

Building for the Future

BC Energy Step Code

5-Part Webinar Series



2032
ALL BUILDINGS
NET ZERO.
BE READY.



Building for the Future BC Energy Step Code 5-Part Webinar Series

April – August 2021
(one workshop per month)

By 2032, all new buildings will need to be net zero ready. What does this mean for the BC construction industry? Find out in this 5-part series, designed for builders, designers, architects, and building officials. Participants will get an overview of how the Step Code will shape the buildings of tomorrow through the insight of BCIT professionals and industry experts.



Workshop 1

The Building of Tomorrow

An Overview

April 28
9:00 – 10:30 am

Description

The BC Energy Step Code is here. By 2022, we will all need to build to Step 3 (part 9 buildings). By 2027, the bar will be raised to Step 4. By 2032, all new buildings will need to be net zero ready (Step 5). What does it mean for the BC construction industry? In this first webinar of a 5-part series, the participants will get an overview of the buildings of tomorrow. What does the below and above grade assemblies of a “Step Code building” look like? What will the mechanical systems consist of? Who are the experts that will be working on the projects? Join us for this 1.5-hour webinar to get answers to these questions, and ask your own questions to BCIT experts.



PRESENTER

Cody Brentzen

- BCIT Part-Time Instructor
- Red Seal Carpenter
- Certified Passive House Tradesperson



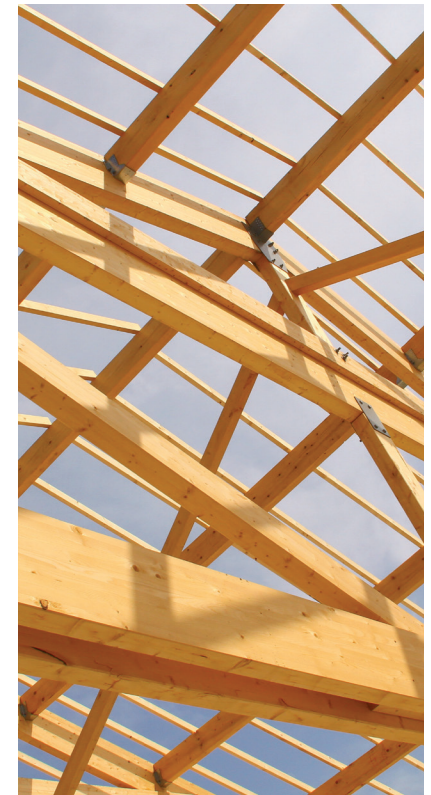
MODERATOR

Alex Hebert

- BCIT Zero Energy Buildings Learning Centre

AGENDA

- 5-workshop series with City of Abbotsford: What's in it for you?
- BC Energy Step Code Refresher / Recap
- Role of an Energy Advisor
- Introduction to 4 LEEP Walls Mockups – case study + application, Step 1 vs Step 5
- Tour of the BCIT 2-storey teaching house – case study + application
- Discussion on mechanical systems options under Energy Step Code using HVAC equipment located in the BCIT lab, animations introduction
- What about cost?
- What are the rebates available and where to find the info?
- Q and A



ZOOM Registration link:

<https://bcit.zoom.us/meeting/register/u50vf-utrDouEtlMooTVm6yRFrv1jpYVuhZ7>

Workshop 2

ZEB Building Science ABC

+ Myth Buster

May 26
9:00 – 10:30 am

Description

Building Science is about understanding the movement of air, heat and moisture in buildings. Under the BC Energy Step Code, walls are getting thicker and the envelope is getting more airtight. This will obviously result in a better control of air and heat in and around walls. But what about moisture? Will thick and airtight walls be moldy and unhealthy? In this second webinar of a 5-part series, BCIT's expert will review principles of Building Science guiding the management of moisture in buildings. The webinar will include examples of smart vapor barriers, a demo of a free dew point location calculator, and a discussion of 4 different wall assemblies designed to successfully deal with air, heat and moisture in BC's climate.



PRESENTER

Josh Vanwyck

- BCIT Part-Time Instructor
- BC Energy Step Code and Certified Passive House Consultant



MODERATOR

Alex Hebert

- BCIT Zero Energy Buildings Learning Centre

AGENDA

- Review of the 6 principles of high performance buildings
- Review of the 5 critical layers of an assembly using 4 LEEP Wall Mockups – case study + application
- Deep Dive – The Building Science of moisture and air management
 - Material samples
 - Videos: Gore-Tex, condensation, smart vapor retarder
 - Thermal bridge demo and linked to dew point
 - Application and case study with both LEEP walls and 2-storey house
 - Ubakus Dew Point calculator demo
- Q and A



ZOOM Registration link:

https://bcit.zoom.us/meeting/register/u5Aoeiqpz8qH9VrgS5VngbL_oAzMG58h7f5

Workshop 3 Airtightness

**June 23,
9:00 – 10:30 am**

Description

Achieving low levels of airtightness is a centrepiece of the BC Energy Step Code. This third webinar of a 5-part series will answer the most asked questions on airtightness. These are: What is an air barrier? What's the difference between an air barrier and a vapour barrier? What type of materials are needed to make buildings very airtight. Who should be in charge of airtightness on a construction site? What are the easiest assembly details available to achieve a low ACH? How do I know if I have achieved my desired airtightness level?



PRESENTER

James Bourget

- BCIT Part-Time Instructor and Principal at RDH



MODERATOR

Alex Hebert

- BCIT Zero Energy Buildings Learning Centre

AGENDA

- Review of different common air barrier strategies using mockups and modules
- Penetrations and Air Barrier, demo and smoke test
- Demo airtightness blower door test on 2-storey teaching house + role of the Energy Advisor, including short ppt, case study + application
- Q and A



ZOOM Registration link:

https://bcit.zoom.us/meeting/register/u50kceurqjwpHdRnvhPa0Ohl_ZaSeFgTvWgJ

Workshop 4 Assembly Details

July 21
9:00 – 10:30 am

Description

This is the fourth webinar of a 5-part series. Highly energy-efficient buildings have super insulated assemblies, including walls, roof, foundations, etc. The additional insulation can be added from the inside of the building, the outside, or both. Which approach should I use? What's the impact of extra insulation around windows, on vapour drives, at a wall-to-roof transition, near electrical and mechanical penetrations, etc.? What insulation materials are air permeable? Which one are water vapour closed? Which materials are more suited for my project? Is embodied carbon significant enough to be considered at the design stage? Participants in this webinar will get answers to these insulation-related questions, and will get to ask their own questions to BCIT subject matter experts.



PRESENTER

Cody Brentzen

- BCIT Part-Time Instructor
- Red Seal Carpenter
- Certified Passive House Tradesperson



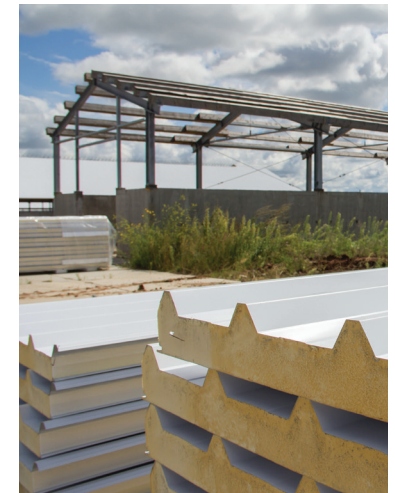
MODERATOR

Alex Hebert

- BCIT Zero Energy Buildings Learning Centre

AGENDA

- Review of key properties of various insulation materials using samples
- Case Study: The pros and cons of double stud walls vs. deep stud walls vs. split insulation walls using mockups
- Case Study: Is embodied carbon important?
- Discussion of various complex details in split insulation walls using mockups and modules
- The case of pre-fab
- Q and A



ZOOM Registration link:

<https://bcit.zoom.us/meeting/register/u5UpduqrqzlpHNDobWh1B-1cpsuagQADbMRD>

Workshop 5 Mechanicals

August 18
9:00 – 10:30 am

Description

This is the last webinar of a 5-part series. Previously, participants learned about the ins and outs of super energy-efficient buildings envelope. The webinar series tackled the envelope first, the same way the BC energy Step Code does. We are now ready for a dive in the world of energy efficient ventilation, heating and cooling systems. In this webinar, participants will get a review of the BC Energy Step Code mechanical system metric. Participants will also get to review and discuss 3 BC-based case studies showing how different systems can be used to achieve your Step Code goals.



PRESENTER

Rob Pope

- BCIT Part-Time Instructor and Mechanical Designer and Senior Consultant with Ecolighten Energy Solutions



MODERATOR

Alex Hebert

- BCIT Zero Energy Buildings Learning Centre

AGENDA

- Review of the MEUI
- Review of 3 case studies of Step Code homes using both electrical and natural gas systems
 - Case #1
 - Case #2
 - Case #3
- Q and A



ZOOM Registration link:

https://bcit.zoom.us/meeting/register/u5lrf-Gtzqz8rGtz8sPwTxoGb6nC8FM_VdJ7-