

Green Energy

1.0 Retrofitting Current Building

1.1 ecoENERGY Retrofit Incentive for Industry

<http://oee.nrcan.gc.ca/industrial/financial-assistance/retrofit/index.cfm?attr=0>

Natural Resources Canada's (NRCan's) ecoENERGY Retrofit program is designed to help industrial facilities overcome financial barriers to improving the energy efficiency of their operations.

NRCan will provide a financial incentive of up to **25 percent** of project costs to a maximum of **\$50,000 per application and \$250,000 per corporate entity to help small- and medium-sized industrial facilities** implement energy-saving projects.

Benefits of a Retrofit Project

Using energy more efficiently helps industry to become more competitive and reduce greenhouse gases (GHGs) and air pollution, thereby contributing to a cleaner environment for all Canadians.

This program will help companies:

- implement retrofit projects that generate annual energy savings and pay for themselves through reduced expenditures on utilities, such as energy, water and waste
- establish a baseline against which to compare future improvements
- help kick-start their energy management strategy

In conjunction with a facility's retrofit improvements, NRCan's energy management [workshops](#) and [other tools](#) can help companies to identify low- or no-cost energy-saving opportunities, such as improving a facility's operating procedures and educating building users.

1.2 ecoENERGY Retrofit Incentive for Buildings

<http://oee.nrcan.gc.ca/commercial/financial-assistance/existing/retrofits/index.cfm?attr=0>

Owners of **small and medium-sized buildings in the commercial and institutional sectors** often lack the financial and technical resources to make energy improvements. Natural Resources Canada's Office of Energy Efficiency offers the *ecoENERGY Retrofit Incentive for Buildings*, the commercial/institutional component of the [ecoENERGY Retrofit](#) financial incentives for existing homes, buildings and industrial processes. If you have not yet started a new energy efficiency project, you could **receive \$10 per gigajoule of estimated energy savings or 25 percent of eligible project costs**. When applying, you will need to provide a **pre-project energy audit of your buildings**. As well, you cannot incur any costs related to the project until you receive a signed *Contribution Agreement* from the Government of Canada.

The **fourth application period runs from May 22, 2008 to February 27, 2009**, and you will need to use version 4.1 of the [application guide and forms](#) as of June 2, 2008. To make sure you are using the latest versions, please refer to the [important updates](#) page.

We strongly recommend you thoroughly read and follow the guide since this is the definitive source of information on the incentive, but you can also refer to the following Web pages:

- [Benefits of retrofit projects](#)
- [How the incentive works](#)
- [Important updates](#)
- [Steps to apply for the incentive](#)
- [Pre-project energy audit](#)
- [Application guide and forms](#)
- [Related incentives](#)
- [Associated training](#)

We also offer a wide range of information, publications, training and other resources on energy-efficient technologies and practices in [buildings](#).

1.3 Every Kilowatt Counts: Electricity Retrofit Incentive Program Commercial Sector

<http://business.everykilowattcounts.com/com/programs-incentives-rebates.php?pir=ERIP>

ERIP focuses on the areas of **lighting, motors, heating ventilation and air conditioning and overall electricity systems**. These areas cover the majority of and most important electricity upgrades businesses engage in.

Two Ways to Conserve PRESCRIPTIVE TRACK

This track has **predefined technologies with corresponding per-unit or performance-basis savings** measures. These projects will tend to involve replacements and upgrades to existing systems. The incentive is based on what is installed.

CUSTOM TRACK

This track is for businesses using a more **specific solution** to electricity efficiency retrofitting. For these projects, all technology equipment and systems are **evaluated on the basis of their power and energy performance improvement**. The incentive offered is based specifically on the level of improvement.

The incentives are based on the results of calculations from each track's specific worksheet.

Predefined Technologies

LIGHTING

- FLUORESCENT LIGHTING SYSTEMS (T8, T5, CFL)
- METAL HALIDE LIGHTING SYSTEMS
- LED "EXIT" SIGNS
- OCCUPANCY SENSORS

MOTORS

- THREE-PHASE PREMIUM-EFFICIENCY MOTORS 1-200 HP

COOLING EQUIPMENT

- UNITARY A/C UNITS UP TO 25 TONS THAT ARE ENERGY STAR-QUALIFIED OR CEE COMPLIANT

- Click to download the list of
- [Fans](#)
 - [Heat controllers](#)
 - [Thermostats](#)

Who can participate?

Applicants must be customers of a participating **LDC**. [Check here to see if your LDC is participating.](#)

Applicants may be **owners or tenants of business premises supplied by a participating LDC**. Please note that if you are a tenant, you must obtain permission from the property owner for installation of the measures for which an incentive is claimed.

What Projects Qualify?

Incentives will be available for pre-approved projects that result in measurable **reductions in electrical peak demand**.

How do I participate?

There are two ways to get started:

1. Use the self-serve method by reviewing the documentation below and printing or downloading the application and appropriate documents and submitting to your local participating LDC.

ERIP Forms are available for [download here](#)

–OR–

2. Contact your Local Distribution Company.

[Click here](#) for the list of participating LDCs.

[1.4 Union Gas EnerSmart: Energy Savings Program \(ESP\)](#)

<http://www.uniongas.com/business/energyconservation/programs/esp.asp>

Union Gas, along with their Channel Partners will assist end-use customers with the specification and implementation of energy efficiency improvements in their **commercial**, multi-family or institutional facilities by providing **technical consulting and assistance**.

Examples of measures include:

- Energy recovery ventilators
- Heat recovery ventilators
- Rooftop units
- Condensing boilers
- Infrared heaters
- Demand control kitchen ventilation
- High efficiency furnace (retrofit only)
- Programmable thermostats
- Hot water conservation
- Low flow pre-rinse spray valve

Customers can realize energy cost reductions through the specification of a higher efficiency boiler to **replace older, atmospheric combustion units**

Consider that:

- Condensing boilers typically operate at combustion efficiency levels greater than 90%.

Higher Efficiency – refers to condensing boilers, or boilers operating at 84% combustion efficiency or above.

Lower Efficiency – refers to boilers that are atmospheric combustion or boilers operating at less than 84% combustion efficiency.

Efficiency percentage is based upon applicable manufacturer combustion efficiency rating.

To see if which measures might be right for your business, contact your local HVAC Contractor or contact your local [Union Gas Account Manager](#) for additional information.

1.5 Condensing Boiler Program

<https://portal-plumprod.cgc.enbridge.com/portal/server.pt?open=512&objID=367&PageID=0&cached=true&mode=2&userID=2>

Condensing Technologies deliver much higher fuel efficiencies for a wide range of applications. They capture the "hidden energy" contained in flue gases by condensing the water vapor (steam) that normally goes up the flue.

Advantages

Condensing technologies provide a number of advantages:

- Recapture of the energy of latent heat from the water vapour contained in flue gas translates into significant operating cost savings
- Lower overall fuel consumption reduces adverse environmental impact from greenhouse gas emissions

Applications

Technologies that are eligible for incentives are those that recapture the latent heat of the water vapour that is contained in the flue gas normally exhausted to atmosphere. Examples of these are **condensing boilers, condensing economizers, and direct contact water heating and direct contact heat exchangers.**

Incentives*

In order to qualify for an incentive, the **application must be an upgrade** – for example when adding a condensing economizer to an existing steam boiler that previously was not equipped with an economizer.

Incentives are paid at a rate of **\$0.10/m³ of estimated natural gas savings** for the condensing technology. These incentives are a **one-time payment based on the estimated first year natural gas savings, up to a maximum of \$30,000 per project, for projects with a simple payback of greater than 1.0 years. Enbridge pre-approval is required.**

*Terms and conditions apply. Please contact and involve an EGD representative for details.

2.0 New Building/Addition

2.1 High Performance New Construction: Commercial Sector

<http://business.everykilowattcounts.com/com/programs-incentives-rebates.php?pir=HPNC>

What Exactly is High Performance?

High performance is a collection of **design strategies and technologies for reducing energy consumption**, improving an indoor environment and minimizing the environmental impact of a building. To achieve high performance, you have to go beyond the normal building design process. Every single building component is carefully considered during the all-important design phase.

Make Your Building More Valuable – Well Before Construction Starts

The energy, economic and environmental performance of these green facilities are substantially better than that of conventional buildings. It clearly pays to put energy efficiency high on your priority list when renovating or building new facilities.

The **Ontario Power Authority is working closely with the development and design industries** to create high-performance, energy-efficient buildings that cost less to operate, have lower environmental impacts, are more profitable and are more comfortable places in which to live, work and play. Design assistance and attractive **financial incentives are available** to encourage builders and developers to incorporate high-performance strategies like sustainable building practices and energy-efficient features in their new construction and major renovation projects – strategies that can be affordably incorporated.

High-performance buildings are the answer to lower energy bills and improve energy performance. These savings come from a variety of energy-saving features, including **increased insulation, windows and doors designed to reduce heat transfer, high-efficiency heating and cooling systems, energy-saving equipment and lighting, and innovative technologies such as advanced meters, renewable energy and combined heat and power systems.**

Once completed, your **building will be tested** to confirm that the final project matches the energy-efficient design and that the building not only uses less energy but also provides a higher quality and more affordable environment – one that ultimately leads to comfortable, satisfied occupants.

What Incentives are Available?

There are three participation tracks:

1. **Prescriptive equipment incentives and basic track (up to 25 percent)**
Applicant/owner incentives of \$250 per kilowatt (kW) are available.
2. **Advanced track (26 to 50 percent)**
Applicant/owner incentives of \$300/kW and architect incentives of \$50/kW are available.
3. **High-performance (HP) track (greater than 50 percent)**
Applicant/owner Incentives of \$400/kW and architect incentives of \$100/kW are available.

Take Advantage of the Support Available for the Integrated Design Process and Charettes

- Modelling simulation and software support for evaluating and incorporating proven energy-efficient technologies

- Incentive funding to partially offset the incremental costs for the purchase and installation of approved high-performance equipment
- Commissioning services
- Project measurement and verification

What's Next?

Once you've made the decision to build a high-performance facility, the next step is to contact the Ontario Power Authority. Our High-Performance New Construction Program offers assistance for incorporating conservation and demand management measures into the design, construction and operation of new and substantially renovated buildings. These measures have been designed to help you save energy and money through improved efficiency and peak demand management.

To learn more about participating in the High-Performance New Construction Program or to explore the incentives available, please visit www.hpnc.ca or call us at 1-888-672-4762.

2.2 Union Gas and Enbridge Gas: Design Assistance Program

<http://www.uniongas.com/business/energyconservation/programs/channel/dap/dap.asp>

The Design Assistance Program is a joint effort between Union Gas and Enbridge Gas Distribution who each provided input into designing and implementing this program. Both work closely with the Office of Energy Efficiency (OEE) at Natural Resources Canada (NRCan) to help promote energy efficiency options and technologies in new construction building design.

[Click here](#) for a copy of the DAP Application Form.

Click [here](#) to view a Design Assistance Program success story 

For more information on CBIP, please contact your local [Union Gas Representative](#) or one of the approved Design Facilitators listed below.

Caneta Research Inc.

Doug Cane
7145 West Credit Avenue
Suite 102, Building 2
Mississauga, Ontario, L5N 6J7
Phone: 905 542-2890
Fax: 905 542-3160
Email: caneta@compuserve.com
Website: www.canetaenergy.com

Cobalt Engineering

James Bruce
111 Peter Street, Suite 408
Toronto, Ontario, M5V 2H1
Phone: 416 488-4425 x230
Fax: 1 866 365-5539
Email: jbruce@cobaltengineering.com
Website: www.cobaltengineering.com

Efficiency Engineering Inc.

Michael Thomas, P. Eng
420 Sheldon Drive, Suite 203
Cambridge, Ontario, N1T 2H9
Phone: 519 624-9965 ext 214
Fax: 519 624-9316
Email: mthomas@ee-solutions.com
Website: www.ee-solutions.com

Energy Advantage Inc.

Kevin Watt, Simulation Technician
5420 North Service Road, Suite 501
Burlington, Ontario, L7L 6C7
Phone: 905 319-1717 x249
Fax: 905 319-7980
Email:
Kevin.Watt@energyadvantage.com
Website: www.energyadvantage.com

Energy Profiles Ltd.

H.R. (Bob) Bach
295 The West Mall, Suite 503
Toronto, Ontario, M9C 4Z4
Phone: 416 640-2384
Fax: 416 440-0301
Email: bbach@energyprofiles.com
Website: www.energyprofiles.com

Enermodal Engineering Ltd.

Stephen Carpenter
650 Riverbend Drive
Kitchener, Ontario, N2K 3S2
Phone: 519 743-8777
Fax: 519 743-8778
Email: scarpenter@enermodal.com
Website: www.enermodal.com

GreenSim

Brian Fountain, P. Eng.
Principal
Building Energy Performance Solutions
233 Euston Road
Burlington, Ontario, L7L 4V8
Phone: 905 639-6014
Fax: 905 639-0443
Email: bfountain@canada.com

Marbek Resource Consultants Ltd.

Ruth Urban
222 Somerset Street West
Suite 300
Ottawa, Ontario, K2P 2G3
Phone: 613 523-0784
Fax: 613 523-0717
Email: urban@marbek.ca
Website: www.marbek.ca

Virta Energy Management Services Inc.

Harri Makivirta
3364 Keele Street, Unit 522
Toronto, Ontario, M3J 1M5
Phone: 416 410-3478
Fax: 1 866 828-5002
Email: hmakivirta@virtagroup.com
Website: www.virtagroup.com

Energys Analytics Inc.

Chris Jones
14 Oneida Ave.
Toronto, Ontario, M5J 2E3
Phone: 416 203-7465
Fax: 416 203-3044
Email: cj@cr-jay.ca

Finn Projects

Derrick Finn
737 Mount Pleasant Road, Suite 200
Toronto, Ontario, M4S 2N4
Phone: 416 921-0900
Fax: 416 921-0300
Email: finn@finnprojects.com
Website: www.finnprojects.com/

Leslie Jones & Associates

Leslie Jones
319 Catherine Street
Ottawa, Ontario, K1R 5T4
Phone: 613 233-2758
Fax: 613 233-5830
Email: lja.inc@on.aibn.com

Sustainable EDGE Ltd.

Christian Cianfrone M.A.Sc. E.I.T.
Project Manager
LEED[™] Accredited Professional
250 Merton Street
Suite 502
Toronto Ontario, M4S 1B1
Phone: 416 481-0400
Fax: 416 850-5556
Email: ccianfrone@s-edge.com
Website: www.s-edge.com

2.3 Industrial Steam Saver Program

<https://portal-plumprod.cgc.enbridge.com/portal/server.pt?open=512&objID=364&PageID=0&cached=true&mode=2&userID=2>

The Steam Saver program itself is composed of several programs, each focusing on different ways to save steam energy. These programs consist of:

The Steam Plant Performance Test and Audit Program

Includes:

- A performance test and analysis of your boilers and entire steam plant
- A statistical summary of your plant's annual energy history
- Identification of energy savings projects, their costs and financial payback

The average cost of an audit is \$9,500, of which Enbridge Gas Distribution will pay half of the cost to a maximum of \$5,000. Your boiler plant should have a minimum gas bill of \$1,000,000 or 2,500,000 cubic metres of natural gas consumption to justify the cost of this audit. This is equivalent to a boiler plant having a total rated capacity of approximately 500 Boiler Horsepower.

The Steam Trap Survey

Tests show that the average steam distribution system operates with over 15% of its traps leaking steam. Depending on the site-specific conditions, lost steam may account for 2–20% of the total steam production.

Testing all of the traps in your steam system will provide a good estimate of the total steam losses through leaks. It may also pinpoint other problems, such as oversized or undersized traps, blocked or flooded traps, and the need for improvements in condensate return systems, valves and piping insulation.

By replacing leaking traps in an average sized boiler plant, you can save approximately \$30,000 in annual fuel costs.

Enbridge Gas Distribution will pay up to 50% of the cost (maximum of \$10 per trap) of a steam trap survey conducted by qualified firms, up to a maximum of \$5,000. Also, if you proceed with the replacement of defective valves or other steam system improvements, you may qualify for additional incentives from Enbridge Gas Distribution. (Incentives are based on the annual savings estimated by the survey.)

Insulation Survey

The insulation survey comprises an assessment of components of the steam system and an analysis to determine the annual heat loss from bare or poorly insulated sections of the steam system. The Insulation Survey is performed by a qualified insulation contractor or consultant. Evaluation and inspection is performed using a combination of instruments including an infrared thermometer. Savings are calculated using standardized software called 3E Plus from the U.S. Department of Energy. Enbridge Gas Distribution will pay up to 50% of the cost of the insulation survey up to \$5,000.

New Boiler Installations

This is an incentive grant for adding a package of energy efficiency features to new boiler plants, including economizers, blow-down heat recovery, metering and monitoring, and combustion tune-ups.

Enbridge personnel provide assistance to plant owners in analyzing the proposed design of the new boiler plant or replacement boilers. If the boiler owner implements the package of three or more fuel efficiency measures and qualifies for the incentive grant from Enbridge Gas Distribution, the total annual fuel savings for the measures is calculated and the customer receives a one-time payment of a \$0.10/cubic metre.

The Boiler Combustion Tune-Up Program

Enbridge Gas Distribution combustion tests have been performed on hundreds of boilers of all sizes. These tests have shown that a regular boiler tune-up will save approximately 1.5% of the total fuel consumed by the average boiler plant.

The Boiler Combustion Tune-Up Program is aimed at steam and hydronic boiler plants having a total installed capacity of 1,000 Boiler Horsepower for industrial facilities and 500 Boiler Horsepower or more for all other facilities. Enbridge Gas Distribution will provide an incentive grant to boiler owners who agree to do a combustion test and tune-up twice per year for two years (for a total of four tune-ups.)

Metering and Energy Management in Boiler Plants

Metering and reporting, of your boiler plant's inputs and outputs, allows you to manage its operation and costs.

All boiler plants larger than 500 Boiler Horsepower in size should include basic metering of natural gas, steam, water and critical operating variables such as steam pressure and stack temperature.

A boiler plant energy management system has four main components:

1. Meters and instruments
2. A computerized data acquisition system
3. Local display of important data in the boiler plant, independent of the computer screen
4. Totalizing and regular reporting of plant data

Enbridge Gas Distribution customers, who invest in the required instrumentation, computer, and reporting systems, qualify for an incentive grant based on the estimated savings which the energy management system will generate.

Linkageless Combustion Controls

Linkageless boiler control is an improved control system that has recently been introduced by a number of manufacturers to address inherent deficiencies in standard burner controls. These controls enable fuel air ratios to be controlled with unmatched precision over the entire operating range of the burner. This characteristic provides benefits in terms of efficiency, safety, and maintenance that boiler plants should adopt.

For more information, download our [Industrial Steam Saver Program](#) brochure. Except for the Boiler Horsepower requirements in the Boiler Combustion Tune-Up section above, the brochure is a good reference for industrial facilities as well.

[3.0 Fleets/Transportation](#)

[3.1 Enbridge: Natural Gas Forklift Trucks](#)

<https://portal-plumprod.cgc.enbridge.com/portal/server.pt?open=512&objID=805&PageID=0&cached=true&mode=2&userID=2>

Enbridge Gas Distribution is offering a **\$500 incentive*** when you replace an electric forklift or convert from a propane forklift to a natural gas forklift.

*Up to a **Maximum total rebate of \$30,000**. Applicants must be a customer or be accepted as a new customer of Enbridge Gas Distribution Inc. in order to receive this rebate. Applicants must complete an application form and accept all terms and conditions set out in the form. Applicants must agree to participate in a follow-up survey. This offer may be withdrawn at anytime. For further details contact Enbridge Gas Distribution Inc.

[3.2 Enbridge: Ventilation Standards for Natural Gas Forklifts](#)

https://portal-plumprod.cgc.enbridge.com/portal/server.pt?open=512&objID=373&parentname=CommunityPage&parentid=12&mode=2&in_hi_userid=2&cached=true

Replacement of propane or **gasoline forklifts with natural gas units can reduce CO emissions up to 95%** and can have a great impact on dilution ventilation requirements.

Effective December 31, 2005 in Ontario, the **permissible exposure level to CO was reduced from 35 ppm to 25 ppm** under the Occupational Safety and Health Act (OSHA). Up to 40% more dilution make up air could be required to comply with this OSHA regulation. Natural gas forklifts provide a cost effective solution to assist you in meeting the new requirements by reducing the CO emissions into the workplace.

Frequently the amount of ventilation air required can be reduced as a result of these reduced emissions saving substantial costs associated with heating this ventilation air.

For more information, [download our Natural Gas Forklifts brochure \(PDF\)](#)

[3.3 Fueling Fork Lift Trucks with Natural Gas](#)

<http://www.uniongas.com/business/gastechnology/segments/forkTruckRefuel.asp>

How it Works

A small compressor station using Vehicle Refueling Appliances (VRAs) is installed and connected to the existing natural gas piping. Drivers simply pull up to station dispenser, connect the quick-connect hose to the refuelling nozzle, push a button, and the dispenser starts to refill the permanently mounted cylinder on the counter weight of the fork lift truck. The VRA will shut off automatically when it senses the cylinders are at full pressure. Unlike propane, a fuel gauge on the dash indicates when the cylinder is

running low on natural gas. Also, the cylinders can be refilled even if they are not empty – pay for exactly what is used.

Find out more about [VRAs](#).

Saving Time and Money

This means **no worries about time lost changing tanks**, no waiting for fuel delivery, no storage space for extra tanks, and no constantly changing prices for propane. In addition, there is **less maintenance required** because the lower firing temperature results in a cleaner engine that stays tuned longer. This means smoother running equipment with less down time for maintenance.

Other considerations include:

- Easier bill payments – all your natural gas usage comes on one bill at the end of the month – there is no need to collect invoices.
- Easier budgeting – when you know the price of fuel for the next three months, it is easier to plan your expense budgets.
- More floor space available – no storage space required for propane bottles, or an electric charging plant.
- Better fuel usage – no more changing tanks when they are almost empty and losing the remaining propane.
- No special licensing required – all employees handling propane bottles are required by law to carry a valid RoT (Record of Training) certificate. This is not a requirement with natural gas, because the employees never handle the fuel.

Lower Fuel Costs

A fork lift truck powered by natural gas will **save at least 50% compared to propane or electric fork lift trucks**. With the savings on fuel, rentals, and capital costs, it just makes sense to use natural gas for fork lift trucks.

See a [cost comparison](#) of propane vs. natural gas fueled fork lift trucks.

Health and Safety

Natural gas is the cleanest fossil fuel available today. You can **reduce the CO (Carbon Monoxide) emissions from your lift trucks by up to 95%** by converting from propane to natural gas. This means fewer headaches, fewer absences due to sickness, and better productivity in your facility.

See a detailed discussion of [Indoor Air Quality and Ventilation](#).

How to Convert

Your existing propane fork lift trucks can be converted to natural gas quite easily and economically. **Trained technicians will come to your facility** to do the conversion work on-site or will arrange the installations through current equipment providers.

Contact a [VRA manufacturer](#) to find conversion shops in your area.

3.4 Alternative Fuel Sources

<http://www.oee.nrcan.gc.ca/transportation/business/fuels.cfm?attr=16>

The above pages contain information covering alternative fuel sources, including:

- Battery-electric and hybrid vehicles

- Biodiesel
- Ethanol
- Fuel cells and hydrogen
- Natural gas
- Propane

For each alternative fuel source, the above page contains information covering :

- What is it?
- Benefits
- Safety and performance
- Vehicle and fuel availability
- Research and programs
- Links

4.0 Alternative Energy: Business/Municipality/Institution Customers

4.1 ecoENERGY for Renewable Heat

<http://www.cansia.ca/Default.aspx?pageId=139888>

<http://ecoaction.gc.ca/ecoenergy-ecoenergie/heat-chauffage/index-eng.cfm>

The ecoENERGY for Renewable Heat program is a **four-year, \$36 million** investment. The ecoENERGY for Renewable Heat program runs from **April 1, 2007 to March 31, 2011**. Incentives are offered to the industrial/commercial/institutional sector to install **active energy-efficient solar air and/or water heating systems**. Eligible projects must be **completed and commissioned within six (6) months of the signing** of a contribution agreement with NRCan.

This program covers **25% of the purchase and installation costs** for commercial, industrial and institutional **solar space and water heating systems, up to a maximum of \$80,000**. As well, pilot projects will be conducted to increase the use of residential solar water heating systems (please note that this program does not offer incentives directly to homeowners).

Are there financial incentives?

ecoENERGY for Renewable Heat will offer an incentive to industrial, commercial and institutional purchasers of solar heating systems. The incentive will rebate 25 percent of the purchase, installation and certain other costs of qualifying systems. **This is valid until August 31, 2008.**

Are there terms and conditions for eligibility?

Yes, certain [terms and conditions](#) apply.

How do I apply?

To apply, please consult the [guide to the terms and conditions](#), the [terms and conditions](#) and complete the solar water application form or the solar air application form available on-line.

Solar Water Application Form [Online](#) [PDF \(110 KB\)](#)
Solar Air Application Form [Online](#) [PDF \(105 KB\)](#)

All forms must be signed and sent to Natural Resources Canada by fax to 613-943-6517 or by mail to the following address not later than October 31, 2010:

ecoENERGY for Renewable Heat
Renewable and Electrical Energy Division
Natural Resources Canada
615 Booth Street, Room 150, Ottawa, Ontario, K1A 0E9
You can see the [list of accepted solar collectors](#).

Want more information?

If you have questions or need additional information on the terms and conditions, please contact the ecoENERGY for Renewable Heat program by e-mail (ecoenergyrhp@nrcan.gc.ca) or by fax (613-943-6517).

To request more information on ecoACTION initiatives:

- Phone: 1 800 O-Canada (1 800 622-6232)
- TTY: 1 800 926-9105

4.2 Industrial/Commercial/Institutional Solar Thermal Heat

<http://www.cansia.ca/Default.aspx?pagelId=139888>

<http://www.ecoaction.gc.ca/ecoenergy-ecoenergie/heat-chauffage/conditions-eng.cfm#3>

The Ontario government is making **\$14.4 million** available over four years to encourage the **industrial/commercial/institutional** sector to **convert to solar thermal heating**. This initiative is piggy backing on the Federal ecoENERGY Renewable Heat Program. **The Ontario Provincial government will match the Federal offer and contribute an additional 25% leading industrial/commercial/institutional solar projects to receive a 50% rebate on the initial upfront development costs.**

To access the provincial grant you must first access the federal grant program.

Qualifying details (and other key FAQ's) can be found at:

www.ecoaction.gc.ca/ecoenergy-ecoenergie/heat-chauffage/conditions-eng.cfm#3

What is the incentive level?

- a. The level of incentive is **25 percent of eligible project costs** (40 percent in remote communities).
- b. The maximum incentive is **\$80,000 per installation**.
- c. The corporate maximum incentive for multiple installations is \$2 million.
- d. In the case of **for-profit applicants, the total project funding from all levels of government is limited to 50 percent of eligible project costs**.
- e. In the case of municipalities and not-for-profit applicants, the total project funding from all levels of government is limited to 100 percent of eligible project costs.

What systems qualify?

- a. **Active solar water and air heating systems** that are installed in Canada qualify for the incentive.
- b. If a qualifying system is installed in a building that is used in part for residential occupancy, the building must have a common entrance and must either exceed 600 m² in building area or have at least four (above ground) storeys of building height.

- c. Eligible systems must use only **collectors accepted by the program**.
- d. Proposed systems that exceed a specified cost per square metre will undergo a technical review before a Contribution Agreement is entered into and may or may not be eligible.

What expenses are eligible?

- a. Feasibility, design and simulation **studies**
- b. The **purchase and installation costs** of the following new equipment:
 - [Solar collectors accepted by the program](#)
 - Solar heat exchangers, solar support structures and solar heat storage equipment
 - Control equipment required for solar system operation
 - Elements of the energy transportation system, including heat transfer fluid, air ducts, dampers, insulation, pumps, fans and water or steam piping used exclusively by the qualifying system, up to and including the point of interface with the end-use distribution equipment
 - Photovoltaic components used to power pumps and/or fans in a qualifying system
- c. **Permits** that are exclusively for the installation of the qualifying system
- d. **Site supervision**
- e. **Labour**
- f. **Shipping**
- g. **Commissioning** of the qualifying system

What expenses are not eligible?

- a. Goods and Services Tax (GST), Provincial Sales Tax (PST) and Harmonized Sales Tax (HST)
- b. Used, recycled or refurbished equipment
- c. Removal of existing heating systems
- d. Structural components of a building
- e. Back-up heating systems
- f. Spare parts inventory in support of a qualifying system
- g. Operating costs including fuel, electricity, maintenance and insurance costs
- h. Destratification fans
- i. Heat-recovery ventilators and other energy efficiency equipment
- j. Environmental assessments

How do I apply?

An ecoENERGY for Renewable Heat program application form must be completed and sent to the program at the address below. A copy of the application form can be obtained at [ecoENERGY for Renewable Heat Web site](#)

How will I get paid?

Important: Payment will be made only for expenses incurred after the signing by both parties of a contribution agreement, with the exception of expenses for feasibility, design and simulation studies and for permits, which may be incurred in advance.

Eligible projects must be completed and commissioned within nine (9) months of the signing of a contribution agreement.

Within 30 days of the commissioning of a solar project, the applicant must submit all of the following to Natural Resources Canada (NRCan):

- a. A **commissioning report** signed by a professional engineer or a certified engineering technologist;
- b. **Copies of all relevant invoices**;
- c. A signed attestation form [Online PDF](#) (1.25 MB);
- d. Payment request form
 - Solar Air Heating System [Online PDF](#) (20.0 KB); and
 - Solar Water Heating System [Online PDF](#) (20.0 KB).

A cheque will be issued for NRCan's portion of the eligible solar project costs once all of the above have been received and are deemed acceptable to the program, and all requirements of the contribution agreement have been met.

Will the incentive have to be repaid?

The incentive will become repayable if all of the following apply:

- a. The funding recipient is a for-profit business; and
- b. The NRCan-supported solar installation is leased or rented, or it produces heat that is sold; and
- c. Resulting revenues in the first five years exceed 150 percent of the total project cost.

Whom should I contact?

ecoENERGY for Renewable Heat
Renewable and Electrical Energy Division
Natural Resources Canada
615 Booth Street, Room 150
Ottawa ON K1A 0E9
Fax: 613-943-6517
E-mail: ecoenergyrhp@nrcan.gc.ca
Web site: <http://www.ecoaction.gc.ca/ecoenergy-ecoenergie/>

* **Note: The ecoENERGY for Renewable Heat and the Industrial/Commercial/Institutional Solar Thermal Heat can be stacked together, for a combined 50% rebate.**

[4.3 ecoENERGY for Renewable Power](#)

<http://www.cansia.ca/Default.aspx?pagelD=139888>

<http://ecoaction.gc.ca/ecoenergy-ecoenergie/power-electricite/index-eng.cfm>

ecoENERGY for Renewable Power will invest **\$1.48 billion to increase Canada's supply of clean electricity from renewable sources such as wind, biomass, low-impact hydro, geothermal, solar photovoltaic and ocean energy**. It will encourage the production of 14.3 terrawatt hours of new electricity from renewable energy sources, enough electricity to power about one million homes.

Are there financial incentives?

ecoENERGY for Renewable Power will provide an incentive of **one cent per kilowatt-hour for up to 10 years** to eligible low-impact, renewable electricity projects constructed over the next four years, **April 1, 2007 to March 31, 2011**.

Are there terms and conditions for eligibility?

Yes, certain [terms and conditions](#) apply.

How do I apply?

[Online](#) [PDF \(104 KB\)](#)

See the Compliance Checklist for the Notice of Project Application (NPA)

To apply, please complete the application form [on-line](#) or [download the PDF \[16.0 KB\]](#) to complete by hand. Sign the completed form and send one hard copy with attachments. Along with the hard copy, provide a digital copy of the signed form with attachments in PDF format. Send the package to Natural Resources Canada at the address provided below.

ecoENERGY for Renewable Power
Renewable and Electrical Energy Division
Natural Resources Canada
615 Booth, Room 160
Ottawa, Ontario K1A 0E9

Want more information?

If you have questions or need information that is not provided here or in the terms and conditions, please contact ecoENERGY for Renewable Power by e-mail (ecoenergyrp@nrcan.gc.ca) or by fax (613-995-8343).

[4.4 Class 43.1 Accelerated Capital Cost Allowance and Canadian Renewable and Conservation Expenses](#)

<http://www.cansia.ca/Default.aspx?pagelD=139888>
<http://oe.nrcan.gc.ca/industrial/financial-assistance/tax-incentives.cfm?attr=24>

A **50% accelerated CCA is provided** under Class 43.2 of Schedule II to the *Income Tax Regulations* for specified clean energy generation equipment. **Eligible equipment includes solar thermal, solar air and solar photovoltaic equipment** while project size restrictions have been eliminated.

Class 43.2 was introduced in 2005 and is currently **available for assets acquired on or after February 23, 2005 and before 2012**. For assets acquired before February 23, 2005, accelerated CCA is provided under Class 43.1 is 30%.

For technical information on Class 43.1, 43.2 and CRCE, please order the free guide entitled Class 43.1 Technical Guide and Technical Guide to Canadian Renewable and Conservation Expenses (CRCE), which is available from the following address. A written prior opinion can be obtained by writing to the Class 43.1/43.2 Secretariat:

Class 43.1/43.2 Secretariat
CANMET Energy Technology Centre - Ottawa
Natural Resources Canada
1 Haanel Drive, Building 3, Room 204
Nepean, Ontario K1A 1M1
Tel.: 613-996-0890
Fax: 613-995-7868
[E-mail](#)

[4.5 Projects Registered under ecoENERGY for Renewable Power](#)

<http://www.ecoaction.gc.ca/ecoenergy-ecoenergie/power-electricite/projects-projets-eng.cfm>

Note: There are currently only wind, biomass, hydro, and geothermal projects underway. The vast majority of projects are wind; there is only one geothermal project.

4.6 Net Metering Program

<http://www.cansia.ca/Default.aspx?pageId=139888>

www.oeb.gov.on.ca/html/en/industryrelations/smallgenerators_sellingelectricity.htm

Electricity consumers in Ontario who produce some of their own power may take advantage of “net metering”, an initiative of the Ministry of Energy. Net metering allows you to send electricity you generate from renewable sources to the distribution system for a credit toward your energy costs. In essence, it’s a “trade” of electricity you supply against electricity you consume.

For more information please visit

4.7 Industrial Energy Efficient Equipment

<http://www.oeenrncan.gc.ca/industrial/equipment/products/index.cfm?attr=24>

Valuable information to assist in the selection and purchase of energy efficient products for your industrial facilities.

- [Arc Welding](#)
- [Battery Chargers](#)
- [Boilers and Steam Distribution Systems](#)
- [Electric Motors](#)
- [Heating, Ventilation and Air-Conditioning \(HVAC\)](#)
- [Ice Makers \(Ice Machines\)](#)
- [List of models: Ice Makers \(Ice Machines\)](#)
- [Lighting Products](#)
 - [Fluorescent Lamp Ballasts – List of Models](#)
 - [High Bay Lighting](#)
 - [High-Intensity Discharge \(HID\) Lighting Systems](#)
 - [Traffic Signals](#)
 - [Exit Signs – List of Models](#)
 - [Pulse-Start Metal Halide Lighting](#)
- [Pumps](#)
- [Transformers](#)
- [Uninterruptible Power Supplies \(UPS\)](#)
- [Variable Frequency Drives \(VFD\)](#)
 - [VFD Video](#)
- [Commercial Clothes Washers](#)
 - [List of models: Household-style commercial clothes washers](#)
- [Commercial Kitchen Equipment](#)
 - [Cooking Equipment](#)
 - [Dishwashers](#)
 - [Refrigerated Vending Machines](#)
 - [Self Contained, Commercial Refrigerators and Freezers](#)
 - [Walk-in Commercial Refrigeration](#)
 - [Warewashing Equipment](#) (Dishwashers, Pre-rinse spray valves)

- [Other Energy Efficient Equipment](#)

The OEE offers information to assist you in selecting the most energy efficient equipment for other areas of your business – such as office space and warehouses.

[4.8 Enbridge Gas: Implementation Incentives](#)

<https://portal-plumprod.cgc.enbridge.com/portal/server.pt?open=512&objID=738&PageID=0&cached=true&mode=2&userID=2>

Enbridge Gas Distribution would like to assist its industrial customers in implementing energy savings measures that will also save on operating costs.

The incentive amount will be:

- Based on the level of natural gas savings achieved
- Number of measures that are implemented
- One time payment based on the estimated annual saving

The incentive will be calculated as follows:

- Implementation of 1 or 2 energy efficiency measures will qualify for 5 ¢/m³ to a Maximum of \$ 30,000 per project
- Implementation of 3 or more energy efficiency measures will qualify for 10 ¢/m³ to a Maximum of \$ 30,000 per project
- Linkageless Combustion Control will qualify for 15% of the installed cost up to \$3000 per boiler

[5.0 Alternative Energy: Residential Customers](#)

[5.1 Go Solar Ontario](#)

<http://www.cansia.ca/Default.aspx?pagelD=139888>

Go Solar Ontario is a market transformation campaign that provides **Ontario residents** with the information and links they require to install solar energy systems to heat water or generate electricity.

For more information visit <http://www.gosolarontario.ca/>

[5.2 Home Energy Retrofit Program](#)

<http://www.cansia.ca/Default.aspx?pagelD=139888>
www.energy.gov.on.ca/index.cfm?fuseaction=conservation.homeretrofit

To help **homeowners** save energy, save money and help reduce greenhouse gas emissions, the Ontario government has created the Ontario Home Energy Retrofit Program. More than \$1300 in available Federal and Provincial incentives is available for the installation of a solar domestic hot water system.

[5.3 Ontario PST rebate on renewable installations](#)

<http://www.cansia.ca/Default.aspx?pagelD=139888>
<http://www.rev.gov.on.ca/english/refund/sesr/>

The Ontario government is extending the **retail sales tax rebate on qualifying renewable equipment to January 1, 2010** to encourage the use of solar and other renewable

technologies. The program provides a full rebate on the PST paid for renewable equipment used for the installation of a solar, wind, micro hydro-electric or geothermal system, or enhancement to an existing system. Only residential households or residential builders are eligible for this rebate.

For more information visit www.rev.gov.on.ca/english/refund/sesr/

5.4 Pilot Financing for Residential Renewable Energy

<http://www.cansia.ca/Default.aspx?pagelD=139888>

Residents in Peel Region and part of York Region are eligible for zero interest loans up to \$50,000, or rebates, for the installation of alternative and renewable energy technologies in their homes, under a pilot program called PowerHouse, funded by the Government of Ontario and operated by Hydro One and Enersource. Residents of Mississauga, Brampton, Caledon and parts of York Region are eligible. Both PV and solar thermal projects are eligible under this program. **Projects must be completed by Feb. 15, 2009.**

For full program details visit www.powerhouseprogram.ca

6.0 Researchers

6.1 Renewable Energy Standard Offer Program

<http://www.cansia.ca/Default.aspx?pagelD=139888>

This is a type of Feed in Tariff program which **pays solar energy producers** a rate of 42 cents/kilowatt hour for grid tied solar power over a contract life of 20 years for projects under 10 megawatts.

For more information contact your local electrical distribution company for details and/or visit www.powerauthority.on.ca/sop

Also visit the CanSIA RESOP information page at this [link](#).

7.0 Building Audits

7.1 Enbridge Gas: Audit Incentives

[https://portal-](https://portal-plumprod.cgc.enbridge.com/portal/server.pt?open=512&objID=750&PageID=0&cached=true&mode=2&userID=2)

[plumprod.cgc.enbridge.com/portal/server.pt?open=512&objID=750&PageID=0&cached=true&mode=2&userID=2](https://portal-plumprod.cgc.enbridge.com/portal/server.pt?open=512&objID=750&PageID=0&cached=true&mode=2&userID=2)

Industrial Audits are a proven method to identify potential energy saving opportunities. They also provide the industrial gas user with an opportunity to obtain services and expertise that they may not have in-house.

A good audit will provide an estimate of the savings that are achievable, an estimate of the cost of implementation of the various measures to attain those savings, and recommend the measures to implement.

This enables the user to set priorities and select both the opportunities and the order in which the various recommendations will be completed to achieve energy and operating cost savings.

Enbridge Gas Distribution provides the following incentives to assist its industrial customers to pay for the cost of conducting these audits:

- Industrial HVAC Audits: 50% up to Maximum \$ 5,000
- Steam Plant Audits: 50% up to Maximum \$ 5,000
- Steam Trap Surveys: 50% up to Maximum \$ 5,000 at a Maximum of \$10 per trap
- Insulation Surveys: 50% up to Maximum \$ 5,000
- Special Studies: 50% up to Maximum \$ 5,000
- Process Integration analysis: 50% up to Maximum \$30,000

7.2 Union Gas EnerSmart: Custom Application Program (CAP)

<http://www.uniongas.com/business/energyconservation/programs/cap.asp>

Including energy efficient technologies during early design stages is the most cost-effective way to ensure ongoing savings and environmental benefits. **Designing more energy efficient buildings** for commercial, institutional or multi-family use will result from adding natural gas efficiency measures to a new building design or as part of a major **Retrofit**.

Any heat recovery measure helps you make informed business decisions by identifying and quantifying heat recover opportunities and associated savings. This generally relies on an **audit** to identify site specific heat recovery opportunities, which could be as basic as a walkthrough audit by an Energy Management firm. They can also provide expert advice during the feasibility study and development of an implementation plan based on the results of the audit.

To see which measures might be right for your business contact your local Design Engineering firm or HVAC Contractor or contact your local [Union Gas Account Manager](#) for additional information.

7.3 Union Gas EnerSmart: Energy Efficiency Building Audit or Feasibility Study Program

<http://www.uniongas.com/business/energyconservation/programs/fsp.asp>

Determining current energy costs

- Record and allocate energy consumption costs to determine if energy bills are too high
- Check the energy use benchmarks for the building type

Pinpointing problem areas

- Consistently track energy use
- Check for the source of unexplained increases

Prioritizing energy improvements

- Determine which are the best targets for energy improvements within the facility

Evaluating and communicating results

- Compare actual dollar savings with those predicted

For more information contact your local Design Engineering firm or HVAC Contractor or contact your local [Union Gas Account Manager](#).

7.4 Boiler Audit Program (BAP)

<http://www.uniongas.com/business/energyconservation/programs/bap.asp>

The operation of boilers represents a large portion of total energy bills. What may surprise you is that your boiler can also be at the centre of your energy savings plan. Cutting your total fuel consumption without modifying your use can be achieved by arranging for a **Boiler Combustion Tune-Up**.

Combustion tests performed on hundreds of boilers of all sizes have shown that a **regular boiler tune-up will save an average of 2% of the total fuel consumed** by the average boiler plant in a typical year.

To arrange for a Boiler Audit, contact your local HVAC Contractor contact your local [Union Gas Account Manager](#) for additional information.

7.5 Heating Ventilating and Air-Conditioning (HVAC)

https://portal-plumprod.cgc.enbridge.com/portal/server.pt?open=512&objID=373&parentname=CommunityPage&parentid=12&mode=2&in_hi_userid=2&cached=true

Industrial HVAC is a major end-use of natural gas in industry. On average, across all industrial sectors, **HVAC represents approximately 1/3 of all gas use**.

The HVAC Energy Audit is an excellent way to **identify fuel saving opportunities**. For more information, [download our HVAC program brochure \(PDF\)](#).

Industrial HVAC Audits and Incentives

Enbridge Gas Distribution recognizes that an HVAC audit provides numerous benefits and to help you capture these provides an incentive for HVAC audits. **½ of the cost of an audit will be provided, up to a maximum of \$5000, dependent upon the natural gas used for HVAC**.

In addition, when **natural gas saving measures are installed as a result of the audit**, Enbridge Gas Distribution industrial customers will be eligible for a **further incentive of 5¢ or 10¢ per cubic metre of gas saved, dependent upon the number of measures implemented**.

Please contact your Enbridge Gas Distribution representative for details*.

8.0 Assistance and Consulting

8.1 Enbridge: Industrial Energy Monitoring & Targeting (M&T)

<https://portal-plumprod.cgc.enbridge.com/portal/server.pt?open=512&objID=836&PageID=0&cached=true&mode=2&userID=2>

Through predictive modeling techniques and using spreadsheet software, you'll be able to **establish a relationship between your gas consumption, weather and other variables**. You'll be able to **predict your consumption** using this relationship. When your consumption exceeds your prediction, you'll be able to investigate and fix the problem or process. Management reports allow you to quantify your savings.

How Can We Help?

We want to help you put in place this innovative and profitable approach to doing business. The Enbridge Gas Distribution M&T program assists in four ways:

- Provides **consultative services** through one of our Energy Solutions Consultants to determine if your facility is a good candidate for M&T
- **Recommends companies** with experience in energy management systems
- Provided your facility is a candidate for M&T, you can receive an **incentive of 1/2 of the cost (up to \$5,000) of an Operational Energy Analysis**. This is a site-specific study that will determine the costs, benefits and recommended approach
- Provides **incentives based on projected natural gas savings** resulting from your M&T measures – **\$0.05 per cubic metre to a maximum of \$30,000**

Energy Savings

Optimizing your energy use through M&T can result in major energy bill savings. **Energy savings** that can be achieved through M&T for the **commercial sector** are between **5–25%** and **5–15%** for the **industrial sector**.

Contact

For more information on qualifying for the program, contact:

- Phone: 1-866-844-9994
- Email: energyservices@enbridge.com