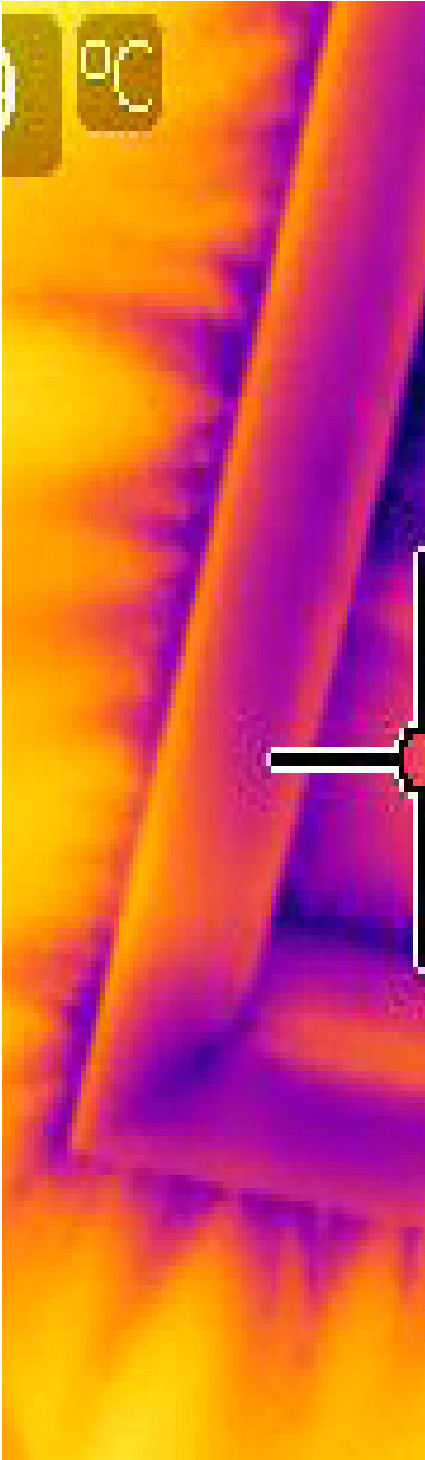


# 4 Elements

[www.4Elements.eco](http://www.4Elements.eco)

A Licensed Service Organization through Natural Resources Canada



## Understanding Home Energy Evaluations with EnerGuide

# ENERGUIDE



## ***Introduction***

Energy efficiency is quickly become a key concern for homeowners and new home buyers. Uncertainty in the energy market, an increasing sense of environmental responsibility, and expanding government regulations, are all pushing homes towards better, more comfortable, energy resilient homes. This is further encouraged through energy rebates and incentives.

## ***What is EnerGuide?***

EnerGuide is a system for the evaluation of home energy efficiency used across Canada since 2003. The EnerGuide Rating System includes administrative and technical standards, testing and oversight to provide Canadians with consistent assessments of a home's energy efficiency, and clear advice on how to improve home comfort and efficiency.

EnerGuide relies on a national network of licensed Service Organizations such as 4 Elements, who deliver EnerGuide through registered Energy Advisors. Energy Advisors are experts in energy efficiency who have proven their knowledge and experience through a series of examinations conducted by Natural Resources Canada (NRcan), and mentorship by other experts in the industry.

## ***An EnerGuide home evaluation includes:***

### Onsite testing by an Energy Advisor

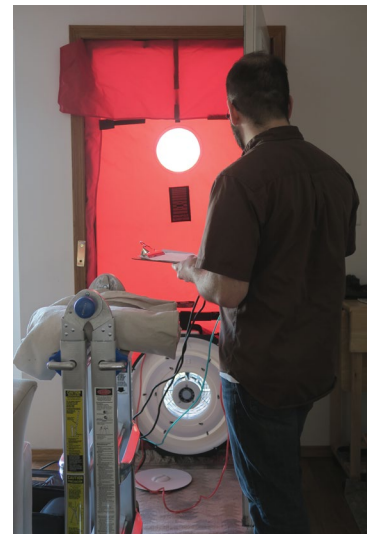
An energy advisor will come to the home to evaluate the energy performance from the basement to the attic, including an air tightness test.

### Home energy use information

An EnerGuide home evaluation uses detailed energy simulation (modeling) software to provide information about the home's energy performance. Full colour reports provide user friendly details on energy consumption and energy loss for each home.

### EnerGuide rating and home label

An EnerGuide rating demonstrates the energy performance of the home, and the label is proof of that energy rating. The label is a permanent record in the home showing the level of energy efficiency that the home was proven to meet at time of construction and testing.





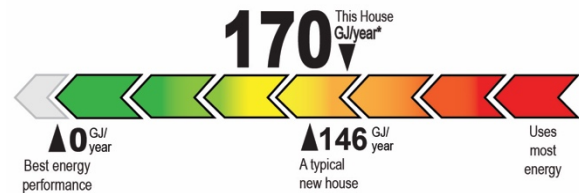
## Why Label with EnerGuide?

How much is one person's opinion worth? An unverified green claim is just an opinion and can often be responsible for "green washing". Most homeowners, builders and Realtors don't actually know how much energy a home will use, or how much it will cost to operate.

It's no wonder that **54% of buyers find distrust of unverified green claims a major obstacle in buying a green home**<sup>1</sup>.

### An EnerGuide Rating:

- **Verifies** home energy efficiency and estimates annual consumption.
- **Compares** the home to a Typical New Home which is based on current building code minimums adjusted for each climate zone in Canada.
- **Guides** renovation or upgrade decisions with quantified energy saving calculations and energy consumption predictions. Useful in planning renovations, or when building a new home to high performance levels.
- **Quantifies** energy savings as from a third party, Federal program. Used as the basis for many energy efficiency programs, rebates and regulations across Canada. See Rebates below.



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<sup>1</sup> McGraw Hill Construction SmartMarket Report, 2010 "The Green Home Consumer" Page 19

Photo Credits: Chelsea Morrish



## **Energy Efficiency Rebates**

Various rebates are available for new and existing homes across Canada. These rebates rely on the EnerGuide Rating System third party system of evaluation and testing by qualified Registered Energy Advisors.

### **CMHC Mortgage Rebate**

*CMHC offers up to a 25% premium refund to borrowers who buy, build or renovate energy efficient homes using CMHC-insured financing. This requires minimum energy performance based on an EnerGuide Evaluation.*

<https://www.cmhc-schl.gc.ca/en/buying/mortgage-loan-insurance-for-consumers>

### **Canada Revenue Agency (CRA) - GST/HST new housing rebate**

*CRA has various tax credits available when buying a new or substantially renovated home for qualifying Canadians. These tax credits do change periodically, and it is best to talk with a tax expert for details.*

<https://www.canada.ca/en/revenue-agency/services/tax/businesses/topics/gst-hst-businesses/charge-collect-home-construction/new-housing-rebate.html>

### **Green Homes Grant Program**

*Canada's largest and most ambitious rebate program to reimburse homeowners who make substantial improvements to their homes from a list of approved improvements. The rebate is based on receipts for work and products installed, backed by a Pre and Post EnerGuide Evaluation.*

<https://www.nrcan.gc.ca/energy-efficiency/homes/canada-greener-homes-grant/23441>

### **Seniors Home Adaptation and Repair Program (SHARP)**

*Low-interest home equity loans can cover a range of home adaptations and renovations to help Alberta seniors stay in their homes longer and improve energy efficiency. A loan of up to \$40 000 is available for qualifying seniors.*

<https://www.alberta.ca/seniors-home-adaptation-repair-program.aspx>

### **Clean Energy Improvement Program (CEIP)**

*Low-interest home equity loans can cover a range of home improvements completed by approved contractors. Funds are paid back with a low interest loan added to Property Tax. Alberta Municipal Services Corporation (AMSC) will be rolling this out over 2022-2023 with participating municipalities across Alberta*

<https://www.myceip.ca/>



## ***The EnerGuide Evaluation***

Before starting a new build or a major renovation, an EnerGuide evaluation will provide detailed information of the existing or as-designed home conditions and allow for specific recommendations to cost effectively improve the energy efficiency. This information can also be used to show Code compliance under the new 9.36 Energy Efficiency measures of the Alberta Building Code and is required for most rebates.

To Get Started:

- Email or call our office to connect with our experienced staff and schedule your pre-construction EnerGuide Evaluation.

[info@4elements.eco](mailto:info@4elements.eco)

403-250-5514 (Calgary and Edmonton office)

Before the Evaluation:

- The home must be fully sealed and ready for testing. The attic must be accessible, and all windows and doors installed. Mechanical systems must be operational, as the home must be in a habitable state to be eligible for EnerGuide.
- Do not use a wood burning fireplace the day before an evaluation and ensure all ash is removed prior to your evaluation.
- Owners, children, and pets are welcome to remain in the home during the evaluation. There is only a 15min period of testing where doors must remain closed.





### During the Evaluation:

- 1) Meet your Energy Advisor at your convenience and they will complete a detailed assessment of your home and its performance. Existing homes take 2 to 3 hours to complete. For new homes 1 hour is typical.
  - a. Your Energy Advisor will arrive, clearly identified with a uniform or EA ID badge.
  - b. Your EA will start by walking you through the assessment process, asking questions about your home and answering questions you have.

There are mandatory release forms that must be signed by the homeowner to start the evaluation, and your municipal tax roll number is needed.

- c. Measurements are done to accurately record the size and volume of the home, as well as all windows and doors for detailed computer modeling.
- d. Insulation levels are assessed and measured including visual review of the attic insulation depth.
- e. A Blower Door Test is conducted to measure the air leakage of the home. This measures the air leakage as if during a windy day and is used in the modelling.
- f. For homes at risk of combustion spillage a depressurization test will assess the risk and your EA will advise on safe operation.
- g. Photo documentation of the mechanical systems, envelope and exterior of the home are recorded for quality assurance and reference.

Privacy is always protected. People, pets, and home contents such as photos will not be photographed. All upgrades to the home will be photo documented to verify completion.

- h. The home is restored to its normal operation settings and all equipment is packed up as the EA leaves.

- 2) Your **Homeowner Information Sheet** and a letter will arrive by email within 2 weeks. A physical **EnerGuide label** will arrive by mail to be applied to your home (if requested).
- 3) Complete your energy saving renovations. Some renovations require the use of a Registered Contractor, permits and qualified trades. Others can easily be done by you. It is important to get detailed receipts for all work, photo document the changes and follow all requirements of the program.
- 4) Often rebates will require a follow up evaluation, called an E Evaluation.

**Call or Email now for Questions or to Start:**

**403-250-5514   info@4elements.eco**





## About Us:

At 4 Elements our focus is sustainable building, from pre-construction through to final testing. We are at the heart of sustainable building in Alberta, helping project teams of builders, designers, developers and their clients find a pathway down the road to better built, better performing homes and buildings.

We provide design, consultation, energy modelling and education to support and encourage projects to reach their sustainable, durability and performance goals. Some highlights include:

- Involved in design, testing and/or certification services for 68 LEED Canada for Homes projects in Alberta as LEED Homes Provider, with 2 Certified LEED Green Raters on staff.
- Alberta’s first Net Zero Homes Energy Advisor under CHBA-Net Zero Home program developed in 2016.
- Currently the only Energy Advisor company in Alberta with specialized capacity for testing buildings of over 2 million cu.ft. as well as very tight homes under 0.5 ACH
- Completed the first Passive House Design course offered in Alberta in 2010.
- Completed over 1600 EnerGuide Rating System Labels.
- Volunteered with Natural Resources Canada on the R2000 Net Zero pilot and EnerGuide V15 development.
- Volunteered for 8 years with the Built Green Standards Committee developing Alberta’s homegrown green building standard since its early beginnings to a robust national green building program for home builders. Volunteer on Climate Change Committee and Provincial Residential Technical Committee with BILD
- Provided mentorship and training to over 100 Energy Advisors



## Calgary Based – Alberta Focused Since 2008

Calgary ♦ Canmore ♦ Medicine Hat ♦ Red Deer ♦ Edmonton

**A. 110 32 Avenue NE,  
Calgary AB, T2E 2G4**  
**P. 403.250.5514 (Calgary)  
587-336-8330 (Edmonton)**  
**E. info@4element.eco**  
**W. 4elements.eco**

**Additional Resources:**

4 Elements Integrated Design – Source for news, events and more information  
[www.4elements.eco](http://www.4elements.eco)

**Program Information:**

Energide Rating Service – Energy efficiency homes measurement system  
[www.oeecan.gc.ca/residential/new-houses.cfm?attr=0](http://www.oeecan.gc.ca/residential/new-houses.cfm?attr=0)

ENERGY STAR for Homes Canada

[www.oeecan.gc.ca/residential/personal/new-homes/background.cfm?attr=4](http://www.oeecan.gc.ca/residential/personal/new-homes/background.cfm?attr=4)

Built Green program – Green Building for Home Builder Assoc. Members

[www.builtgreen.com](http://www.builtgreen.com)

LEED Canada for Homes – Green Building Program for Owners and Builders

[www.canadagreenhomeguide.ca](http://www.canadagreenhomeguide.ca)

CanPHI – Canadian Passive House Institute

<http://www.passivehouse.ca/>

**News and Articles:**

Green Building Advisor – Articles and product listings

[www.greenbuildingadvisor.com](http://www.greenbuildingadvisor.com)

Building Green – LEED focused news, articles and research

[www.buildinggreen.com](http://www.buildinggreen.com)





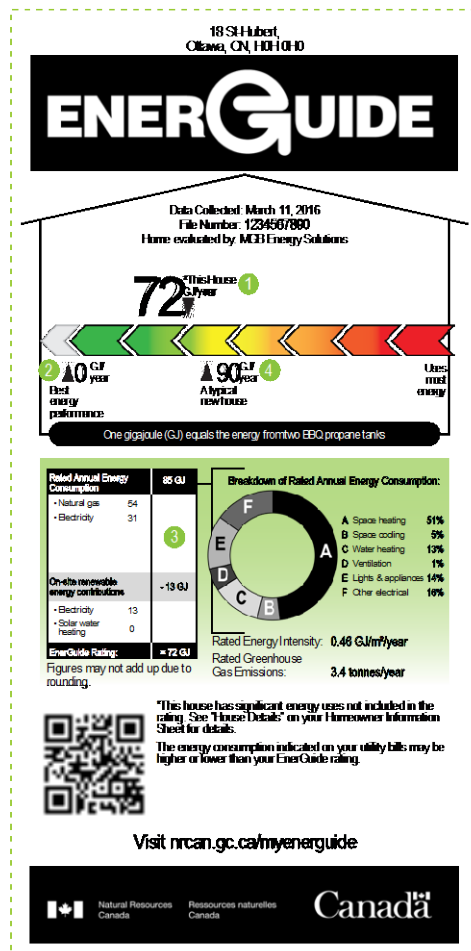
## Appendix – Guide to new EnerGuide Labels

### GUIDE TO THE ENERGUIDE LABEL FOR HOMES



Congratulations on taking an important step towards understanding the energy efficiency of your home. Your EnerGuide label and the companion Homeowner Information Sheet provide you with information about your home's energy use. Improving the energy efficiency of your home can lead to lower energy costs. Other benefits include improved comfort and indoor air quality, reduced consumption of and reliance on energy resources, and fewer greenhouse gas emissions. This guide provides you with information to understand your EnerGuide label by illustrating the features of two sample labels.

#### An example of a label for a high-performing home



1 **ENERGUIDE RATING** - unique to each home, the EnerGuide rating is determined by an energy advisor registered under Natural Resources Canada's housing initiatives and working for licenced a service organization. The energy advisor assesses energy related aspects of the home such as the home's size and structure, level of insulation and mechanical equipment. The data is assessed using energy simulation software and standard operating conditions to produce the home's EnerGuide rating. The rating is measured in gigajoules (GJ) per year. The lower the rating, the less energy you consume.

2 **TOWARDS BEST ENERGY PERFORMANCE** - the better the energy performance of a home, the closer to zero its rating will be. Some homes produce as much energy as they consume over the course of a year and as such they receive a rating of zero. Homes that produce more on-site renewable energy than they consume from conventional sources (e.g. natural gas, oil) are referred to as "net positive energy homes" and have a rating of 0\*.

3 **HOW THIS RATING WAS CALCULATED**

$$85 - 13 = 72$$

85 GJ/year: the estimated amount of energy the home uses each year, largely a reflection of how the house was designed and built

13 GJ/year: the estimated amount of energy generated annually from on-site renewable sources such as the sun and the wind.

72 GJ/year: the EnerGuide rating

4 **HOW YOUR HOME COMPARES** - the EnerGuide rating of your home if built to typical new house standards<sup>1</sup>. It shows the rating of a house with similar characteristics to yours, similar size, construction type and location. This can be used as a point of comparison for your home's rating. For example, the evaluated house on the label to the left performs 20% better than "A typical new house".

<sup>1</sup>Your home's EnerGuide rating provides no indication of whether or not your house meets the building code.