

The background of the slide is a photograph of the Toronto skyline at sunset. The CN Tower is the most prominent feature, rising vertically from the city. The sky is a gradient of orange and yellow near the horizon, fading into a darker blue at the top. The silhouettes of various buildings are visible along the horizon line.

TABIA Webinar Series Behaviour That Saves

Nick Brown
CMVP, CEM

Agenda

Introductions

Energy Manager Services

Low Cost Saving Strategies

City of Toronto & IESO Available Programs

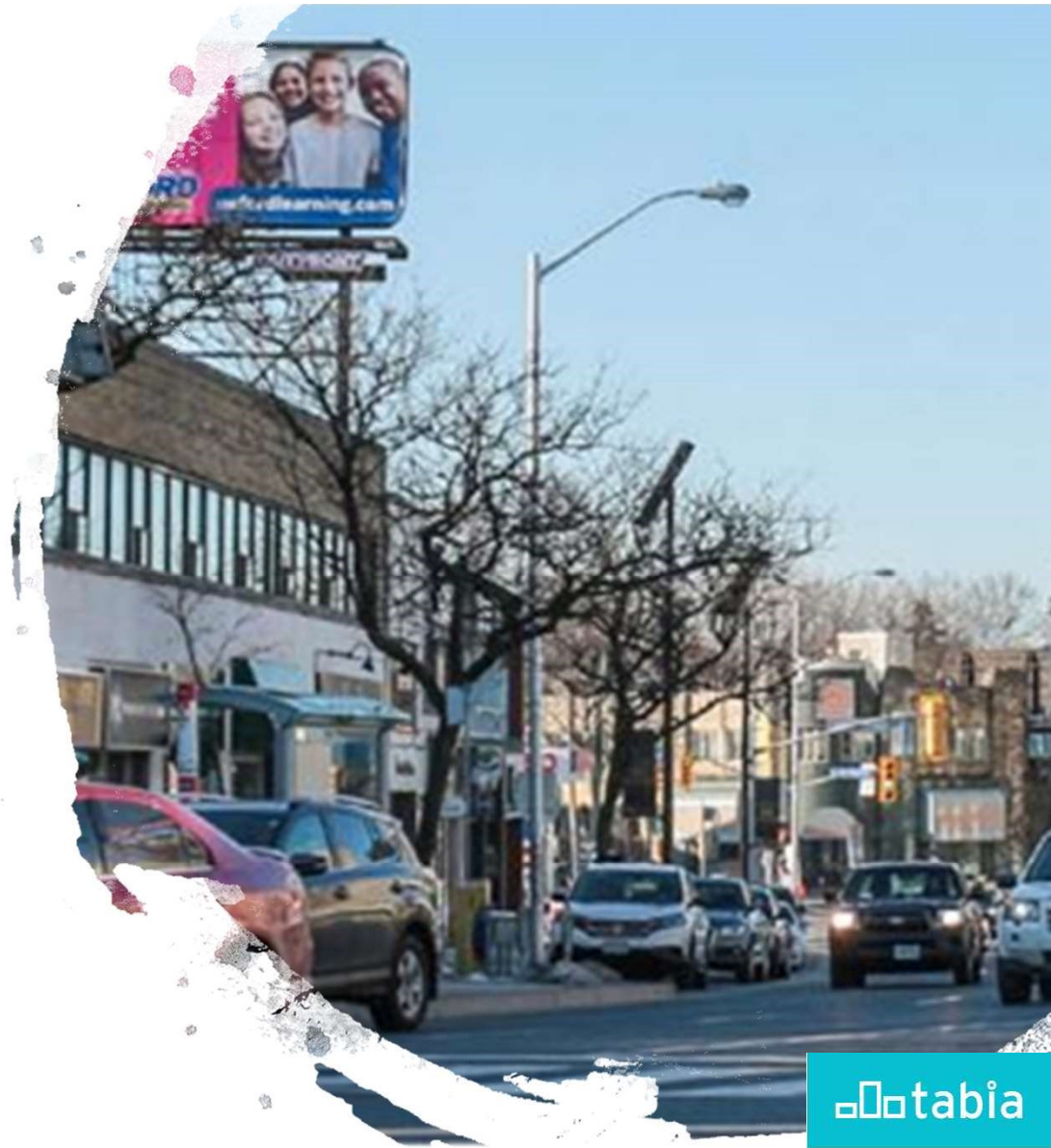
Small Business Lighting Program

Enbridge Incentive Programs

Questions

Introduction: TABIA Energy Manager

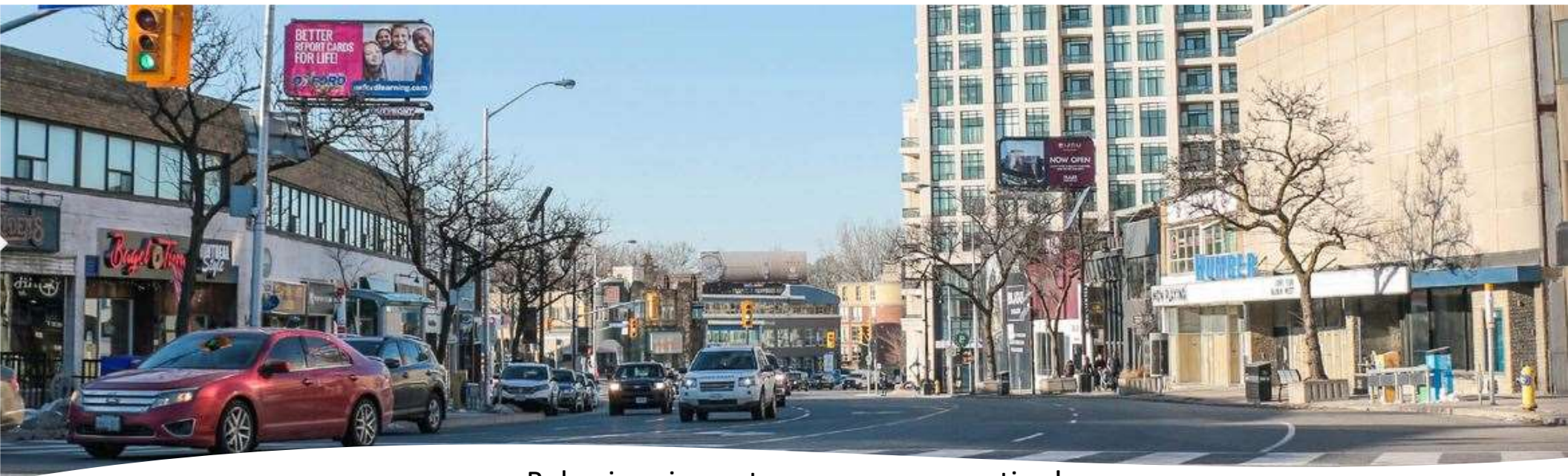
- Certified Energy Manager and Certified Measurement and Verification Professional
- 5 years of private sector energy analytics and data management experience.
- 1 year of First Nation's energy management experience helping 6 communities



Energy Manager Services

- **Energy Audits** to identify available opportunities.
- Natural Gas and Electricity **bill analysis** to identify operational issues, cost increases or opportunities.
- **Customized workshops** and presentations to member businesses.
- Retrofit and power generation **project support** to ensure contractor accountability and accurate savings.
- **Track savings** for any projects taken on from any BIA business.
- **Contractor suggestions** and vetting for projects.
- Systems that can be assessed: **HVAC, Process equipment, Lighting, Building Enclosure.**
- Support on data collection for **Energy and Water Reporting and Benchmarking.**





Low and no cost savings

- Behaviour impacts energy consumption!
- Saving on electricity and natural gas doesn't always mean retrofitting your HVAC systems.
- Water consumption can also impact natural gas and electricity consumption.
- Understanding your energy consumption patterns can help when trying to target ways to save energy.
- A bill analysis can uncover atypical usage as well as potential billing errors, which do happen.
- Businesses on time-of-use electricity rates have additional opportunities.

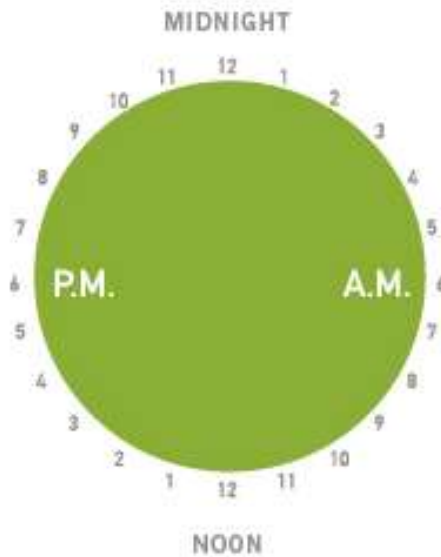
Time-of-use Electricity Rates

- Currently suspended until October 31st, 2020 at 12.8 ¢/kwh.
- 3 rates based on time of day:
 - On Peak 20.8 ¢/kWh, Mid Peak 14.4 ¢/kWh, Off Peak 10.1 ¢/kWh.
- Electricity costs have been steadily increasing in Ontario from 2009 - 2017.
- Ontario Fair Hydro Plan of 2017 reduced rates by 25%.
- Best way to mitigate increasing costs is to reduce consumption.
- On-peak costs are highest and shifting consumption during those times is easiest way to save on energy.
- **Tip: Set a reminder in your phone that time of use pricing could return November 1st 2020.**

Time-of-use Electricity Rates



Summer
(May 1 – October 31)
Weekdays



**Weekends and
Statutory Holidays**



Winter
(November 1 – April 30)
Weekdays



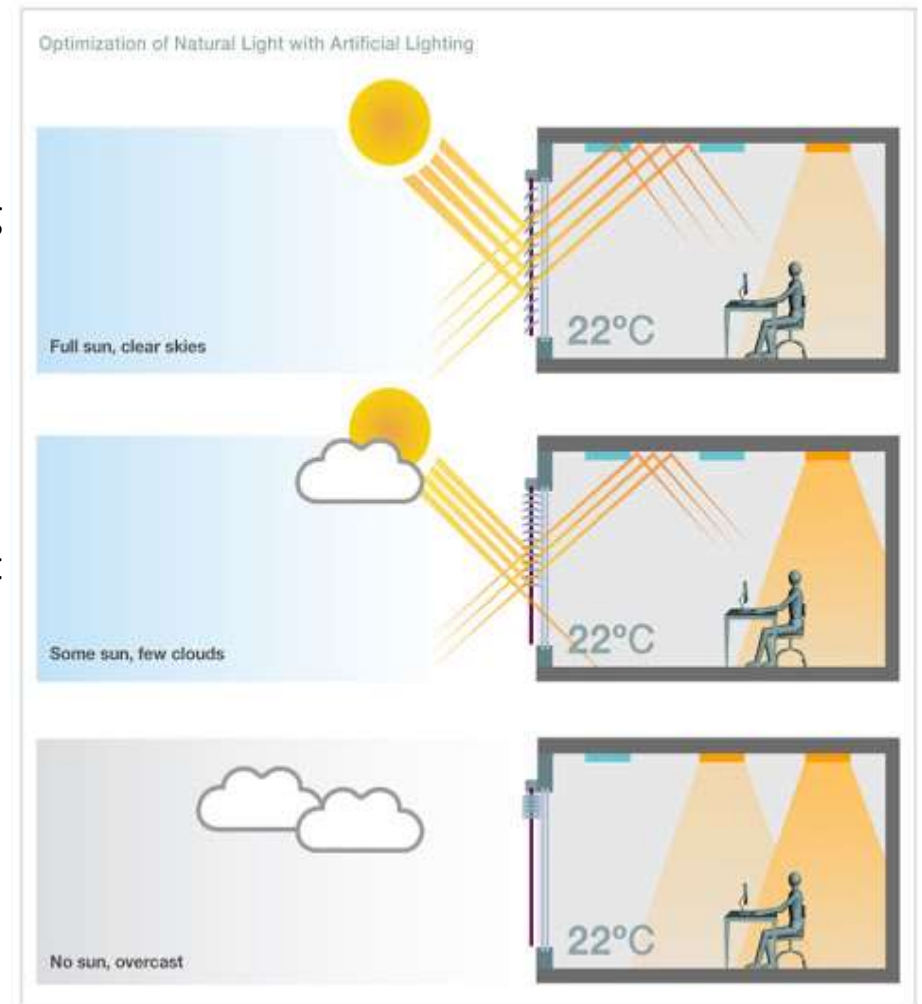
Thermostat Scheduling and Setbacks

- Programmable thermostats are a cheap way to reduce your energy usage.
- Using setbacks for unoccupied times will ensure your building is not being overheated or cooled when no one is there. There is a balance!
- Weekend schedules can provide additional savings for businesses that do not operate on the weekend.
- Setting up the schedule is easy and shouldn't take more than 10 minutes.
- Setback will depend on occupied time.
- Building should be conditioned 1 hour before occupancy and pushed back immediately after occupancy.
- Where possible, additional setbacks can be implemented during peak-times. Example: Lunch hour setback during weekdays.
- Typical savings of 3-5%.



Daylighting

- Spaces with windows receive natural light.
- When natural light provides enough illumination, lighting should be shut off.
- Installing dimmers is another option to provide controllability.
- Daylighting can also help with heat balance in building in winter.
- Blinds and curtains are important to help control amount of daylight and solar heat gain in summer
- Safety and task appropriate illumination are key.



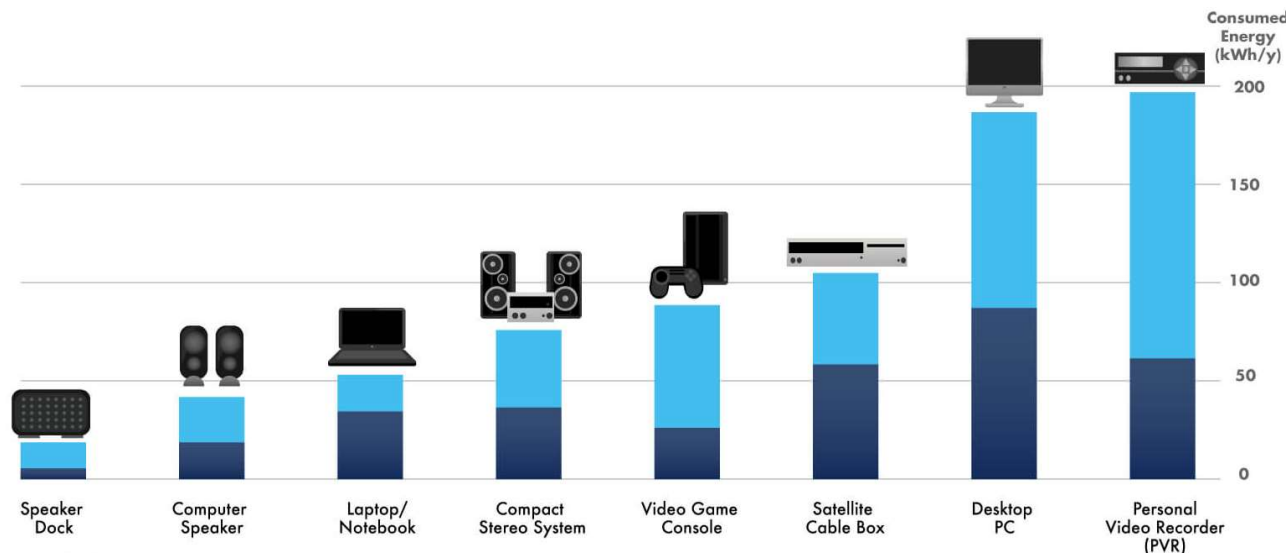
Water Efficiency

- Water costs around \$0.25/m³
- Water cost in Toronto up 3% since 2019.
- Conserving water can save on water bills as well as natural gas or electricity bills depending on how water is heated.
- Due to increased hand washing, small improvements such as aerators and high pressure nozzles can reduce operational costs.
- Some HVAC systems use water to transfer heat and can be optimized using alternative schedules or heat exchange.
- City of Toronto Capacity Buyback program can help identify these measures for free.
- **Tip: Address leaks and drips as soon as possible.**



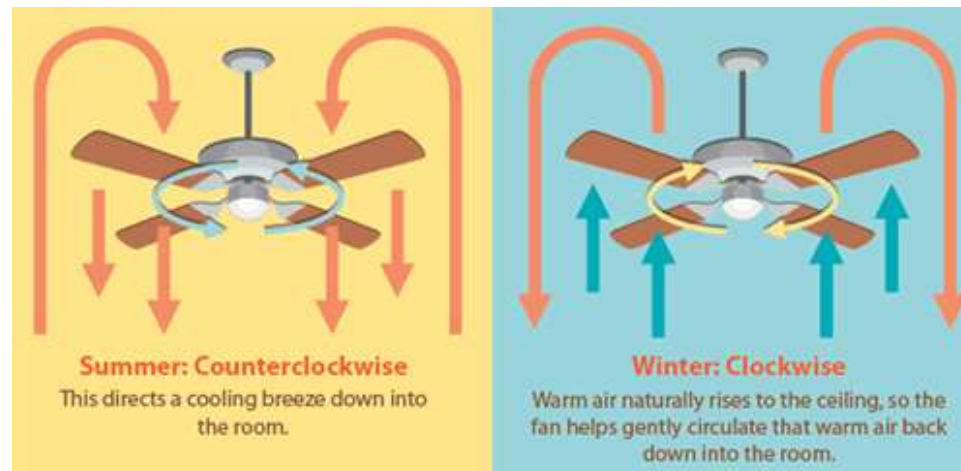
Plug loads and Vampire loads

- Loads that do not provide work are often called “vampire” loads.
- Any indicator lights or devices that operate in a standby mode will have associated vampire or phantom loads.
- Vampire loads can consume as much as 15% of electricity and can be easily mitigated.
- Ways to decrease vampire loads are simple: unplug devices when they are not in use, use a smart power bar to ensure devices are not consuming power while not in use, or install timers that cut-off power at certain times of the day.
- Best implemented during off business hours and even for extended absence such as lunch breaks.



Destratification

- Air can become stratified in buildings.
- Fans do a great job of mixing air to regulate temperature.
- Ensure fans are turned on and rotating the right way for greater comfort and to save on energy.
- High Volume Low Speed fans are great for warehouse and other industrial applications as they move a large volume of air and help systems by maintaining room temperature.
- Ensure fans are maintained as they can get dusty and will reduce air quality in a space.
- **Tip: Fans should rotate clockwise in the winter and counter clockwise in the summer.**



Maintenance

- Air circulating systems have filters that get clogged up, making the system work harder to distribute air.
- Aerators can also be clogged and affect their performance.
- Drips and leaks can add up quickly.
- A leaky window or poorly sealed door can cost quite a bit in energy consumption.
- Active maintenance will help ensure any critical equipment failures are identified immediately.
- Knowing when a system will need to be replaced can help with cost planning as well as improve efficiency resulting in operational savings.
- **Tip: Regularly scheduled maintenance helps ensure an efficient system.**





City of Toronto & IESO Available Programs

City of Toronto Programs

- **SolarTO** – Free feasibility studies for solar projects.
- **Capacity Buyback program** – City of Toronto Water Conservation program that provides a free study with potential measures and will provision \$0.30/l of water saved per day.
- **Energy Retrofit Loan program** – Provide no interest loans for retrofit and solar projects.
- **BOMA Race2Reduce** – Competitive benchmarking initiative for various categories of buildings to reduce energy consumption.
- **Toronto 2030 District** – Focused on GHG reduction within the downtown core by providing tools for tracking and reducing energy usage.



Programs offered by IESO

- **Small Business Lighting Program** – Free lighting audits and up to \$2,000 in LED lights installed. A good place to start!
- **Retrofit Program** – Incentives for a broad range of electricity saving projects including HVAC upgrades, lighting, and BAS optimization.
- **Energy Performance Program** – Incentive program that rewards continuous operational improvements.
- **Energy Manager Program** – Salary support program for hiring a Certified Energy Manager.





Save on Energy Small Business Lighting Program



**SAVE
ENERGY**

**DELIVERY
PARTNER™**

BLUEWAY
A Sonepar Company

Who we are

Blueway is a Service division of Sonepar Canada

We are contracted by the IESO through Save on Energy to implement the Small Business Lighting Program province wide

We have lighting assessors located throughout Ontario to support your lighting projects.

3 assessors are dedicated to the GTA



Small Business Lighting History

2009 – Small Business
Lighting program began

2019 – The Small Business
Lighting Program was
centralized and began to
be delivered by the IESO
Province wide

2009-2019 - Versions of
the SBL program offered
through your local utility



Why Small Business Lighting?

- The goal of the program is to reduce electricity consumption across the province
- The program offers an upfront incentive – no investment capital required
- Turnkey offering – our team completes the free lighting assessment, procures the product, manages the recycling of the old product and provides a contractor for new lighting installation
- No obligation – the upfront lighting assessment is free and educational

**Convenient**

Free onsite lighting assessment and installation.

**Simple**

Skip the contractor search and project management.

**Savings**

Receive up to \$2,000 for energy-efficient upgrades.*

The Small Business Lighting Program

- The SBL program offers Ontario businesses up to \$2000 in free lighting upgrades
- A local lighting assessor will complete a free lighting upgrade to determine the eligible lighting in your business
- Once the business owner decides to move forward with the upgrade they will sign the agreed upon work order
- Our team will procure product and provide a contractor for installation





Who Is Eligible?

All Types of Small Businesses in Ontario:

- Convenience Stores
- Barbershops and Salons
- Auto Repair and Sales Centres
- Small Retail
- Farms and Agriculture
- Churches and Places of Worship
- Restaurants and Coffee Shops
- Offices and Communal Spaces in Multi-Res

Rules:

- Must have 50 or fewer employees on site at any given point in time
- Can not have already participated in the program since 2016.
- Previous participants prior to 2016 are eligible to participate again!



How the Program Works

- **Contact us**

We'll connect you with a program representative to help determine eligibility, provide relevant information, and arrange an appointment to get started on a lighting upgrade.

- **Review your options**

The free onsite assessment will identify the opportunities for lighting upgrades. If you decide to proceed, you will be required to sign a work order and participant agreement. Our team will complete all necessary paperwork and arrange for the installation.

- **Work begins**

A licensed contractor will install the new lighting. Incentives of up to \$2,000 may be provided for new energy-efficient lighting (including the cost of materials and labour).

Eligible Lighting

- Incandescent or Halogen Lighting
- Track Lighting or Pot Lights
- T12 or T8 fluorescent tube lighting
- Metal Halide High Bays



Non-Energy Benefits

- Improved Lighting
- Increased safety and security
- Reduced maintenance costs
- Increased customer satisfaction
- Increased employee satisfaction

- These all combine to Increase Revenue





Small Business Lighting program

Energy-efficient lighting for your business

Contact Us

Online – <https://www.saveonenergy.ca/For-Your-Small-Business/Programs-and-Incentives/Lighting>

General Email – Info@SmallBusinessLighting.ca

General Phone – 1-855-273-0951

OR reach out to your local assessor directly:

Sarang Gaikwad

(647) 208-3193

sgaikwad@smallbusinesslighting.ca



Enbridge Programs

Enbridge Gas Commercial Energy Efficiency Programs

Program Incentives Overview



Enbridge Gas Energy Efficiency Programs

- Enbridge will work with you year-round with your small to:
 - Understand your business needs and set goals to save on natural gas consumption
 - Identify and prioritize natural gas saving projects
 - Calculate estimated savings on all energy sources to help build your business case
 - Provide technical support for new technologies and processes
 - Get incentives to speed up payback and make the incentive application process easy for you—we will only need your signature



Expert advice at every step – Contact energyservices@enbridge.com

Enbridge Gas Energy Efficiency Programs

Commercial offers

Enbridge Advisors can come to your site for free walk-through to assist on natural gas reductions and will help you navigate your eligible incentives.

Contact energyservices@enbridge.com for more details.

- Fixed Prescriptive Incentives
- Commercial Custom Retrofit Programs
- Run it Right



**Increase profits.
Lower costs.**

**Incentives and expert
advice to save energy**

"Enbridge Gas' incentive
shortened our return on
investment and helped
drive this project forward."
David McCormick, Engineering
Manager, Rogers Centre

Free, on-site visit
from an Energy
Solutions Advisor.

Expert help to
identify opportunities
to save.

Get paid for energy-
efficiency projects.

**Rogers Centre
saved with a
\$11,659
incentive**

**We can help you
save too**

The Enbridge logo, featuring a stylized orange 'e' followed by the word 'ENBRIDGE' in black capital letters, with the tagline 'Life Takes Energy™' below it.

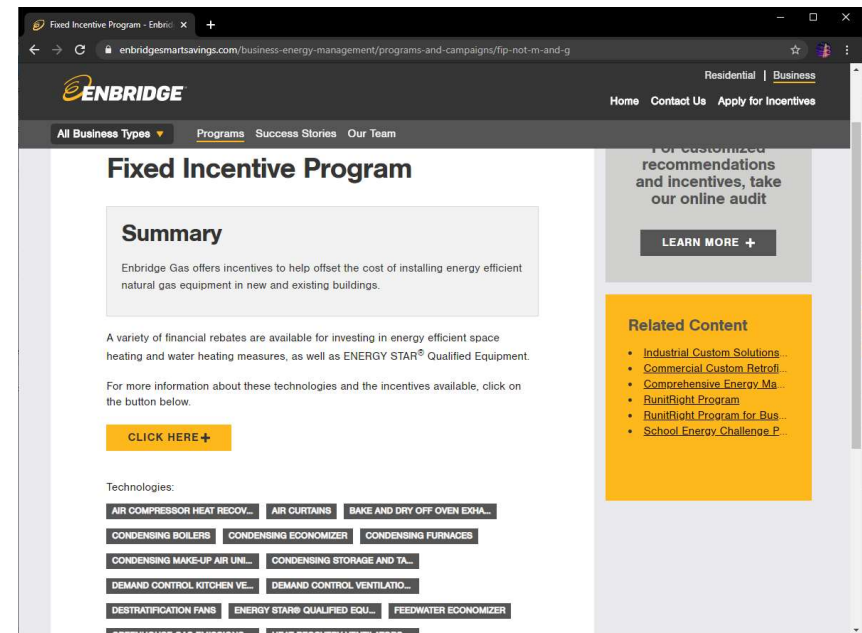
Improve energy efficiency, lower costs and get faster payback by upgrading your equipment

Enbridge Gas Energy Efficiency Programs

Fixed Prescriptive Incentives



- Prescribed incentives for the purchase of energy efficient products.
- Energy efficient technologies that Enbridge supports through this program.
- Program works like a coupon where incentives are provided upon proof of purchase.
- Customer incentives typically cover between 25% to 45% of incremental costs.



Prescribed incentives based on technology implemented

Equipment Eligible for Fixed Prescriptive Incentive



Air Curtain	Ozone Laundry
Dock Door Seal	Demand Control Kitchen Ventilation (DCKV)
Condensing Make-up Air Unit	
Demand Control Ventilator	
Destratification Fan	
Energy Recovery Ventilator	
Heat Recovery Ventilator	

Get expert help and incentives to find ongoing energy savings

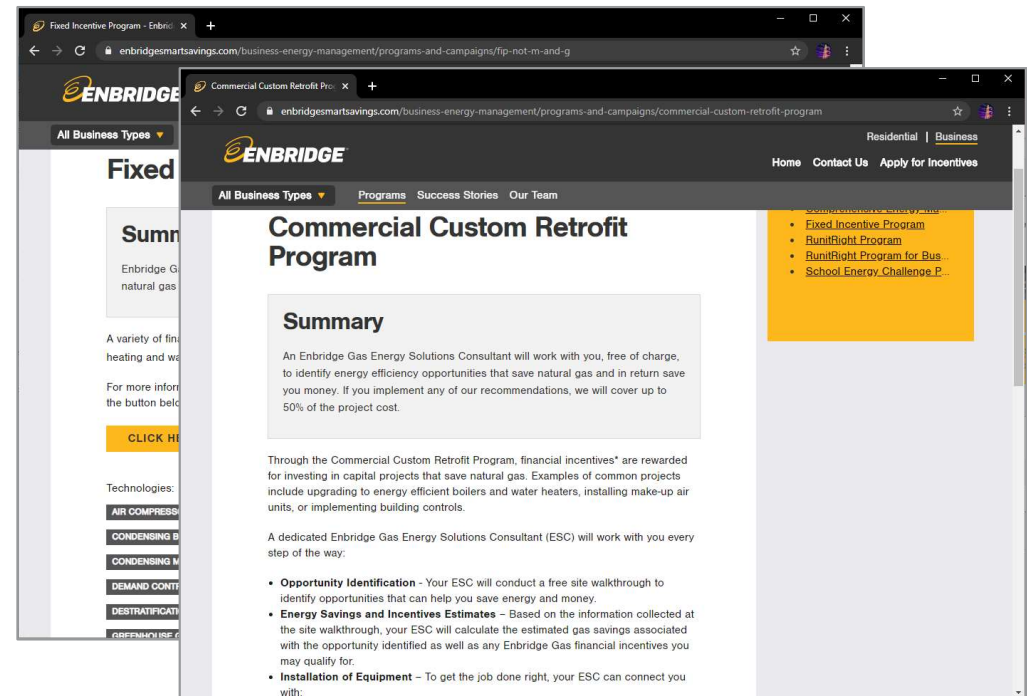
Enbridge Gas Energy Efficiency Programs

Commercial Custom Retrofit Program



- Incentives are available for energy efficiency projects that yield natural gas savings.
- Incentive rate: \$0.20/m³-gas-saved
- Incentives will cover up to 50 percent of the project cost to a maximum of \$100,000/project.
- Incentives paid to customers upon proof of purchase and installation

Get
\$0.20/m³
natural gas saved



Customized incentives based on estimated natural gas saved

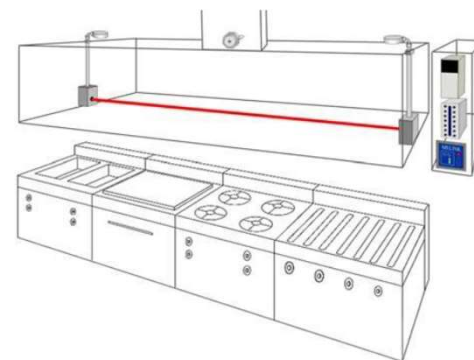
Restaurant

Demand Control Kitchen Ventilation (DCKV)



- Integrated new Demand Control Kitchen Ventilation System to better control kitchen hood exhaust rate.
- Resulted in \$5,000 in total annual utility savings.

Incentives start at 55% coverage for DCKV retrofits on existing buildings. First time Enbridge participants may be eligible for additional incentives.



Cost	\$10,500
Incentive	\$5,775
Gas cost savings	\$3,500/year
ROI	1.35 years

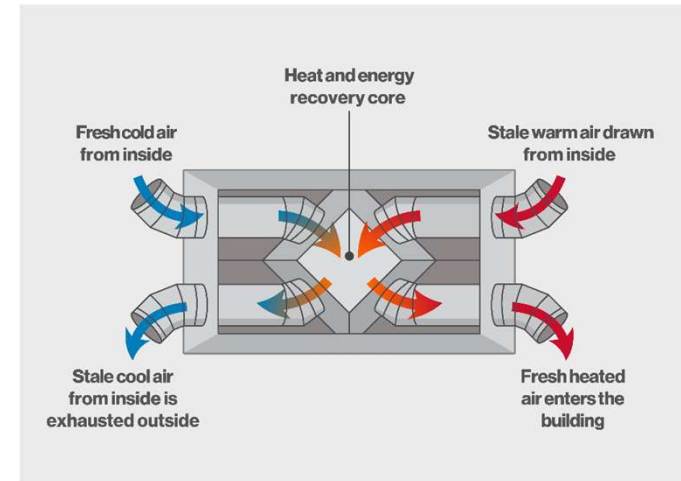
Higher efficiency, lower cost

School

Energy Recovery Ventilator (ERV)



- Transfers energy from exhaust air to intake air either prewarming or precooling air during winter and summer respectively.
- Resulted in \$3,000 in total annual gas savings.



Gas savings	10,800 m ³ /year
Incentive	\$5,750
Gas cost savings	\$3,000/year

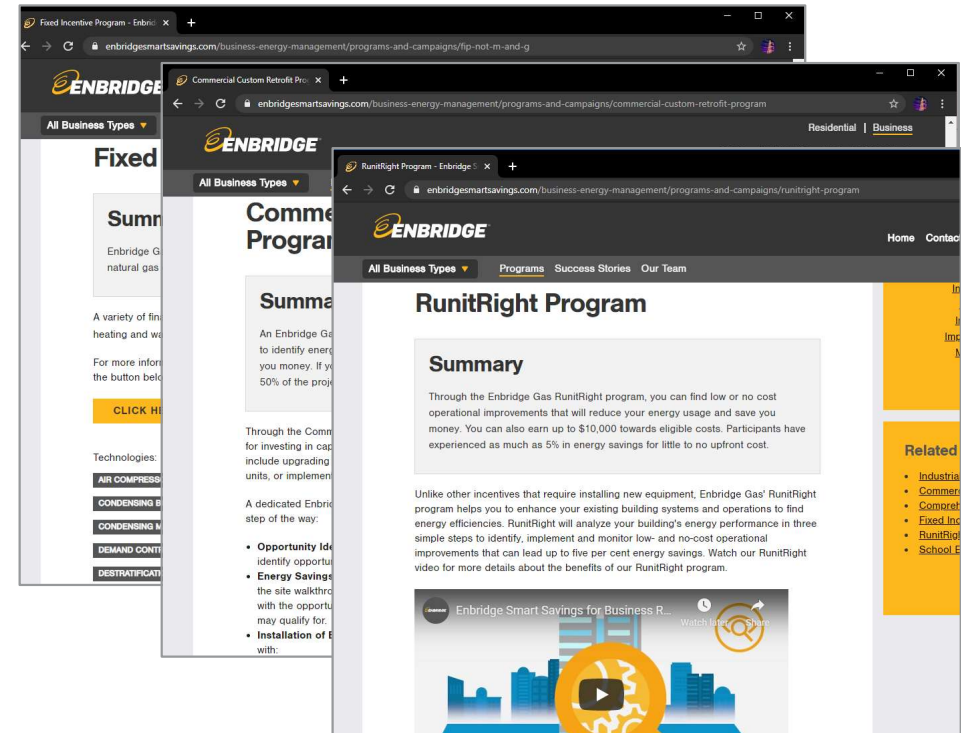
Higher efficiency, lower cost

Enbridge Gas Energy Efficiency Programs

Run it Right



- \$1,000 towards facility investigation.
- Up to \$8,000 towards implementation of recommended efficiency measures.
- \$1,000 towards a third party EMIS, or a free EMIS provided by Enbridge Gas.
- \$250 Efficiency Partner incentive for each customer who completes all three steps of the program.



Incentives help customers pay up to 100 percent of the investigation, implementation and monitoring costs.



Upcoming Events

- Workshop #2: Understanding your bill, peak shaving and SolarTO!
 - Making sure you know what you're getting charged for and that it's the right charge
 - SolarTO program overview
 - November 16, 17, 18 10:00 – 11:30 AM
- Small Business Lighting Program completion December 31st, 2020
- saveONenergy retrofit program pre-approvals closed December 31, 2020
 - Projects must be completed by December 31, 2021

THANK YOU!

You can reach me for anything energy related at nbrown@toronto-bia.com or on my cell at 416-886-1244

