

# CDM Programs

## 2015-2020

### BUSINESS

Government

Industrial

Small Business

Agriculture

Commercial

Institutional

### RESIDENTIAL

**Presenter: Kia Barkhordari, MBA, P.Eng., CEM, CMVP**

**CDM, Industrial Lead**

**October 19, 2017**

# Hydro One at a glance

---



**640,000 km<sup>2</sup>**  
service territory



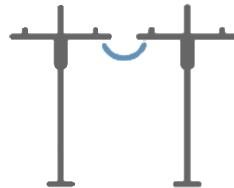
**30,000 km** of high-voltage  
transmission lines



**306**  
transmission stations



**1.3 million** residential  
and business customers  
across Ontario



**123,000 km** of local  
distribution lines



**1.6 million**  
distribution poles

## Conservation and Demand Management (CDM)

**Every \$1 we invest in energy efficiency avoids \$2 in costs to the electricity system.**

---



The Ministry of Energy's 2015-2020 Conservation First Framework has a goal of reducing electricity consumption by 8.7 TWh; working towards a conservation target of 30 TWh in 2032.



The Independent Electricity System Operator leads and oversees conservation efforts across Ontario and reward all eligible costs to local distribution companies for the design, development and delivery of CDM plans.



Save on Energy works collaboratively with Hydro One and other local distribution companies to achieve energy reduction targets through conservation programs. Save on Energy is the program run by the IESO.

# Who's eligible for conservation programs?

---



Homeowners  
and tenants



Small  
business



Retail



Restaurants  
and  
hospitality



Larger  
commercial  
business



Industrial and  
manufacturing



Municipalities,  
universities,  
schools and  
hospitals



Farms



Greenhouses  
and  
agribusiness



Landlords and  
social housing  
providers

## Conservation Programs

# Overview

---

### **Business**

Small Business Lighting

Audit Funding

Retrofit Program

High Performance New  
Construction

New Home Construction

Process & Systems Upgrade

Monitoring &  
Targeting Systems

Energy Managers

### **Residential**

Instant Discount

Heating & Cooling  
Incentives

Home Assistance  
Program

First Nations  
Conservation Program

Energy Efficiency for  
Whole Home



# Business Conservation Programs



# Small Business Lighting Program

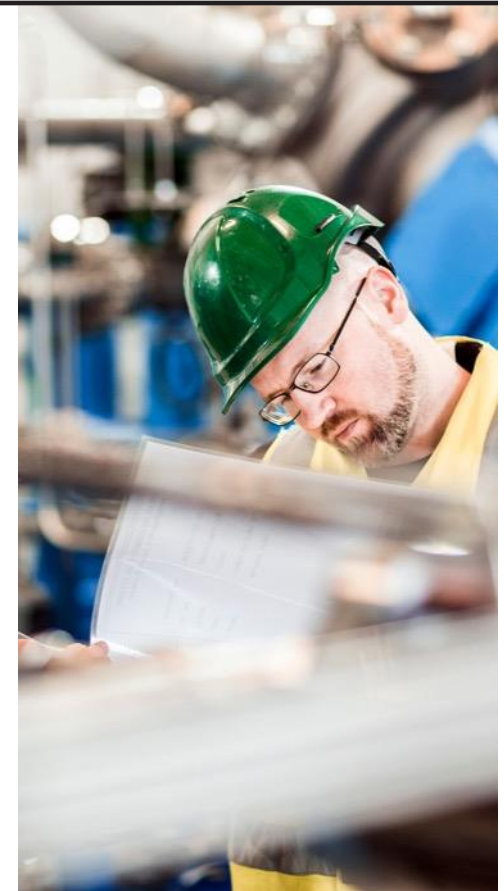
- Turnkey program offers rebates to upgrade lighting to LEDs – save up to 75% on ongoing electricity costs
- Benefit from lower maintenance and a brighter, more inviting workplace
- FREE no-obligation energy assessment
- Up to \$2,000 towards eligible lighting measures
- Includes installation, cleanup, disposal of old equipment
- Many small businesses can qualify: restaurants, retail, grocery, agriculture, light industrial and more



## Audit Funding

---

- An energy audit is the first step to identifying opportunities that reduce energy use and operating costs
- Funding for a no-obligation electricity audit and analysis covers up to **50%** of the audit cost:
  - Up to \$25,000 for **building owners**
  - Up to \$5,000 for **owners or tenants** to audit building systems (fans, pumps, etc.)
- Many business types qualify





# Retrofit Program

---

- Upgrade inefficient equipment with high-efficiency equipment and
- Incentives cover up to **50% of project costs** and speed up payback periods
- Energy-efficient upgrades can lead to:
  - Longer equipment life
  - More control over energy costs
  - Reduced operating and maintenance costs
  - Improved building comfort
  - Improved sustainability



## Retrofit Program

---

- Owners (and in some cases tenants) of commercial, institutional, industrial, agricultural and multi-residential facilities (including social housing) can qualify
- **Projects must be pre-approved**
- Hydro One will help you apply at no cost



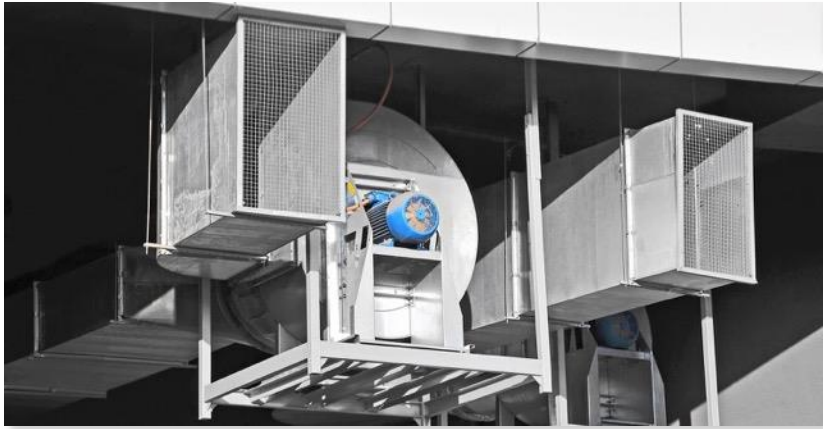
## Retrofit Program

- Two tracks of available incentives:
  - **Prescriptive** – quick application process with pre-set incentive amounts (ie. \$35 per T8 LED lighting)
  - **Custom** – For more comprehensive upgrades, incentives are based on before-and-after energy savings (i.e., for non-lighting projects, earn the greater of either **\$800/kW** of demand savings, or **\$0.10/kWh** of savings achieved in the first year).



# Retrofit Program

---



## Prescriptive track – eligible upgrades include:

Lighting and controls, motor and variable frequency drives, fans and blowers, refrigeration, heating and cooling redesign and more



## Custom track – eligible upgrades include:

Chiller systems, building envelope improvements, heat recovery systems, ventilation, compressed air and more

# High Performance New Construction Program

- Get financial incentives and assistance to build energy efficiency into your construction plans
- Energy-efficient buildings are proven to save energy and costs, offer better comfort, produce fewer greenhouse gas emissions and can attract and retain more tenants
- New buildings and existing buildings undergoing a major renovation can both qualify
- Building owners and design decision-makers can qualify and receive incentives



# High Performance New Construction Program

---

Two tracks of available incentives



## Engineered projects:

Includes interior/external lighting and unitary air conditioners. Incentives based on pre-set energy savings calculations.



## Custom projects:

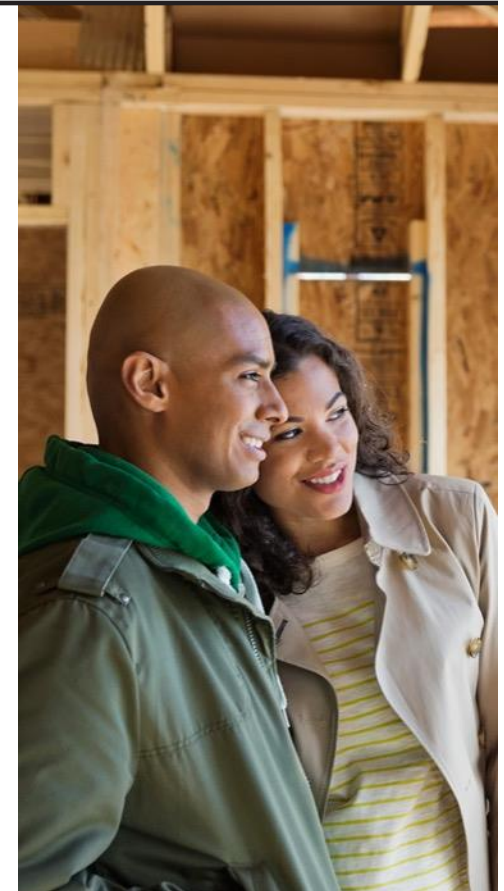
Includes chiller systems, insulation and more. Incentives are based on modelled energy performance (modelling incentives up to \$10,000 or 100% of simulation costs).

# High Performance New Construction Program

	FOR BUILDING OWNERS	FOR DESIGN DECISION-MAKERS
Up to 25% above code	\$400/kW of Demand Savings or \$0.05/kWh of Energy Savings	\$50/kW of Demand Savings or \$0.00625/kWh of Energy Savings
25.5% – 50% above code	\$600/kW of Demand Savings or \$0.075/kWh of Energy Savings	\$100/kW of Demand Savings or \$0.0125/kWh of Energy Savings
Over 50% above code	\$800/kW of Demand Savings or \$0.10/kWh of Energy Savings	\$150/kW of Demand Savings or \$0.01875/kWh of Energy Savings

## New Home Construction

- Builders and renovators can get incentives to install energy-efficiency measures in new homes
- Three incentive tracks:
  - **Performance** incentives up to \$1,000
  - **Prescriptive** incentives per measure: lighting fixtures, timers, sensors and more
  - **Custom** incentives for construction that goes above and beyond Ontario Building codes
- Differentiate yourself in the market – studies show 88% of Ontario homebuyers want an energy-efficient home





## Process & Systems Upgrade Program

- Get technical expertise financial incentives **up to \$10 million** to upgrade complex systems
- Industrial, large commercial, agricultural and multi-residential customers can qualify for projects saving more than 100 MWh/year
- Behind the meter generation projects can qualify when they meet the program requirements
- Four types of incentives in the program help identify, implement and validate upgrades



# Process & Systems Upgrade Program

---



## Opportunity Accelerator

A FREE, no-obligation analysis and report by a qualified technical advisor



## Engineering Studies

Up to \$50,000 for an in-depth technical and financial analysis

# PSU Incentive

---

- The Project Incentive equals to the lowest of the following:
  - 70% of the Estimated Eligible Costs
    - In case of a Combined Heat and Power Project, 40% of such Eligible Costs;
  - the product of the estimated Annualized Electricity Savings multiplied by \$200/MWh;
  - the amount that would provide a Project Payback of one year for a Project.
- To assess the feasibility of the project, Engineering Study incentive up to 100% of the study cost available; however, the study incentive will be deducted from the Project incentive.

# Monitoring & Targeting Systems

- Determine where you are spending on energy usage and uncover opportunities to save
- Detect energy waste to fix issues right away
- Experiment with changes to your processes
- Install a custom system to monitor your energy use and get **up to \$75,000**



## Embedded Energy Managers (EEM)

- Get funding for a resource dedicated to find opportunities to save energy and reduce operating costs, implement projects and secure financial incentives
- Incentives up to \$150,000 to hire an EEM
- Works directly with your team to develop energy management strategies and spearhead large projects – freeing up other resources



Success Stories

# Meet the Energy Innovators

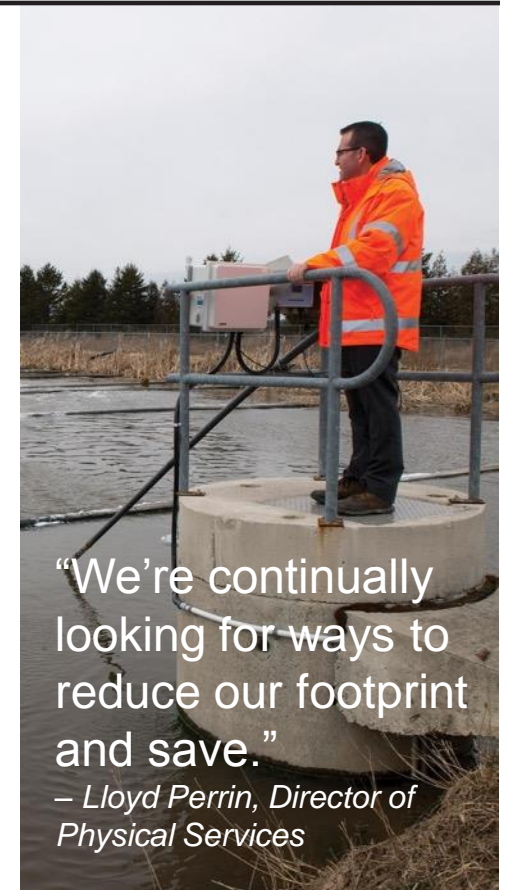
How incentives helped Hydro One customers cut energy costs and gain a competitive advantage.

# Municipality of Central Elgin

Elgin County, Lake Erie

- Goal to improve the municipality's wastewater treatment facility's energy efficiency
- Replaced two 11-year-old blowers with a single, high-efficiency, 100 HP variable frequency drive turbo blower with dissolved oxygen controls
- Received **\$47,373** in **Retrofit Program** incentives
- \$56,850 annual energy cost savings\*
- Project will pay for itself in just two years

\*Based on a rate of \$0.12 per kWh



“We’re continually looking for ways to reduce our footprint and save.”

– Lloyd Perrin, Director of Physical Services

## Success Stories

# Honda

Alliston

- Invested in new energy-efficient air compressors
  - Received **\$273,464** in **Process & Systems Upgrade** incentives
- Replaced 25-year-old, rooftop cooling units
- Added variable-speed drives to ventilation fans
- Installed LEDs in the parking lot
  - Received **\$314,586** in **Retrofit Program** incentives
- Total energy savings of 5,625 MWh

“Improving our energy performance year over year allows us to stay competitive.”

– Issam Khalil, Facilities Engineering Group Leader





## Success Stories

# INVISTA Kingston

---

- Goal to reduce 20% energy intensity by 2020
- Installed a gas turbine generator to create a CHP (Combined Heat & Power) system
- Received **\$5.8 million** in **Process & Systems Upgrade** incentives
- CHP power output of 7.9 MW
- Project pays for itself in four years

“Peak demand reduction was the driving reason for the project.”

– Steve Hughes, Site Energy Leader



# Kie Farms

St. Mary's

- Cows produce less milk when they get too hot
- Installed eight 24-foot, 6-blade HVLS fans
- Received **\$21,101** in **High Performance New Construction Program** incentives
- Power demand savings of 60.3 kW
- Energy savings of 174,300 kWh

“We wanted to add fans to improve air flow and temperature control in the summer.”

– Erica Kiestra, Owner



Let our qualified applicant representatives help you complete your program applications and get your incentives.

There's no cost to you!

Call or email to learn more:

**1-866-650-4709**

**SaveOnEnergy@HydroOne.com**