



How Energy Advisors Can Help Builders

**Nick Watson, Certified Energy Advisor
EnviroMez Services**

What is a Certified Energy Advisor (CEA) ?

- A CEA is trained to deliver a range of home energy evaluation services on behalf of Natural Resources Canada licensed service organizations.
- Delivering the *Energide Rating System*
 - *Used to support initiatives like ENERGY STAR®, BUILT GREEN®, R-2000 LEED...*
- Working with Homeowners, Builders, Designers, Architects
 - *Education, Energy Efficiency Goals, Accessing Rebates, 9.36 Support*

What does a Certified Energy Advisor do ?

‘Helps you to build more energy efficient, comfortable and durable homes’

- **Conduct Plan Evaluations / Energy Modelling of Designs**
 - Using Design Plans to Take Off Home Dimensions, Measurements, Areas and Volumes as required for HOT2000 Modelling to establish a baseline energy model.
- **Deliver the ‘Basic Service’**
 - *An on-site* energy evaluation of a house and subsequent energy modelling of the house in HOT2000 to establish a baseline Energuide Rating
- **Deliver the ‘Renovation Upgrade Service’ for existing homes**
 - *Where an Energy Advisor* serves as a consultant to homeowners to assist with planning for renovations that can reduce energy consumption and related energy costs, reduce greenhouse gas emissions and improve comfort.
- **Deliver the ‘Construction Upgrade Service’ for new homes**
 - *Where an Energy Advisor* serves as a consultant to builders to assist in designing houses with better energy performance.
- **Deliver the ‘Construction Blower Door Service’**
 - *Undertaken by an Energy Advisor* during the construction or renovation of a house to identify air leakage locations, assess air tightness and to aid in the improvement of the builder or renovator’s air leakage control practices.

What does a Certified Energy Advisor do ?

'Helps you to build more energy efficient, comfortable and durable homes'

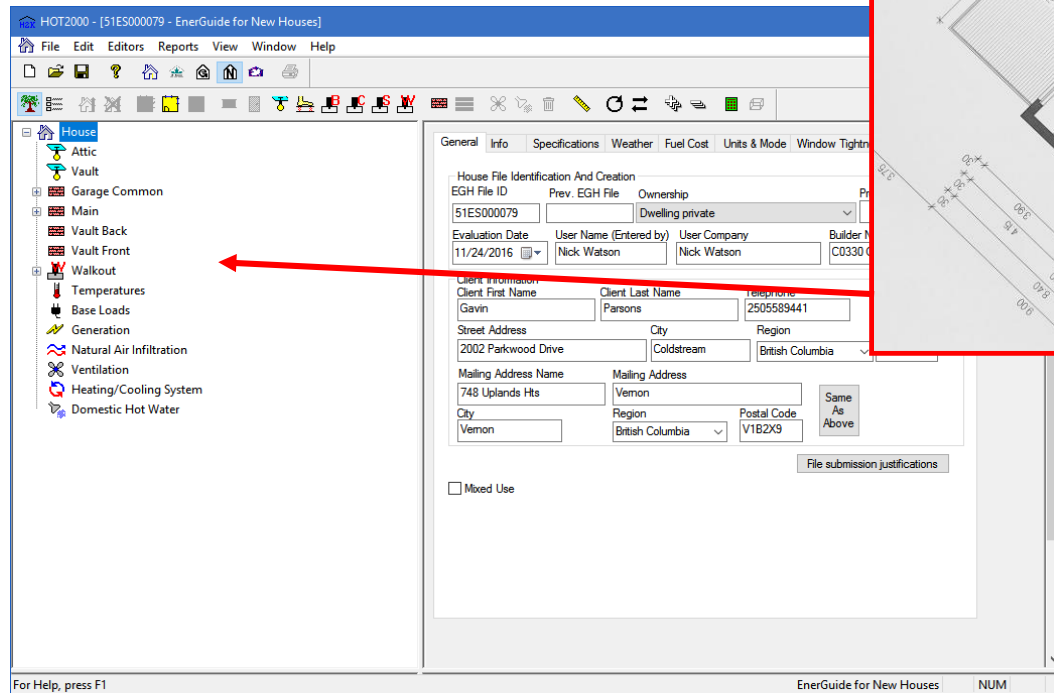
- **Build Home Energy Models in HOT2000**
 - To support various Government and other home energy efficiency initiatives
- **Analyze Proposed Assemblies for Section 9.36 Compliance for Prescriptive projects**
 - Building Tables of Assemblies based on NRCan Thermal Performance Information
- **Provide support to industry professionals on home energy related standards**
 - Guidance on requirements
- **Assess and Verify on behalf of the SO that requirements have been met**
 - On-Site Inspections / Audit Photographs / Envelope as per specs / geometry matches plans / Equipment and Insulation installed matches the specification etc.
- **Provide Mid-Construction Inspections**
 - Blower Door Testing, Air Barrier Review, Thermal Bypass Inspections
- **Provide Final Tests and Inspections**
 - Final Blower Door Testing, Sign Offs, Submitting Completed Files for Processing
- **Support Building Permit Applications**
 - NBC Performance Path Compliance Modelling, Consultancy and Reporting

What does a Certified Energy Advisor do ?

'Home Specification Scenarios - House as a System'

- **Every Building is Different... EA can help with the envelope decision process at a whole building level...**
 - **Modelling Different Framing Approaches Configurations**
 - **Effect of Different Insulation Approaches Configurations**
 - **ICF vs Frame and Rigid**
 - **R50 vs R60 in the Roof**
 - **Under Slab Insulation**
 - **Effect of Upgrading Windows / Doors**
 - **Changing Mechanicals / Adding a HRV / Heat Pump**
 - **Considering Renewables**

Some Practical Examples... Plan Evaluation Design Review - HOT2000



'House as a System' approach

Some Practical Examples...

Mid Construction Air Tightness Review / Blower Door Testing



So what do you need to do ?

- Engage with your Energy Advisor as early as possible in the process
- Discuss your Energy Efficiency goals or what you are hoping to achieve eg. an ENERGY STAR® qualified home – your Energy Advisor will help ensure you are on the right track and will identify possible compliance issues
- Consider your Energy Advisor part of the construction team for the duration of the project and lean on them for home energy related advice as the build progresses
- Let your Energy Advisor do periodic checks during construction to help ensure assembly items eg. insulation and air barrier are intact and durable through Mid Construction Blower Door Testing and Thermal Bypass Inspections. (This is mandatory for some services)


Resulting In...

Address
Identifies the house to which the rating applies.

Scale
The low end of the scale represents a house that is built to minimum building code standards.
100 represents a house that is very well insulated, airtight, sufficiently ventilated and that requires no purchased energy (such as solar-powered home).

File Number
Official number assigned to homes that have been evaluated.

Evaluated By
Name and telephone number of the energy advisor.



123 EnerGuide Street Ottawa, ON K1A 1A1

81

Level of energy efficiency/ Niveau d'efficacité énergétique
65 100


Energy Efficiency Target/ Objectif d'efficacité énergétique

Estimated annual energy consumption
Estimation de la consommation annuelle d'énergie

Electricity/ Électricité: **9 493 kWh** Gas/ Gaz: **4 182 m³**

File number/ N° de dossier : **9901P00001**
 Builder/ Constructeur : **ABC Construction**
 Service Organization/ Organisme de service : **ABC Organization**
 Software Version/ Version du logiciel : **9.35**

Name and telephone number of the EnerGuide rating system energy advisor.
Nom et numéro de téléphone du conseiller en efficacité énergétique pour le système de cotation EnerGuide.
Paul Alliance, 613-555-1234 Date: January 1, 2007
newhomes.gc.ca / maisonsnoueves.gc.ca **1-800-387-2000**


 **Canada**

Energy Efficiency Rating
Allows comparison of energy performance with houses of the same size. The more efficient the house, the higher the rating number.

Estimated Annual Energy Consumption for the House Under Standard Operating Conditions
Allows comparison of the energy consumption of the house to similar houses, and helps estimate energy costs.

Software Version
The EneGuide rating software edition that was used to determine the home's energy efficiency rating.

Date
The date that the energy efficiency evaluation was conducted.



17293B

AN ENERGY STAR[®] QUALIFIED HOME

Address:
**1251 Bergamot Ave
Kelowna BC, V1W 5K5**

Built by:
H0000

Verified by:
Gilles LeSage (7604)

ENERGY STAR File Number:
7604N00089

Date:
03/08/13

Service Organization seal must be present to be valid.

A Service Organization is any organization or person whose role, under a separate contract with Natural Resources Canada (NRCan), is to ensure ENERGY STAR qualified homes meet strict energy efficiency guidelines set by NRCan.

TERRA DIOSA CONSULTING INC.

www.energystarfornewhomes.gc.ca

The ENERGY STAR logo and qualified are registered trademarks of the United States Environmental Protection Agency and are used with permission.



Thank You...

Questions...



Thank You...

Nick Watson, MSc, CEA

250-306-3740

nick@enviromez.ca

www.enviromez.ca