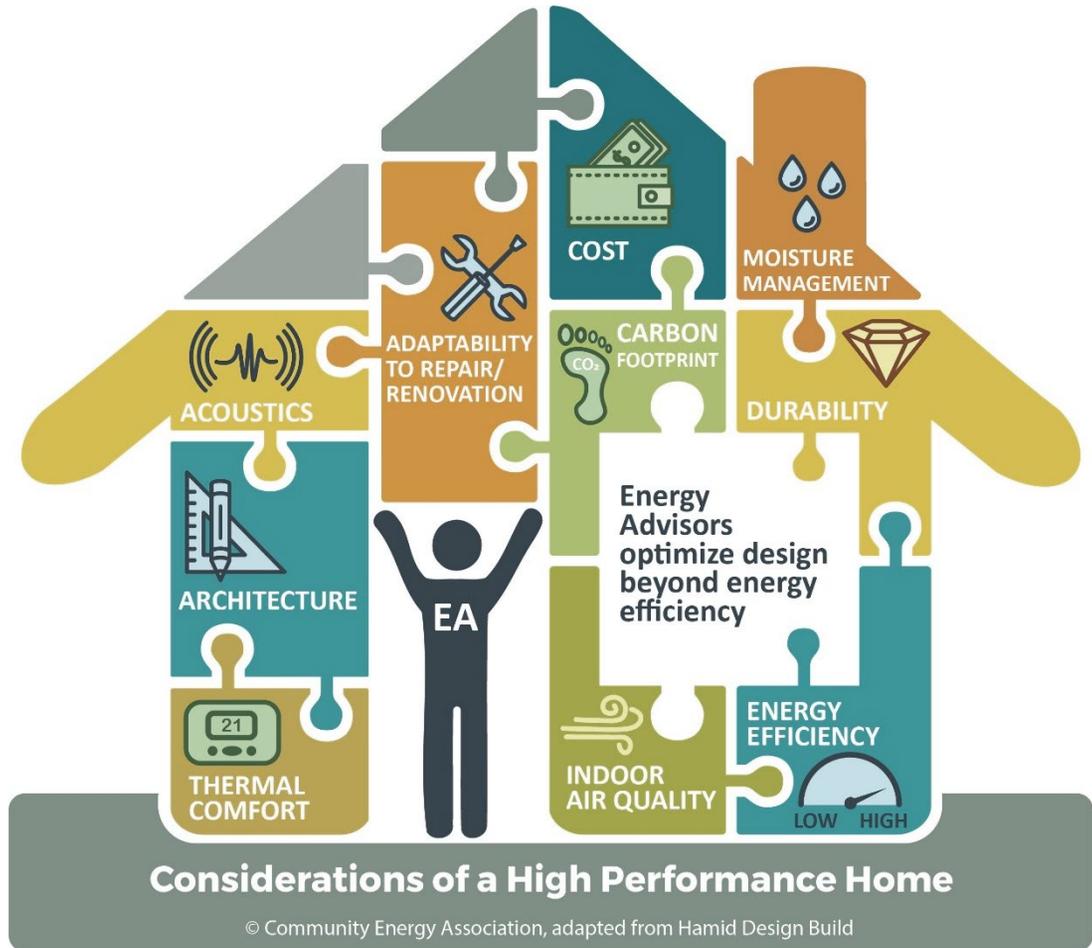


Working with an Energy Advisor

Your Roadmap to a High-Performance Home



WORKING WITH AN ENERGY ADVISOR (EA)

YOUR NEW CONSTRUCTION ROADMAP

STEP 1: MODEL YOUR HOME: An EA models your home to show that it complies with the current metrics for your region and climate zone. You need to provide your permit plans including any mechanical systems, window and door packages, and building assemblies to be used in building the home.

STEP 2: OPTIMIZATION: An EA views your home as a system versus its individual parts and can compare and contrast how each upgrade will change the performance of your home. This information allows balancing options and designing to your context.

STEP 3: MID-CONSTRUCTION VERIFICATION: A mid-construction air leakage test determines the building's air tightness when the air barrier is exposed. It highlights issues while still easily accessed and corrected. Ideally, the air barrier is complete, and windows and doors are installed at the time of testing. Subtrades can be working, inside or outside of the home, during the mid-construction air tightness test.

STEP 4: FINAL SITE INSPECTION: Completes a final site inspection including a final air leakage test. All windows, doors, and mechanical systems must be installed for verification.

STEP 5: REPORTING AND REBATES: An EA provides final reporting and any required labeling to meet local requirements and apply for applicable rebates.

YOUR NEW CONSTRUCTION CHECKLIST - Modelling Information Requirements

PLANS MUST SHOW:

- Scale. Ideally, the same scale on every page to avoid delay, extra expense, and errors.
- Window sizes and window operation.
- All vaults. Ideally with a cross-section for each vault.
- All building assemblies with the correct insulation values that you plan to actually build. Permit offices reject plans that don't match EA reports, e.g., "2.5 inches ridged" isn't sufficient. You must note the insulation's expected R-value.
- Direction the home faces.

VENTILATION:

- Type of system and location, e.g., HRV (bathroom fan) or forced air fan. *If unknown, EA can assign assumptions.*

WINDOWS:

- Type of windows, e.g., vinyl or wood frame casement, sliders.
- U-value and other performance ratings of windows. **TIP:** Window quotes typically show the performance data needed. *If unknown, EA can assign assumptions.*

HEATING AND COOLING:

- System type, e.g., heat pump, gas-forced air, boiler.
- Performance data for those systems. **TIP:** Mechanical quotes typically show the performance data needed. *If unknown, EA can assign assumptions.*

Content adapted from and in partnership with:



WORKING WITH AN ENERGY ADVISOR (EA)

YOUR NEW CONSTRUCTION CHECKLIST - Air Leakage Testing

CONSTRUCTION PHASE:

- Building envelope is intact and the air barrier fully completed.
- All windows and doors installed, or openings temporarily sealed.
- Close all dampers.
- Seal all intentional openings: chimneys, vents and drains.
- 120V 15A power is available near the test location.
- Provide clean and clear access to the test location.
- All workers on-site are prepared to stay in or out of the building during the test (min. 30 minutes).
- Provide heat to the building if a thermal camera is used for leak detection (min. 5° warmer / colder than outside temperature).

FINAL TESTING PHASE:

- Ensure all paint and finishes are dry and will not be damaged by blower installation or leave residue on the blower equipment.
- Provide clean and clear access to the test location.
- Do not seal off vents or other openings normally left open or use tape or other sealants to block leaks.
- Close all dampers.
- Shut down all gas-fired appliances. *EA can assist.*
- Shut off all ventilation and fans. *EA can assist.*
- All openings are sealed, e.g., no open or broken windowpanes.
- Fill all P traps with water.
- On-site workers are prepared to stay in / out during test (min. 30 minutes)

THE BENEFITS OF WORKING WITH AN ENERGY ADVISOR (EA)

EAs are knowledgeable efficiency and sustainability professionals – helping homeowners, renovators, and builders make **GOOD** decisions – and where house components work together, and a home is safe, comfortable, efficient, and durable. They are **YOUR** partner to success – helping you navigate a challenging and ever-changing landscape.

With an uncertain energy market, a growing sense of environmental responsibility, and expanded government regulations, there is an increased focus on ensuring homes are sustainable, comfortable, and efficient. **EAs are energy efficiency and building science professionals**, registered and licensed by Natural Resources Canada (NRCan) to deliver the EnerGuide Rating System (ERS) – a standardized system, using a recognized rating tool, frequently referenced as a requirement for programs. EAs provide impartial, third-party verification and rate single dwellings, townhomes, and low-rise, multi-unit buildings' energy efficiency.

EAs view the 'house as a system' where every part of the building works together to achieve optimal results. They have a broad variety of knowledge and expertise: building/construction approaches, materials and technologies; energy consumption patterns; current, and pending regulations and programs; etc.

EAs can provide an EnerGuide Rating System, a voluntary labelling program, and Building Code compliance services. Homes are significant assets and EAs can help you make smart, informed decisions to enhance your investment as well as having a better living environment. **FOR NEW HOMES OR LARGE RENOVATIONS** an EA can help at the design stage or during the building, to facilitate discussions with architects/designers, contractors, and building professionals to explore different opportunities. **FOR EXISTING HOMES** an EA can review your renovation upgrade report (RUR); identify areas requiring your attention; exploring opportunities; and creating a roadmap that will result in a comfortable, healthy, more sustainable, resilient, and efficient home.

Find an experienced EA at <https://cacea.ca/find-an-energy-advisor/>

WORKING WITH AN ENERGY ADVISOR (EA)

YOUR EXISTING HOME / RETROFIT ASSESSMENT ROADMAP

STEP 1: HOUSE EVALUATION/VERIFICATION: An EA will conduct a site visit to take measurements and photos and perform an air leakage test. They need access to all rooms in the home. An evaluation of an existing home considers:

- dimensions and measurements of the building envelope
- wall construction (ability to keep the heat in)
- foundation type and insulation (ability to keep the heat in)
- window construction (heat lost through glazing)
- ceiling and attic insulation (ability to keep the heat in)
- mechanicals (heating, AC, ventilation, water heaters, etc.)
- air leakage rate (how many times you reheat your home's air / hr.)
- atypical loads (large appliances that consume a lot of power)

STEP 2: UPGRADE RECOMMENDATIONS: Modelling allows an EA to identify areas for improvement based on the highest impact related to a client's wants and needs. It can be hard to know which upgrade to begin first, especially when working within a budget. Your EA can offer an invaluable renovation path that considers both the existing building and your upgrade goals. They are able to consider options that prioritize the most cost-effective route, best value added for resale, maximizing rebates, or a combination of all.

STEP 3: REBATES: A follow-up evaluation (e.g., post-retrofit audit; air tightness test and verification if upgrades) is typically required to apply for rebate, grant and loan programs. EAs can assist with the proper documentation of paperwork required for this part of the process.

YOUR EXISTING HOME / RETROFIT CHECKLIST - Modelling Information Requirements

MEASUREMENTS:

- Geometry (size and shape) of the house with floor plan per level.
- All vaulted ceiling. Ideally with a cross section for each vault.
- All building assemblies with actual or estimated insulation values.
- Direction the home faces.

VENTILATION:

- Type of system and location, e.g., HRV (bathroom fan); forced air fan.

DOORS AND WINDOWS:

- Doors and window sizes and window operation.
- Type of windows, e.g., vinyl/wood frame casement; sliders.
- U-value and/or other performance ratings of the windows.
If unknown, EA can assign assumptions.

HEATING AND COOLING:

- System type, e.g., heat pump, gas forced air, boiler.

YOUR EXISTING HOME / RETROFIT CHECKLIST – Air Leakage Testing

- Don't light fireplaces. They must be cold and clean for testing.
- Clear access to the attic hatch so the EA can see the attic insulation.
- Clear access to crawl spaces so the EA can access them.
- Don't seal off vents or other openings normally left open.
- Close all dampers.
- Shut down all gas-fired appliances.
- Shut off all ventilation and fans.
- All openings are sealed, e.g., no open/broken windows.
- Don't turn up the furnace thermostat, take a bath/shower, run the dishwasher, or use washing machine and/or dryer.
- Occupants are prepared to stay in or out for min. 30 minutes.
- An adult with a knowledge of the home must be present.