

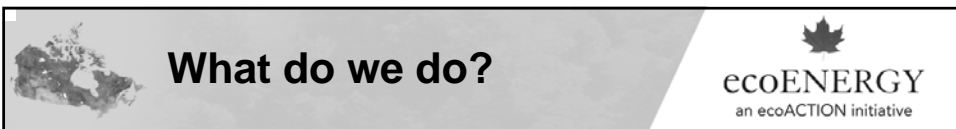


**ecoENERGY**  
an ecoACTION initiative

# ecoENERGY Retrofit Incentive for Buildings

## CFAA Conference London, Ontario

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## What do we do?

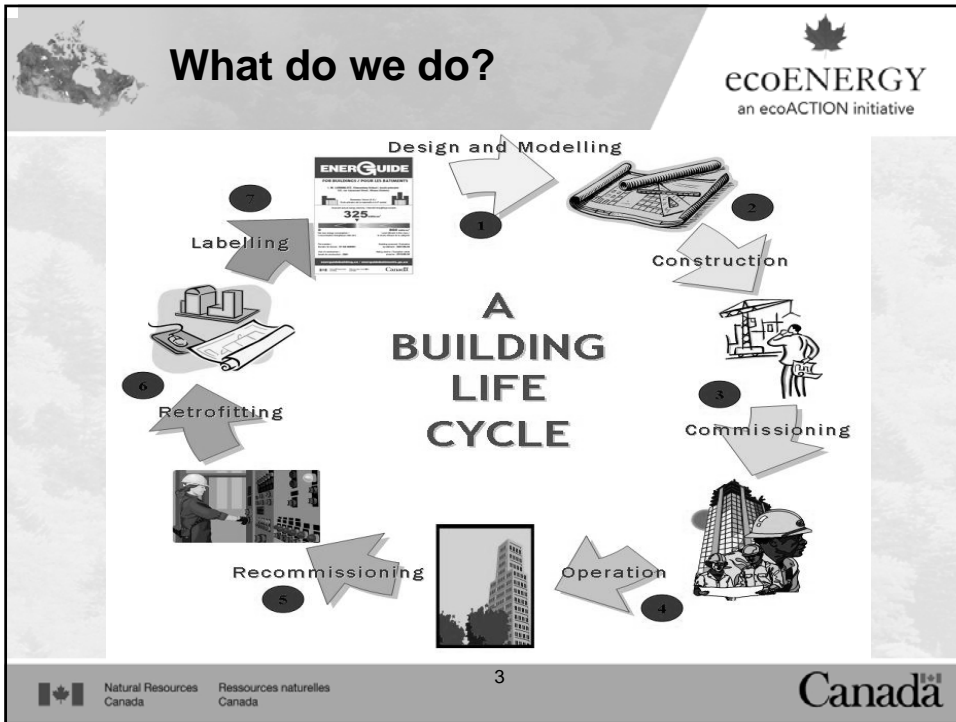
**Office of Energy Efficiency Buildings Division:**

Offers stakeholders (building owners, facility managers, property managers, service providers, engineering and technical workers, municipal and provincial leaders, etc):

- Training
- Tools
- Networking opportunities
- Support
- Incentives
- Programs

to build capacity, increase awareness, and ultimately increase energy efficiency in buildings.

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- # ecoENERGY Retrofit Eligible Buildings
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- Organizations that own, manage or lease the following types of buildings and that pay the energy bills can apply:
    - Commercial and institutional buildings
    - Provincial, territorial and municipal buildings
    - Certain multi-unit residential buildings (MURBs)
    - Mixed-use commercial/residential buildings
    - Multiple buildings may be included in a project
    - **Each building  $\leq 20,000 \text{ m}^2$  (215,278 ft<sup>2</sup>)**
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- 4



## ecoENERGY Retrofit Eligible Buildings



Buildings not eligible for ecoENERGY Retrofit for Buildings,  
which should apply to ecoENERGY Retrofit for Homes:

- less than four storeys above grade;
- a footprint of 600 m<sup>2</sup> (6 458 square feet) or less;
- no more than 20 units;
- no more than two exterior entrances that provide access to all spaces; and
- without commercial equipment not typically found in a home

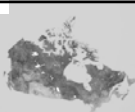


## ecoENERGY Retrofit Incentive for Buildings



- **Canada's contribution is the lowest of either:**
  - \$10 per gigajoule (GJ) of recognized annual energy savings (277.8 ekWh; 26.88 m<sup>3</sup> of NG)
  - OR up to 25% of eligible project costs,
  - to a maximum of \$50,000 per project
- **There is a maximum of \$250,000 per organization.**
- **The total eligible incentive will be paid:**
  - after project completion, and
  - after it is verified that the work has been done





## ecoENERGY Retrofit Sample Projects



- **MURB (co-op) Toronto : 58,000 sq ft (5,400 m2)**
  - T12 to T8 lighting: Saves 15 GJ  
(\$6500 cost savings/year) Cost \$5,700
  - Incandescent exit lights to LEDs: 16 GJs  
(\$518/yr) Cost \$1,400
  - Atmospheric 75% boiler to 84% condensing: 267 GJ  
(\$3597/yr) Cost \$35,700
  - Controls: tenant radiators: 225 GJ  
(\$3027/yr) Cost \$45,000
  - Insulate heating pipes in parking: 181 GJ  
(\$2437/yr) Cost \$12,700
  - Underground parking ramp heating: 162 GJ  
(\$2213/yr) Cost \$5,200
  - MES building control system to DDC: 249 GJ  
(\$3860/yr) Cost \$55,500
  - Balcony doors: wood single pane to solid no window: 291 GJ  
(\$3900/yr) Cost \$61,000
  - Low flow showerheads: 64GJ  
(\$657/yr) Cost \$2,200
  - Various other smaller GJ lighting measures
- Total GJ: 1927 (x \$10/GJ) estimated \$19,270 incentive

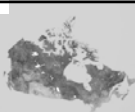


## ecoENERGY Retrofit Sample Projects



- **MURB Toronto: 65,000 sq ft (6033m2)**
  - Space heating: 55% to 75% efficiency boiler: 498 GJ  
(\$9500/yr) Cost \$59,500
  - Hot water: 55% to 75% efficiency boiler: 292 GJ  
(\$3200/yr) Cost \$38,500
  - Timer on makeup roof unit: 637 GJ  
(\$4900/yr) Cost \$1,100
- Total GJ: 1427 (x \$10/GJ) estimated \$14,270 incentive





## ecoENERGY Retrofit Sample Projects



- **MURB Toronto: 57,000sq ft (5,350 m2)**
  - **Incandescent to CFL: Saves 365 GJ**  
(\$9500 energy savings) **Cost \$10,410**
  - **Pipe Insulation: Saves 128 GJ**  
(\$1755/yr) **Cost \$10,530**
  - **HVAC Controls: 133 GH**  
(\$1400/yr) **Cost \$14,700**
  - **68% to 86% hot water boiler: 250 GJ**  
(\$2600/yr) **Cost \$22,000**
  - **3x68% atmospheric boilers to 2x86% condensing: 641 GJ**  
(\$8800/yr) **Cost \$75,000**
  - **Other measures**
    - **Total GJ: 1735 (x \$10/GJ) estimated \$17,350 incentive**




## ecoENERGY Retrofit Auditor Criteria




- **Pre-Project Building Energy Audit must be performed by one of a:**
  - Professional Engineer (P.Eng)
  - Certified Engineering Technologist (CET)
  - Certified Energy Manager (CEM)
  - Architect
  - Certified Lighting Consultant (CLC) or Lighting Certification (LC) – lighting retrofit
  - Engineer in Training (EIT) under the supervision of a P.Eng or CET.  
(Supervisor must sign the Application Form and Pre-Audit Report)
- **All must have min. 2 years experience performing energy analyses.**






## ecoENERGY Retrofit Auditor Criteria





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- Small mixed-use buildings under 600 m<sup>2</sup>: Audit *may* be performed by a CEA (Certified Energy Advisor) qualified by the ecoENERGY Retrofit for Homes.
- Central heating and cooling plants: Audit must be performed by a P.Eng with min. 2 years experience in auditing heating/cooling plant equipment.


11



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## ecoENERGY Retrofit Audit Requirements




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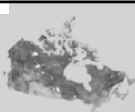
- Pre-project audit is necessary for EACH building in the project.
- Should provide the minimum information:
  - Description of physical characteristics, current condition, age, type of buildings
  - Description of major existing equipment including heating and cooling sources, consumption, fuel type, physical condition.
  - Complete breakdown of current building energy use by end-use type (lighting, space cooling, plug loads, etc)
  - Analysis of recommended energy saving measures and resulting net effect on consumption of other energy systems
  - If the project is limited to a lighting retrofit, we will accept a detailed lighting audit as an alternative to a walkthrough building energy audit.
- See guide for complete requirements.  
<http://oee.nrcan.gc.ca/publications/commercial/retrofit/index.cfm>

12



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## ecoACTION Initiatives



- **ecoENERGY for Renewable Heat:** offers an incentive to industrial, commercial and institutional purchasers of solar heating systems. The incentive will be based on a rate per **square metre of collector area** multiplied by a collector-specific **Performance Factor and Incentive Rate**.
- **ecoENERGY for Renewable Power:** provides an incentive of one cent per kilowatt-hour for up to 10 years to utilities, businesses, municipalities, institutions and organizations for eligible low-impact, renewable electricity projects constructed over the next four years, to March 2011.



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13

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## Contact Information



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ecoENERGY Retrofit: [www.oee.nrcan.gc.ca/retrofit](http://www.oee.nrcan.gc.ca/retrofit)



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14

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