



ecoENERGY
an ecoACTION initiative

Energy Rating and Labelling Systems in Canada

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The Power of Information to Motivate Change:
Communicating the Energy Efficiency of Today's Commercial Buildings



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Canada 



Energy Efficiency Labelling in Canada



Contents

- EnerGuide Labels for:
Appliances, Equipment,
Vehicles, Existing Houses,
New Houses
- Proposed label for Buildings





EnerGuide Labelling Concept



- Canadian Federal government has limited jurisdiction with respect to energy; can only regulate energy use and labelling of products in trans border trade, and has no jurisdiction of energy use in buildings
- EnerGuide product energy consumption labelling originated with appliances in department of consumer affairs in 1980's
- Maximum product energy consumption and EnerGuide labelling were incorporated into legislation through Natural Resources Canada's Energy Efficiency Act in 1990's
- Now has significant public recognition hence the widespread application

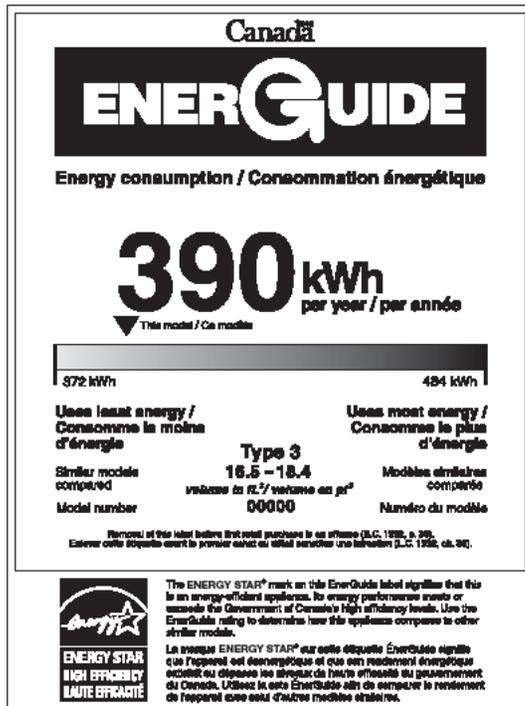




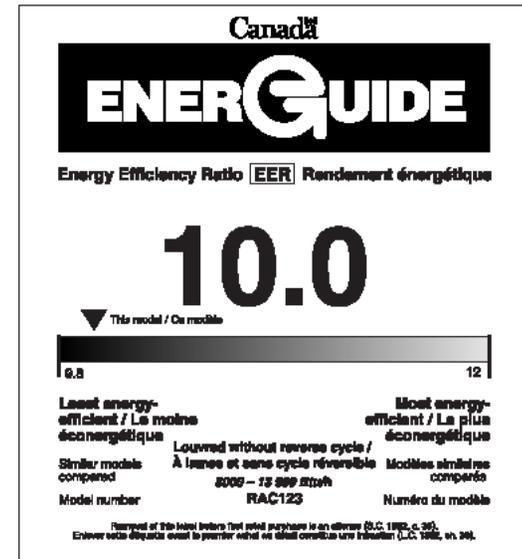
Appliances - Mandatory



Refrigerator



▼ This model / Ce modèle



Room Air Conditioners

▼ This model / Ce modèle



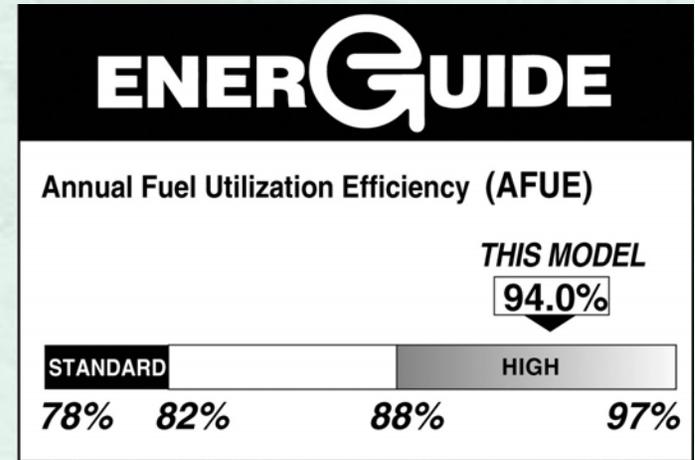
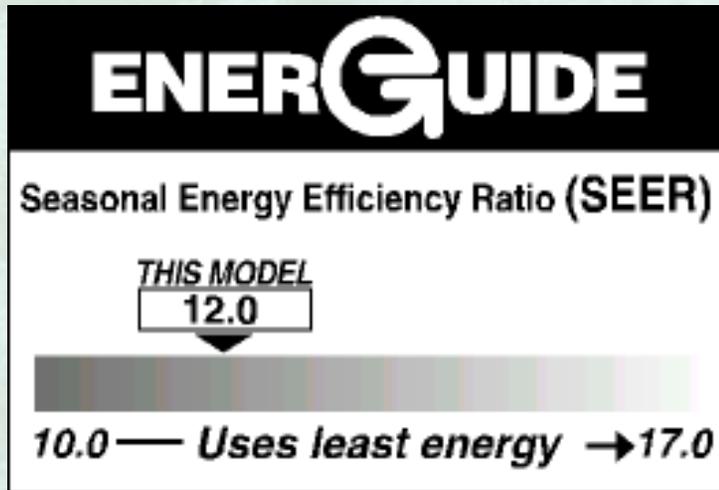


Equipment - Voluntary

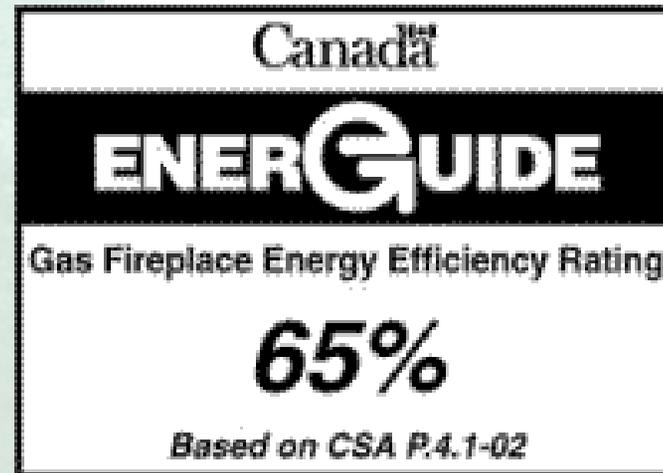


Central Air

Furnace



Gas Fireplace





Residential and Vehicles



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ENERGUIDE

123 Efficiency Street, Ottawa, Ontario

65



File number: 9090D00034
 Software version: HOT2000 ver 10.0
 Service Organization: NRCan

Energy evaluation performed by / Évaluation énergétique effectuée par

Date: March 01, 2007

An energy report has been provided to the homeowner. / Un rapport d'évaluation énergétique a été fourni au propriétaire.



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New Housing

M27-01-211



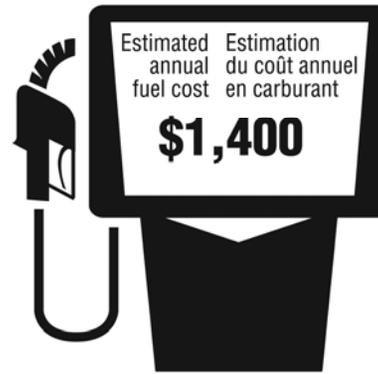
Automobile and Light Truck

ENERGUIDE

Ask your dealer for the FUEL CONSUMPTION GUIDE or call 1-800-387-2000.

Regular gasoline / Essence ordinaire

CITY / VILLE
7.9 / 36
 L/100 km mi/gal



HIGHWAY / ROUTE
5.9 / 48
 L/100 km mi/gal

These estimates are based on the Government of Canada's approved criteria and testing methods. The actual fuel consumption of this vehicle may vary. Refer to the Fuel Consumption Guide.

Données obtenues selon les critères et méthodes d'essais approuvés par le Gouvernement du Canada. La consommation réelle de carburant de ce véhicule peut varier. Consultez le Guide de consommation de carburant.



Demandez le GUIDE DE CONSOMMATION DE CARBURANT à votre concessionnaire ou composez le 1-800-387-2000.



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Building Energy Efficiency in Canada



Mandate for Labelling and Energy Codes

- Council of Energy Ministers (CEM) – federal/provincial/territorial initiative

Terms of Reference

- To support the ongoing investigation and assessment of Building and Housing Energy Labelling programs.

Requirements of the system

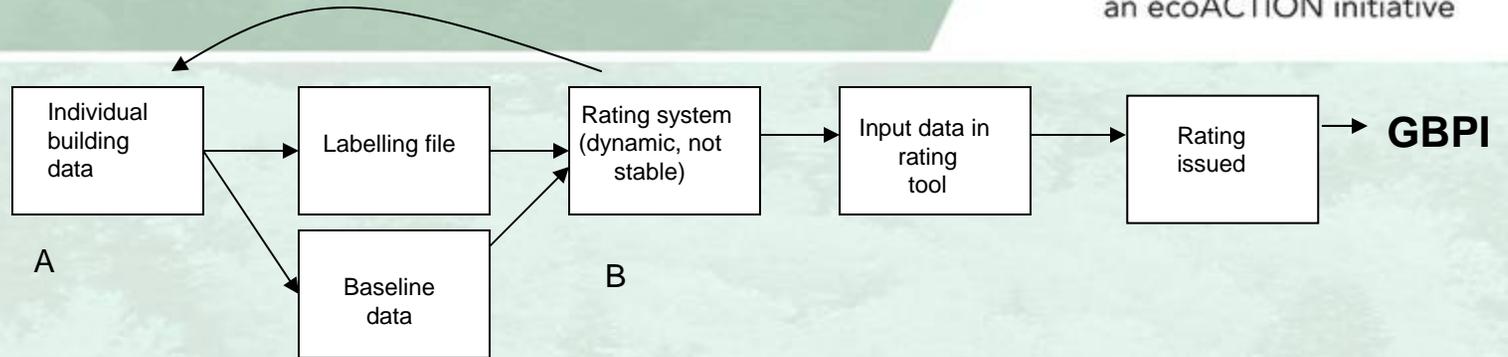
- To be national in scope
- To harmonize with existing green building recognition and rating systems
- To use actual energy use data to establish the energy rating
- To be scalable in design and incremental in implementation
- To be a voluntary system
- To address existing as well as new buildings



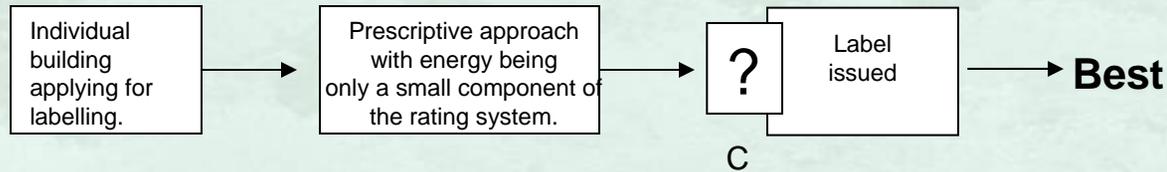


Canadian Approaches

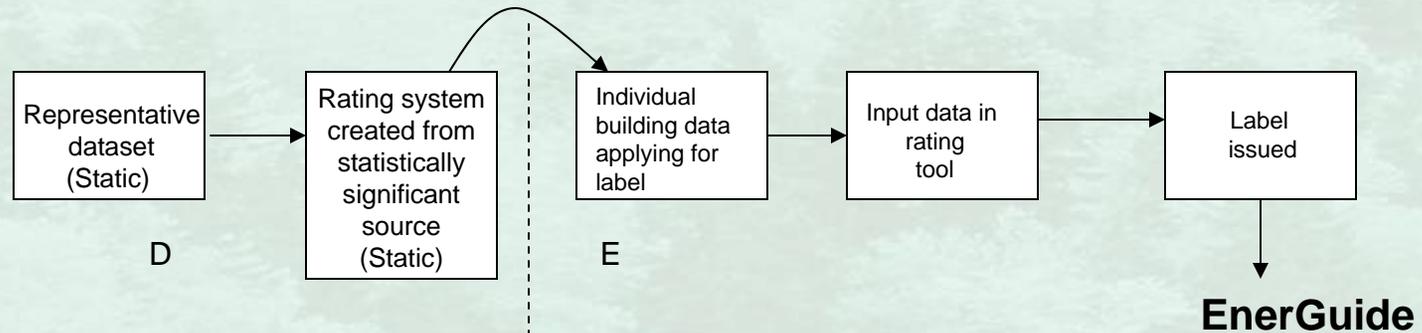
CaGBC



BOMA



Canada

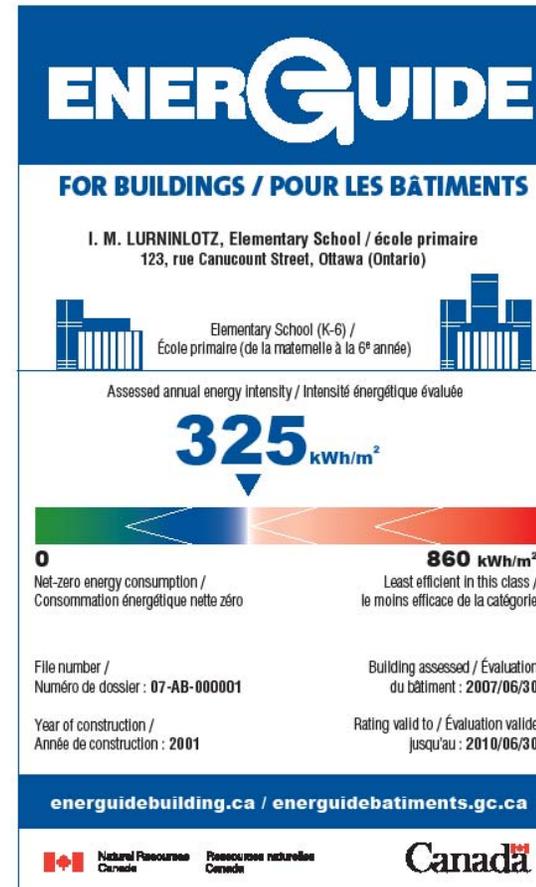




Building label

- Early prototype

The what, why and when of the building energy labelling project in Canada



Label 1.0



Findings/Recommendations



A building energy rating and labelling system should:

- use **actual energy use data**, rather than a model, to establish a rating
- apply to **all (or most) buildings**, not just best in class
- allow **multiple ways to access** the service
- be **clear and meaningful to all audiences**
- **minimize the time and cost** to client to collect data
- be **rigorous and transparent in methodology** to gain market acceptance
- update data and offer a **revised label at regular pre-determined intervals**
- be managed by an **authoritative third party agent**
- have a **robust, independent quality assurance** system
- be associated with an **effective marketing** campaign





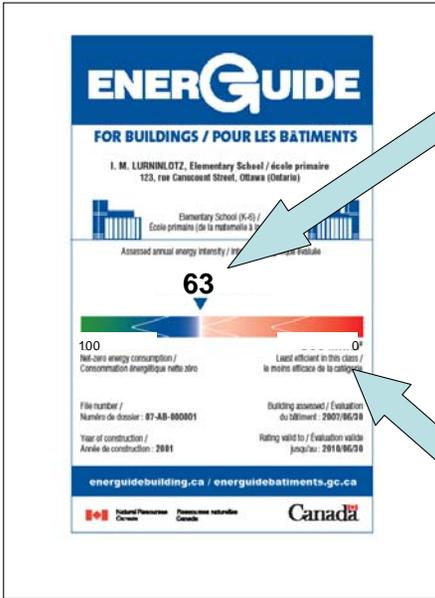
A Canadian Option

Label 2.0

A percentile based rating (score out of 100) with a report for more detailed information

- Energy Star methodology
- incremental introduction (e.g. offices then schools)
- third-party verified and quality assured

LABEL



Number (68) is calculated
 $E \times HDD \times fSE \times fO$
where

- Actual **energy consumed (E)**
- Impact of **weather (HDD)**
- Factor of each **source energy (fSE)**
- Factor(s) related to **occupancy (fO)**

NOTE: Zero to 100 scale





REPORT

Building energy sources

Electric (75%)

Gas (20%)

Propane (5%)

Building energy usage

325 ekWh

Building GHG emissions

3.5 t/yr

Building water usage

450,278 litres

Other technical information

e.g. Boiler type

Window type

Insulation levels

Unusual process loads

One page “Report” to accompany the label to record technical details

Energy usage normalised for weather only – enabling comparison of buildings in different locations

GHG emissions for each source, summed

Water usage is being collected in data set at request of our committee, but is not an energy factor - needs to be noted





Building Energy Codes in Canada



- Model National Energy Code for Buildings first developed in 1995, to be updated for 2011, continuing along ASHRAE reference building approach
- Independent Steering Committee has endorsed energy target approach similar to Europeans for 2015 update
- Mandate for 2015 code version to follow from federal and provincial policy targets of 20% GHG reduction by 2020 (from 2006 levels)
- Strategic and program planning underway
- Synergies between labelling and code development activity?

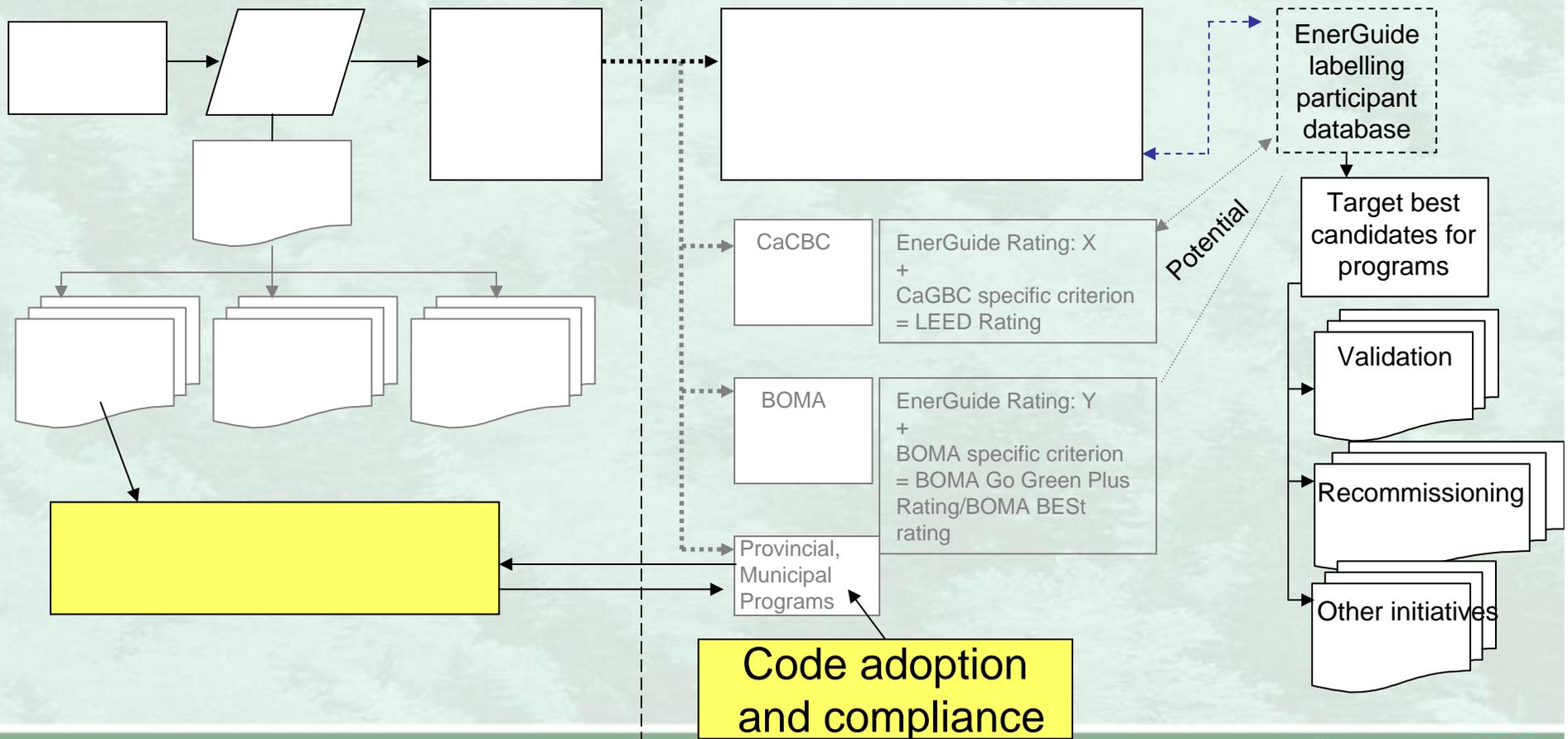




Summary - Data Flow

SYSTEM – Static Periodically updated

PROGRAM – Dynamic





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