

# How are B.C. Residential Builders Adapting to the BC Energy Step Code?



**BC HOUSING**  
RESEARCH CENTRE

## Introduction

The Province of British Columbia has committed to reach net-zero ready for all new residential construction by 2032. To help the B.C. construction industry achieve this, the Province developed the BC Energy Step Code (BCESC). In May 2023, all new homes in B.C. will need to be 20 percent more energy efficient. This is in line with Step 3 of the BCESC.

This summary explores how the BCESC is impacting residential construction practices and costs over time and across B.C. It summarises the key takeaways from the second phase of the BC Energy Step Code Market Response Monitoring Project.

The full report can be found [here](#).

### Methodology

- Builders were invited to take part in the survey through the local branches of the Home Builders Associations (HBA).
- The survey was available between November 15 and December 15, 2021.
- In total, 69 builders completed the survey to an acceptable level.

## HIGHLIGHTS



▶ The BC Energy Step Code is moving the residential construction industry towards greater energy performance.



▶ Although the BC Energy Step Code is likely increasing construction costs, general price inflation appears to have a considerably larger impact on cost overall.



▶ Lower-cost Energy Saving Measures (ESMs) appear to be under-utilized by builders, though the reasons for this are undetermined.



▶ There is a need for more education on the BC Energy Step Code among certain builder demographics, key trades (particularly heating, ventilation, and air conditioning (HVAC)), homebuyers, and building officials.



HOW PREPARED ARE RESPONDENTS FOR THE BC ENERGY STEP CODE?



Felt prepared for Step 3 or higher



Met their target Step on their last project

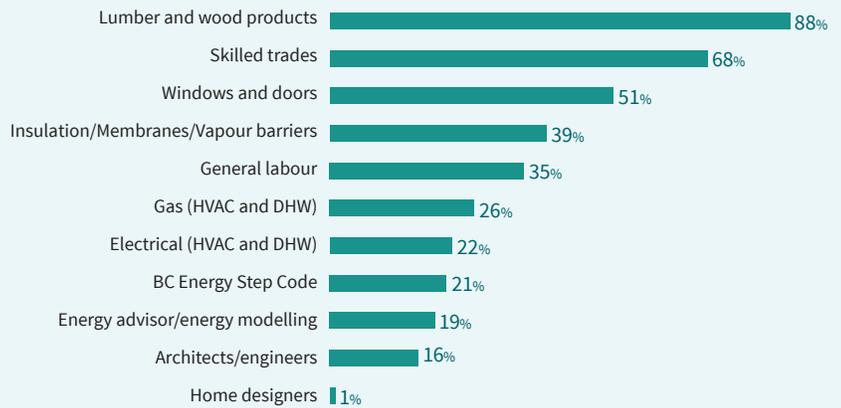


WHAT ARE THE TOP COST DRIVERS OF RESIDENTIAL CONSTRUCTION?

Close to 90% of respondents identified lumber and wood products as a key driver of residential construction costs overall. In comparison, only 21% identified the BC Energy Step Code, which was ranked 8<sup>th</sup> out of 11 cost driver options.



Identified lumber and wood products



WHAT ARE THE MOST COMMON ENERGY SAVING MEASURES (ESMS)?

Building envelope:

The most common ESMS used were better air tightness (90%), improved insulation (72%), reduced thermal bridging (64%), and use of high-performance windows and doors (61%).



90%

Used better air tightness



72%

Used improved insulation



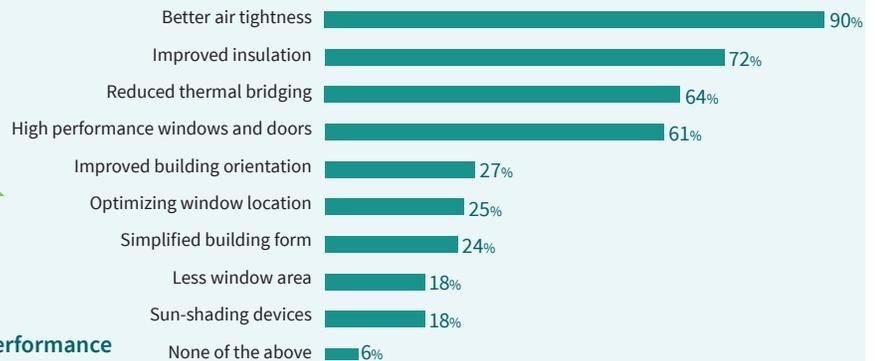
64%

Used reduced thermal bridging



61%

Used high-performance windows and doors



Mechanical System:

The most common ESMS used were Heat Recovery Ventilators (HRVs) / Energy Recovery Ventilators (ERVs) (73%) and heat pumps for heating/cooling (72%).



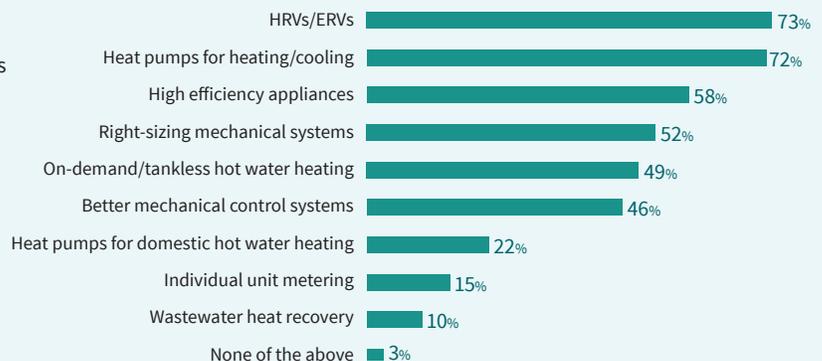
73%

Used HRVs/ERVs



72%

Used heat pumps

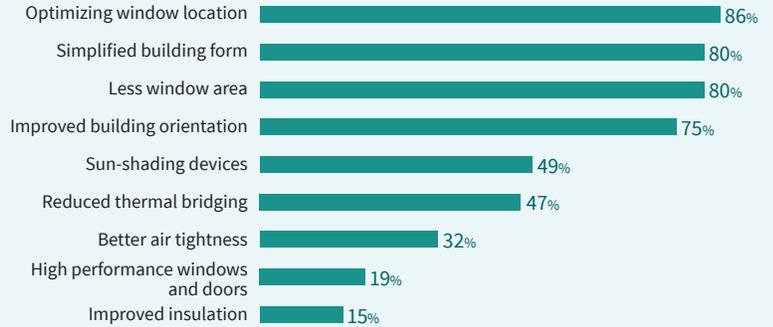




WHICH ENERGY SAVING MEASURES IMPACT COMPONENT COSTS THE LEAST?

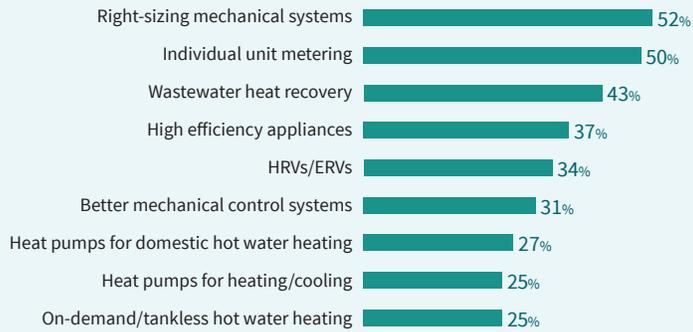
**Building envelope:**

- ▶ 75% or more reported either a decrease or no change in component cost when optimizing window location (86%), simplifying the building form (80%), less window area (80%), and improving the building orientation (75%).



**Mechanical System:**

- ▶ Half reported either a decrease or no change in component cost when right-sizing the mechanical system (52%).



WHAT ARE THE MOST CHALLENGING ASPECTS OF BUILDING TO THE BC ENERGY STEP CODE?

- ▶ Cost and budget constraints (64%) was the most common challenge reported. This was followed by lack of client demand/awareness (55%) and lack of necessary skills/training among trades (55%).



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