billion kilowatt-hours).

Actual electricity generation from each type of generation depends on its cost and availability. Emission-free hydroelectric, nuclear and wind generation operate as much as possible, while natural gas and coal-fuelled stations tend to be used during higher-demand periods of the day.

### Electricity Generation in Ontario – 2012



\*Includes wind and solar power

Source: Ontario Energy Board, November 2012

## > Electricity Transmission in Ontario

Transmission lines carry electricity to local distribution companies as well as to industries that are supplied from the transmission grid.

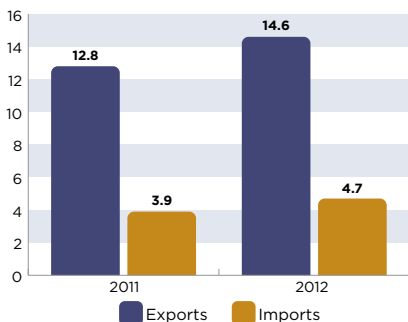
### DID YOU KNOW?

- > Ontario has more than 30,000 kilometres of transmission lines.
- > Our grid is linked to five adjoining jurisdictions to allow for exports and imports.
- > These interconnections increase reliability and cost-effectiveness for all, since power can be shared in an emergency or when economic.
- > Ontario is capable of importing or exporting approximately 4,800 megawatts of power at any given time, depending on system conditions.
- > Ontario exports more than it imports, leading to a favourable balance of trade.

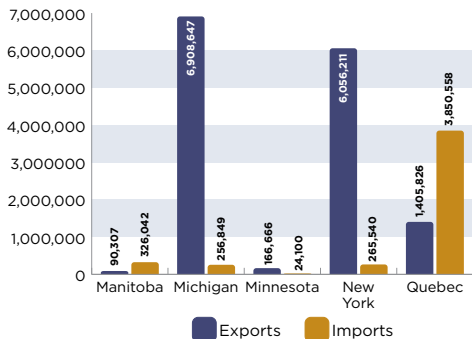
Source: Independent Electricity System Operator, September 2013



## Ontario Electricity Exports and Imports (terawatt-hours)



## Ontario Electricity Exports and Imports with Neighbouring Jurisdictions (megawatts)



Source: Independent Electricity System Operator, 2012

## > Electricity Distribution in Ontario

Electricity distribution companies take power from the high-voltage transmission grid and reduce the electricity voltage to a lower level. Then, the distribution companies deliver the electricity to homes, businesses, industry and institutions such as hospitals and schools.

### DID YOU KNOW?

- > There are 76 electricity distribution companies in Ontario.
- > Hydro Ottawa is the third largest municipally-owned electricity distributor in Ontario.
- > There are over 4.8 million electricity customers in the province
  - More than 4.3 million are residential customers
  - Approximately 480,000 are commercial customers
- > Distribution companies have total assets of \$17.1 billion and annual revenues of about \$3 billion.



Source: Electricity Distributors Association, April 2013

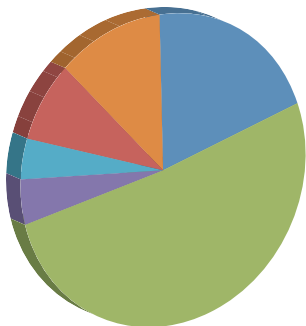


## > Understanding Your Electricity Bill

### DID YOU KNOW?

- > Only about **20 percent** of what our customers pay for their electricity bill is kept by Hydro Ottawa.
- > The other **80 percent** goes to electricity generators, Hydro One, the Independent Electricity System Operator, the provincial government, and others.

### Components of the Electricity Bill\*



- Distribution Charge** to pay Local Distribution Company (paid to Hydro Ottawa) **20.4%**
- Electricity Generation Charge** (paid to generators of hydroelectric, nuclear, fossil-fueled, wind, biomass, biogas and solar electricity) **53.1%**
- Debt Retirement Charge** to pay the debt of the former Ontario Hydro (paid to Provincial Government) **4.2%**
- Regulatory Charges** for administering system and funding programs (paid to Independent Electricity System Operator, Ministry of Energy) **3.5%**
- Transmission Charge** (paid to Hydro One) **7.3%**
- Harmonized Sales Tax** (paid to federal and provincial governments) **11.5%**

\*For the average residential customer using 800 kWh per month.  
Source: Hydro Ottawa, May 2013

## > How Electricity Rates are Set

The Ontario Energy Board (OEB) regulates the province's electricity sector and sets all electricity rates in the province:

- > distribution rates (such as Hydro Ottawa rates) usually change annually;
- > transmission rates (paid to Hydro One) change periodically; and
- > commodity rates for electricity generation change twice a year, on May 1 and November 1.

The Ontario Ministry of Energy, through its policy-setting role, can also affect the price of electricity.

### **HYDRO OTTAWA DISTRIBUTION RATES**

Hydro Ottawa files an application with the Ontario Energy Board (OEB) to change its distribution rates. After a public hearing, the OEB sets Hydro Ottawa's distribution rates.

Hydro Ottawa's distribution rates represent only about 20 percent of the bill payment. The other 80 percent is passed on by Hydro Ottawa, without mark-up, to the other companies responsible for generating electricity, transmitting it, and to regulators and the government.

To see the current electricity rates, visit [www.hydroottawa.com/rates](http://www.hydroottawa.com/rates).

## > Smart Meters/Time-of-Use Rates

Virtually all Hydro Ottawa customers now have a smart meter. A smart meter:

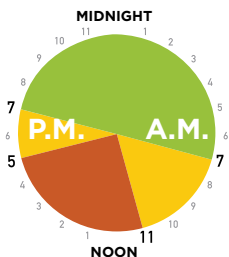
- > Monitors electricity use and the time the electricity is used.
- > Communicates this data wirelessly to a central computer so that the bill can be calculated.

All Hydro Ottawa customers are billed on time-of-use rates. Since these rates were introduced, residential customers in Ottawa have reduced their average monthly electricity consumption by more than 2 percent and are also taking advantage of additional savings by shifting another 2 percent of electricity use from on-peak to off-peak periods.

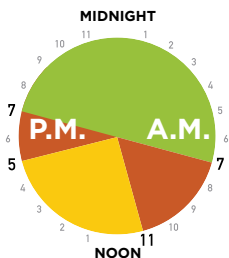
### **DID YOU KNOW?**

- > Shifting power demand from peak periods means that Ontario will have to build fewer new power facilities.
- > That means fewer environmental impacts.
- > Smart meter data provides comprehensive, detailed information for electricity system planning.
- > Smart meters provide much more information to customers about their electricity use.
- > Customers can view their electricity consumption by the hour, day, month or billing period through Hydro Ottawa's online customer service portal, MyHydroLink. Visit [www.hydroottawa.com/account](http://www.hydroottawa.com/account) to register.

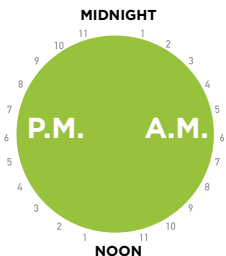
## > Time-of-Use Rates



**Summer**  
(May 1 – October 31)  
weekdays



**Winter**  
(November 1 – April 30)  
weekdays



**Weekends**  
and  
**Statutory Holidays**

¢ Off-peak

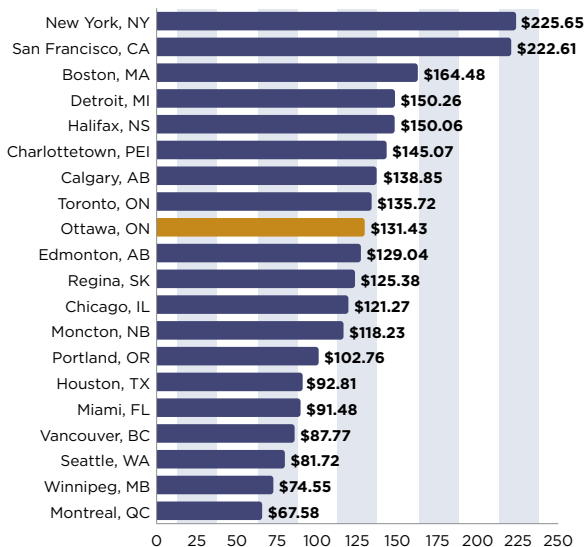
¢¢ Mid-peak

¢¢¢ On-peak

## > Cost of Electricity in North America

Hydro Ottawa's electricity rates compare well against many other large North American cities.

### North American Residential Electricity Costs (Select Cities)



Source: Hydro-Québec, April 2012

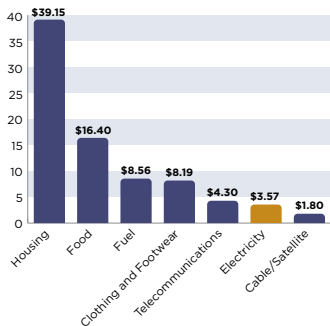
## > Electricity Versus Other Expenditures

### DID YOU KNOW?

- > Electricity powers almost everything that we do in our homes, and yet it represents only a small percentage — or about \$3.57 a day — of the average Canadian's annual household expenditures.
- > The average Hydro Ottawa residential customer uses about 685 kilowatt hours of electricity each month.
- > One kilowatt-hour of electricity is enough to brew 90 cups of coffee or power your computer so you can surf the web for about five hours.

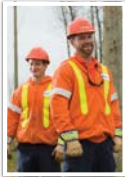
### Daily Spending Snapshot

(Based on National Averages)



Source: Canadian Electricity Association

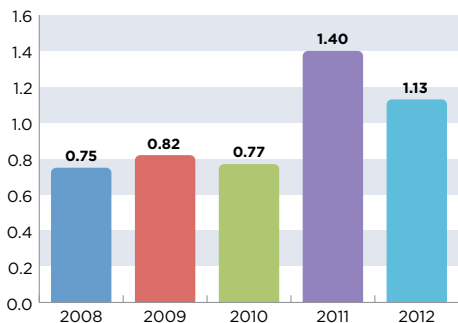
## > Electricity Supply Reliability



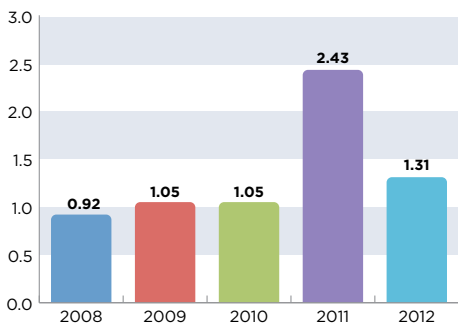
### DID YOU KNOW?

- > Ottawa's power supply over the past several years has been among the most reliable in Ontario, according to Ontario Energy Board statistics.
- > To improve reliability, Hydro Ottawa invests about \$50 million to enhance the existing power grid each year. Another \$30 million is invested in new infrastructure.
- > On average in 2012, Hydro Ottawa customers experienced one outage and about one and one-third hours (1.31) of interruption time.

## Average Number of Power Outages per Year\*



## Average Number of Hours Without Power per Year\*



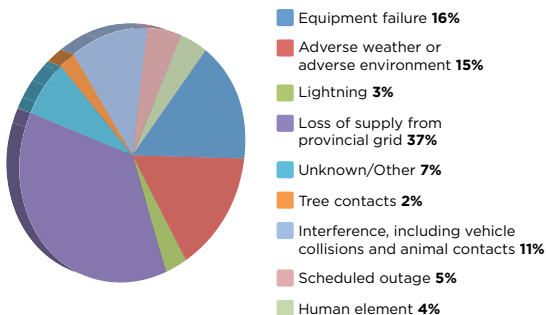
\*Excluding loss of supply from the provincial grid.



## > Power Outages – What Causes Them?

Power outages can occur as a result of storms, tree and animal contact, loss of supply from the provincial grid, and equipment failure.

### Primary Causes of Customer Power Outages



Source: Hydro Ottawa, 2012

Hydro Ottawa provides three main sources of power outage information:

- > When an outage occurs, customers can call the Power Outage Line at **613-738-0188** to report the outage and get updated information.
- > An online Power Outage Map is available at [www.hydroottawa.com/outages](http://www.hydroottawa.com/outages).
- > Customers can follow Hydro Ottawa on Twitter for outage updates: [www.twitter.com/hydroottawa](http://www.twitter.com/hydroottawa).

## > Tree Trimming

Trees close to power lines can create power outages and public safety concerns.

### DID YOU KNOW?

- > There are an estimated 180,000 trees in proximity to Hydro Ottawa's 2,900 km of overhead lines.
- > We trim more than 40,000 trees per year.
- > All tree-trimming crews follow industry best practices, receive extensive training in line clearing techniques, and are regularly updated on electrical awareness.
- > Hydro Ottawa has forestry inspectors who monitor the daily progress of the tree trimming field crews.

Get your copy of tree trimming advice and other useful backgrounders at [www.hydroottawa.com/factbook](http://www.hydroottawa.com/factbook).



## > We Protect the Environment

### DID YOU KNOW?

- > Hydro Ottawa's non-hazardous waste diversion rate is over 90 percent.
- > We conduct energy audits to make our facilities and stations more energy efficient.
- > Our green vehicle fleet includes a plug-in Chevy Volt, nine hybrids, one full hybrid bucket truck, two bucket trucks with a hybrid pack for running accessory equipment instead of running the engine, 14 flex fuel vehicles and eight vehicles with battery technology. In addition, 12 aerial devices have been converted to Biopure biodegradable oil.
- > We are greening our supply chain by procuring over 30 percent of goods and services locally.
- > Our certified International ISO 14001 environmental management system has been in place since 2004.



## > Hydro Ottawa's Green Power Generating Stations

Hydro Ottawa is Ontario's largest municipally-owned producer of green power.

### HYDROELECTRIC GENERATION

- > **Chaudière Hydro** — three hydroelectric plants that have a total combined output of 21 MW were acquired in 2012.
- > **Chaudière Falls No. 2** — an 8 megawatt (MW) station commissioned in 1891 and refurbished and fully automated in 2001, it is Canada's oldest surviving hydroelectric station still in operation.
- > **Chaudière Falls No. 4** — an 8 MW station built in 1900 (refurbished in 2006).
- > **Grinder Powerhouse** — 0.7 MW.

### LANDFILL GAS-TO-ENERGY GENERATION

- > Trail Road landfill gas-to-energy plant with a capacity of 6 MW.
- > Lafèche Landfill site in Moose Creek, Ontario — a 4.2 MW capacity plant entered service in 2013.



## > Conserving Energy in Homes

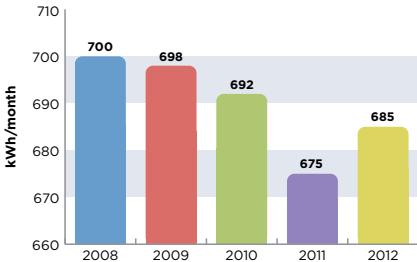
Hydro Ottawa offers a large number of energy efficiency and conservation programs that help customers save money on their electricity bill.

Visit our website to find out more:

[www.hydroottawa.com/conservation](http://www.hydroottawa.com/conservation)

- > Free pick-up program for fridges and freezers that are 20 years or older.
- > **peaksaver PLUS<sup>®</sup>** program offers participants with central air conditioning a free professionally-installed programmable thermostat and an in-home energy display.
- > Heating and Cooling Incentive provides up to \$650 for replacing eligible central heating and central cooling systems.

## Average Electricity Consumption Residential (kWh)



- > Since 2001, the average household electricity use in Ottawa has declined by more than 100 kilowatt hours per month.
- > The average household consumption has declined approximately 14 percent over the last decade due to a range of factors, including conservation programs, more efficient appliances and higher awareness of the need to conserve.

## > Conserving Energy in Businesses

There are many energy-efficiency programs and incentives to replace inefficient, energy-wasting equipment, fund energy audits or pursue new construction that exceeds existing standards. Visit our website to find out more:

[www.hydroottawa.com/business/conservation](http://www.hydroottawa.com/business/conservation)

### DID YOU KNOW?

- > Small Business Lighting program provides up to \$1,500 in energy-efficient lighting and equipment upgrades
- > **peaksaver PLUS<sup>®</sup>** program offers small businesses with central air conditioning a free professionally-installed programmable thermostat with online temperature control.
- > Retrofit Program provides larger businesses with financial incentives for replacing equipment with high efficiency equipment and for installing more efficient energy management and monitoring systems.

## > Electricity Conservation Tips

- > Consider installing a ceiling fan. Set it to force air down in summer and up in winter.
- > Install a programmable thermostat to manage the amount of energy used to heat and cool your home.
- > Create a charging station for mobile electronics using a power bar with timer that turns off when charging is complete.
- > Replace incandescent light bulbs with compact fluorescent light (CFL) or LED bulbs.
- > Keep the heat or cool in with caulking and weatherstripping around doors and windows.
- > Look for ENERGY STAR ratings when upgrading or changing appliances in your home.



Visit [www.hydroottawa.com/conservation](http://www.hydroottawa.com/conservation) for more tips, programs and conservation tools.



## > Renewing Electricity Infrastructure

Investment in electricity infrastructure across Canada and Ontario has not kept pace with growing electricity demand or the need to replace aging assets.

### DID YOU KNOW?

- > The Conference Board of Canada forecasts the need for an expenditure of \$294 billion by 2030, or about \$15 billion per year, to renew Canada's electricity infrastructure.
- > Of this total, Ontario's distribution utilities must invest \$21 billion over the next 20 years to replace and refurbish aging facilities, and to adopt new technologies.
- > Across Canada, electricity infrastructure investments would result in an electricity system that is 90 percent free of greenhouse gas emissions by 2030.
- > A CIBC Economics Report, "**Energizing Infrastructure**", estimates that for every \$1 billion investment in electricity infrastructure, close to 1,100 jobs will be created, for a grand total of more than 320,000 jobs by 2030.

Sources: Conference Board of Canada, Canadian Electricity Association and CIBC

## > Hydro Ottawa's Infrastructure Renewal

Investing in Ottawa's electricity infrastructure is necessary to keep the supply of electricity as reliable as possible. In 2012, we invested a record \$109.3 million in our distribution system.

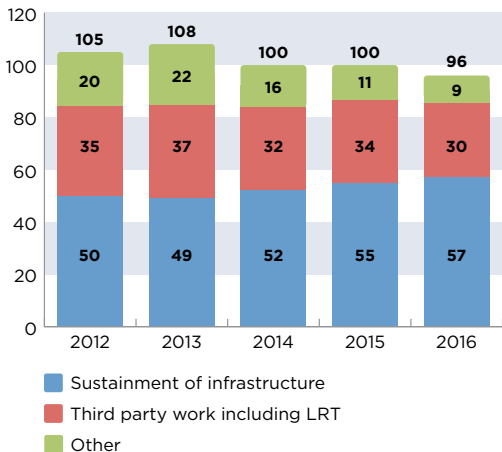
Each of our 22 asset classes is analyzed for age, condition, risk of failure and impact of failure. This includes:

- > **48,298** poles
- > **16,617** polemounted transformers
- > **18,785** pad-mounted and vault transformers
- > **3,167** underground chambers
- > **2,923** kilometres of overhead lines
- > **2,735** kilometres of underground lines
- > **167** station power transformers

Source: Hydro Ottawa, December 31, 2012



## Gross Capital Expenditures (\$M)



Source: Hydro Ottawa, December 31, 2012

### DID YOU KNOW?

- > From 2012 to 2016, we expect to invest about \$100 million annually to maintain, replace and enhance our infrastructure — for example, new distribution substations, poles, wires, and transformers.

## > The Smart Grid

Hydro Ottawa is investing in a smart distribution grid, which uses communications technology to link all parts of the system, resulting in a higher degree of automation and operational flexibility. Smart meters on our homes are a key part of the smart grid.

### SOME BENEFITS OF A SMART GRID

- > More automation and sensors on Hydro Ottawa's system increase operational flexibility, efficiency, and help with planning and maintenance.
- > Hourly consumption data enables customers to better understand and control their electricity use.
- > Smart meters will have the capability in the future to inform us when power goes out, speeding power restoration.
- > As power is shifted to lower-peak periods, fewer new facilities have to be built, reducing the cost of the electricity system, and reducing the environmental impacts across the system.
- > Smart grids enable the connection of larger amounts of local and renewable generation sources, such as solar and wind power.



## > Contact Us

### HYDRO OTTAWA

3025 Albion Road North  
P.O. Box 8700  
Ottawa, Ontario K1G 3S4

### CUSTOMER SERVICE

- > [www.hydroottawa.com](http://www.hydroottawa.com)
- > 613-738-6400

### POWER OUTAGE REPORTING AND INFORMATION

- > [www.hydroottawa.com/outages](http://www.hydroottawa.com/outages)
- > 613-738-0188

### ENERGY CONSERVATION PROGRAMS

- > [www.hydroottawa.com/conservation](http://www.hydroottawa.com/conservation)
- > Fridge and Freezer Pick-up: 1-877-797-9473
- > Heating and Cooling Incentive: 1-877-797-9473
- > **peaksaver PLUS**®: 1-866-813-2226
- > saveONenergy for Business: 613-738-5474

### MYHYDROLINK

- > [www.hydroottawa.com/account](http://www.hydroottawa.com/account)

### VISIT US ONLINE

[www.hydroottawa.com](http://www.hydroottawa.com)

 @hydroottawa

 [facebook.com/hydroottawa](https://facebook.com/hydroottawa)

 [youtube.com/user/hydroottawalimited](https://youtube.com/user/hydroottawalimited)

### ENERGY OTTAWA INC.

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Ottawa, Ontario K1G 3S4  
[www.energyottawa.com](http://www.energyottawa.com)  
613-225-0418

