

About the Energy Step Code

Part 9 Residential Buildings

The Step Code in the RDCK

On November 19th 2020, the Regional District of Central Kootenay (RDCK) Board discussed and adopted the Regional District’s bylaw update to adopt Step 1 of the BC Energy Step Code. Visit energystepcode.ca for more information about the BC Energy Step Code.

For building permit applications received after **December 31st 2020**, new Part 9 residential buildings will need to demonstrate "enhanced compliance" with Step 1 of the Step Code.

Step 1 is a no-fail option which uses a third party energy assessment to measure and report the air-tightness and energy performance of new residential buildings. Buildings can also voluntarily be built to a higher step (2 – 5). Step 5 is *net zero ready*, meaning the building will be highly efficient and ready to integrate onsite generation to produce as much energy as it uses.

What is the Step Code?

The Step Code is a new provincial standard that provides an incremental and consistent approach to energy efficient construction. Each step on the BC Energy Step Code means a more efficient building, with the final step being net-zero (i.e. the building creates as much energy as it consumes).

How is Step Code Measured?

The BC Energy Step Code is performance based, meaning that it requires a certain level of energy efficiency rather than dictating design/construction requirements. It considers the building envelope (walls and windows), equipment efficiency, and airtightness.

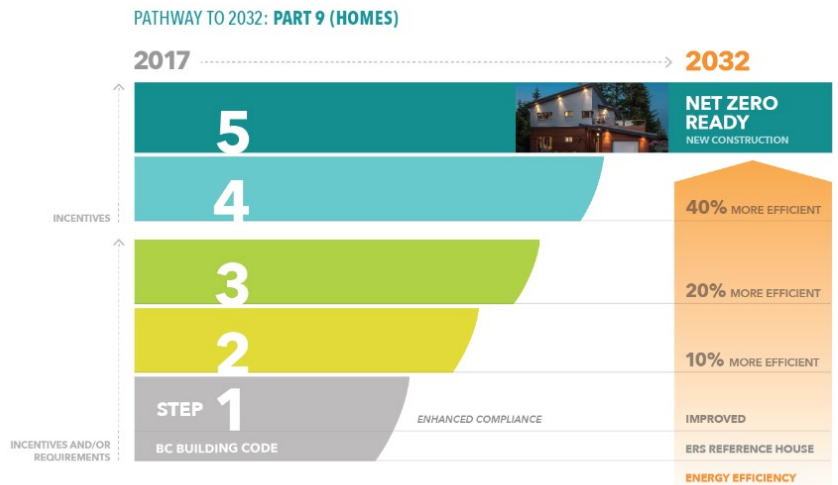


Figure 1 – Energy Step Code Part 9 Pathway

Building energy efficiency is measured by Natural Resources Canada (NRCAN) registered professionals called Energy Advisors (EAs) using the following:

- **Energy modelling:** model energy consumption based on building plans and appliances; and,
 - **Air tightness testing during and post-construction:** measure how easy it is for air to leak through a building’s exterior to ensure the building’s actual performance meets the design specifications.
- All ‘Steps’ within 9.36.6 require at least one blower door test at project completion. A mid-construction (pre-drywall) blower door test is recommended to facilitate the correction of air barrier deficiencies before final construction.*

Why High Performance Building?

Benefits to Homeowners

- **Building testing**—buildings are tested to ensure they meet energy efficiency targets
- **Lower energy bills**—lower energy consumption and better insulation reduces heating/cooling costs for the whole life of your home
- **Quality assurance**—through assessing your new home’s performance in addition to the typical safety assessments, home owners are assured of the construction and performance of their home
- **Greater comfort**—reduced drafts and temperature variations due to high airtightness make your home feel more comfortable in cold and warm temperatures
- **Increased resale value**—buyers are increasingly demanding high efficiency homes
- **Reduced noise**—increased insulation levels and better windows can reduce noise levels
- **Healthier living**—better air quality, including mechanical ventilation provides a healthier indoor environment

Trade-offs

- **Building costs:** construction costs may increase to meet the higher steps; however, lower operating costs and incentive programs will help to offset these costs

Building Permit Application Documents

In addition to the typical building document requirements, the Step Code process requires some minor alterations to the documents. The new building permit applications for Step Code Part 9 Buildings (residential buildings) require:

<p>Building Permit Application</p>	<ul style="list-style-type: none"> <input type="checkbox"/> RDCK Application for Building Permit <input type="checkbox"/> Owner’s Representative Form (if required) <input type="checkbox"/> Building Plan drawings including: Floor Plans, Elevation Plans and Cross Section Plans showing all the energy efficiency upgrades and energy statements indicating compliance with the BC Energy Step Code and Air barrier details shall be shown on the drawings (in red). <input type="checkbox"/> Site Plan <input type="checkbox"/> BC Housing New Home Registration Form <input type="checkbox"/> Record of Sewerage System filed with Interior Health (if required) <input type="checkbox"/> Access Permit (if required) <input type="checkbox"/> Current Title Search <input type="checkbox"/> Professional Certification (if required) <input type="checkbox"/> <i>NEW</i> - BC Energy Compliance Report – Pre-construction form <input type="checkbox"/> <i>NEW</i> - Printout or electronic version of the complete pre construction HOT2000 Model Full Report
<p>Occupancy Permit Application</p>	<ul style="list-style-type: none"> <input type="checkbox"/> Completed Siting, Drainage, Slab/Radon, Framing, Plumbing, Insulation Inspections – see Building Permit Applications Requirements booklet for details <input type="checkbox"/> <i>NEW</i> - BC Energy Compliance Report - As-Built form indicating Step Code level achieved (minimum Step 1) <input type="checkbox"/> <i>NEW</i> - Post-construction blower door test <input type="checkbox"/> <i>NEW</i> - Energy rating posted and displayed (typically in the mechanical room) <input type="checkbox"/> <i>NEW</i> - Email confirmation from the Service Organization acknowledging receipt of the N file corresponding to the Hot2000 Model Full Report
<p>On Final Inspection</p>	<ul style="list-style-type: none"> <input type="checkbox"/> <i>NEW</i> - Final EnergGuide Label provided by NRCAN to be displayed (typically in the mechanical room)