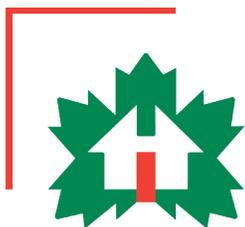
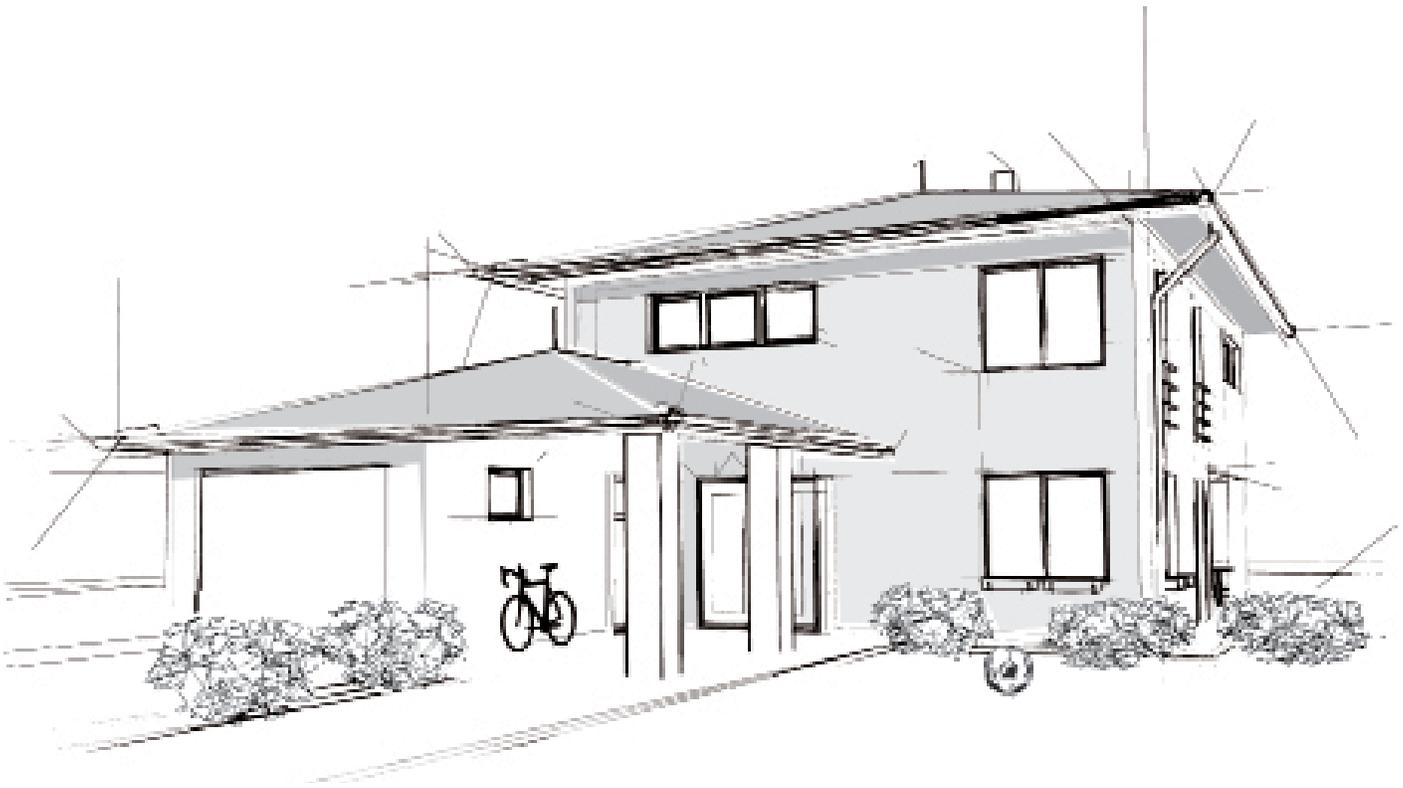




ENERGY
STEPCODE
BUILDING BEYOND THE STANDARD

A study by Industry for Consumers

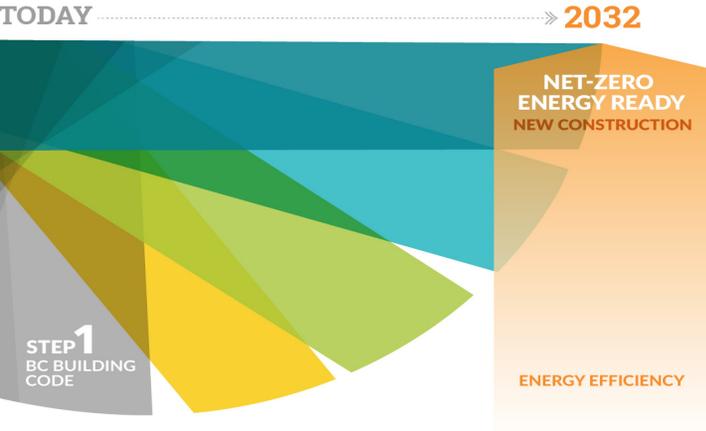


CANADIAN
HOME BUILDERS' ASSOCIATION
CENTRAL OKANAGAN

WHAT IS THE BC ENERGY STEP CODE?

The **BC Energy Step Code** is a provincial standard enacted in April 2017 which provides an incremental and performance-based approach to achieving more energy-efficient buildings that go beyond the requirements of the base BC Building Code

By establishing measurable, performance-based energy-efficient requirements for construction, builders can choose to build to the specifications and communities may *voluntarily* choose to adopt the BC Energy Step Code in bylaws and policies.



The BC Energy Step Code Groups these energy-efficiency Requirements into a series of “steps.”

Step 1 entails modelling energy performance and measuring airtightness to ensure that a building will meet or exceed the minimum energy-efficiency requirements in the base BC Building Code. At the opposite end of the scale, Step 5 represents a “**net-zero energy ready**” standard – a standard that is being met by the most energy-efficient projects being developed today.

HOW DOES THIS AFFECT YOU?

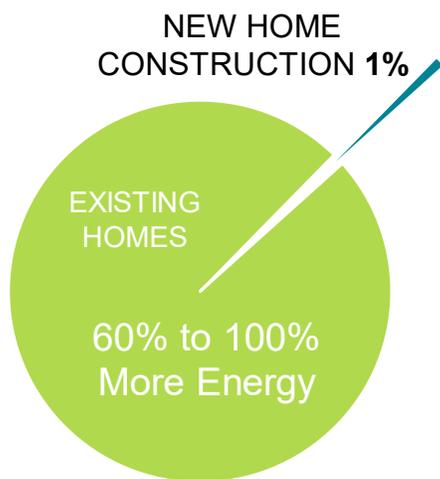


Builders must hire a consultant to use energy modeling software and on-site testing to demonstrate that both their design and constructed building meet the requirements of the BC Energy Step Code.

ENERGY USE IN EXISTING HOUSING

Emphasis should be placed on energy efficient retrofits through policy measures like energy-efficiency tax credits that also combat the underground economy.

A permanent, refundable home renovation tax credit, using the EnerGuide Rating System, will most effectively address the government’s climate change goals related to housing. By requiring homeowners to get receipts to qualify, our research suggests reduced underground economy activity can make such a program cost neutral to government.



Year Built	Years	Dwellings built	Average units built per year	Percentage of existing stock
1960 or before		267,560		14%
1961 to 1980	20	559,485	27,974	30%
1981 to 1990	10	289,565	28,957	15%
1991 to 2000	10	331,865	33,187	18%
2001 to 2005	5	125,335	25,067	7%
2006 to 2010	5	171,945	34,389	9%
2011 to 2016	6	136,210	22,702	7%
Total –		1,881,970		100%

IS IT REQUIRED?



Yes and no. The BC Energy Step is currently voluntary. Local governments can choose to require or encourage builders to meet one or more steps of the BC Energy Step Code as an alternative to the BC Building Code’s prescriptive requirements. If Kelowna joins the Step Code, it will be required for all new homes.

WHERE DID

Small Home



Grade Level Entry
2307 sq ft finished
3 bedrooms, 2 baths

Building Cost (excluding land)
\$464,125
before taxes at today's market (Oct. 2018)

STEP 1

OPTION	UPGRADES	COST	% INCREASE
IT5	3.0 ACH	\$100.00	
	R12 INSULATION TO SLAB	\$2,167.64	
	USI 1.6 SHGC 0.30 WINDOW UPGRADE	\$2,041.00	
	1" EPS INSUL TO FOUNDATION WALL	\$1,498.11	
	R24 INSULATION	\$820.00	
	R40 EXPOSED FLOOR	\$1,295.00	
	ENERGY ADVISOR	\$1,500.00	
	ADMINISTRATION	\$500.00	
	SITE SUPERVISOR (includes 1 day delay)	\$210.00	
	AIR TIGHTNESS MATERIALS	\$40.00	
	MANAGEMENT FEE (12%)	\$1,220.61	
	TOTAL	\$11,392.36	2%

STEP 3

OPTION	UPGRADES	COST	% INCREASE
IT8b	1.5 ACH	\$250.00	
	R15 INSULATION TO SLAB	\$2,546.31	
	USI 1.4 SHGC 0.35 WINDOW UPGRADE	\$4,362.00	
	R24 INSULATION	\$820.00	
	R40 EXPOSED FLOOR	\$1,295.00	
	FURNACE 96%	\$300.00	
	DRAIN WATER HEAT RECOVERY SYSTEM (power pipe C3-72)	\$2,050.00	
	ENERGY ADVISOR	1,850.00	
	ADMINISTRATION	\$500.00	
	SITE SUPERVISOR (includes 2 day delay)	\$400.00	
	AIR TIGHTNESS MATERIALS	\$60.00	
	MANAGEMENT FEE (12%)	\$1,732.00	
	TOTAL	\$16,165.31	3%

WE START?

Medium Home



Rancher – Walk Out Base
 2806 sq ft finished
 4 bedrooms, 3 baths

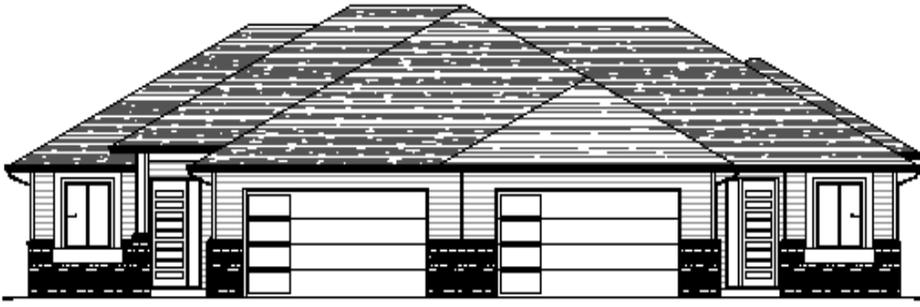
Building Cost (excluding land)
\$518,000
 before taxes at today's market (Oct. 2018)

STEP 2

OPTION	UPGRADES	COST	% INCREASE
IT8	3.0 ACH	\$0.00	
	ADD R16 INSULATION TO SLAB	\$3,262.43	
	UPGRADE WINDOWS TO USI 1.4 SHGC 0.35	\$7,658.00	
	R24 BATTS BELOW GRADE WALL INSUL.	\$991.25	
	R24 + R40 EXPOSED FLOOR	\$1,000.00	
	HRV 80% (w/ posch bath fans)	\$2,500.00	
	ADD R5 TO FOUNDATION WALLS	\$1,634.30	
	ENERGY ADVISOR	\$1,500.00	
	ADMINISTRATION	\$500.00	
	SITE SUPERVISOR (includes 1 day delay)	\$210.00	
	AIR TIGHTNESS MATERIALS	\$40.00	
	MANAGEMENT FEE (12%)	\$2,315.52	
	TOTAL	\$21,611.50	4%

STEP 4

OPTION	UPGRADES	COST	% INCREASE
IT20	1.0 ACH (included in exterior air barrier)	\$400.00	
	ADD R20 INSULATION TO SLAB	\$6,237.84	
	USI 1.4 SHGC .35 WINDOW UPGRADE	\$10,289.00	
	R24 + R40 EXPOSED FLOOR	\$1,000.00	
	*R8 EXTERIOR W/ RAIN SCREEN	\$13,600.00	
	ENERGY ADVISOR	\$2,000.00	
	ADMINISTRATION	\$1,500.00	
	SITE SUPERVISOR (includes 2 day delay)	\$400.00	
	AIR TIGHTNESS MATERIALS	\$60.00	
	ADDITIONAL DESIGN FEES	\$1,500.00	
	MANAGEMENT FEE (12%)	\$4,438.42	
		TOTAL	\$41,425.26



Duplex

Rancher – Walk Out Base
 4432 sq ft finished
 3 bedrooms, 3 baths

Building Cost (excluding land)
\$887,000
 before taxes at today's market (Oct. 2018)

STEP 3

OPTION	UPGRADES	COST	% INCREASE
IT3a	2.5 ACH	\$150.00	
	ADD R12 INSULATION TO SLAB	\$4,470.42	
	R24 + R40 EXPOSED FLOOR	\$1,450.00	
	UPGRADE WINDOWS TO USI 1.40 0.40	\$8,085.00	
	ENERGY ADVISOR	\$1,850.00	
	ADMINISTRATION	\$500.00	
	SITE SUPERVISOR (includes 2 day delay)	\$400.00	
	AIR TIGHTNESS MATERIALS	\$60.00	
	MANAGEMENT FEE (12%)	\$2,035.85	
		TOTAL	\$19,001.27

STEP 5

OPTION	UPGRADES	COST	% INCREASE
IT5a	1.0 ACH (included in exterior air barrier)	\$0.00	
	ADD R16 INSULATION TO SLAB	\$5,267.08	
	R24 + R40 EXPOSED FLOOR	\$1,450.00	
	R10 TO FOUNDATION WALLS	\$2,970.60	
	*R15 EXTERIOR W/ RAIN SCREEN	\$24,600.00	
	WINDOWS TO USI 1.4 SHGC 0.40	\$10,862.00	
	FURNACE 96%	\$1,300.00	
	HEAT PUMP @ 14.5 SEER	\$5,300.00	
	ENERGY ADVISOR	\$2,500.00	
	ADMINISTRATION	\$2,000.00	
	SITE SUPERVISOR (includes 2 day delay)	\$500.00	
	AIR TIGHTNESS MATERIALS	\$80.00	
	ADDITIONAL DESIGN FEES	\$2,000.00	
	MANAGEMENT FEE (12%)	\$7,059.56	
	TOTAL	\$65,889.24	7%

CONCERNS

1. COST

Housing affordability is a big concern for BC residents. Based on CHBA Central Okanagan's research, applying the BC Energy Step Code will add significant costs to a new average home.

ADDITIONAL COST TO ACHIEVE STEP	SMALL HOME			MEDIUM HOME			DUPLEX		
	High	Low	High	Low	High	Low	High	Low	
5	\$41,000.00	\$34,800.00	\$57,200.00	\$45,700.00	\$65,900.00	\$57,200.00			
4	\$41,800.00	\$28,200.00	\$45,000.00	\$31,900.00	\$62,700.00	\$48,800.00			
3	\$24,000.00	\$16,200.00	\$48,800.00	\$20,200.00	\$27,900.00	\$19,000.00			
2	\$12,100.00	\$11,900.00	\$27,400.00	\$18,800.00	\$13,400.00	\$12,000.00			
1	\$11,400.00	\$11,400.00	\$21,600.00	\$19,400.00	\$2,500.00	\$2,500.00			

2. ENERGY ADVISORS

All new Energy Advisors are required to be trained and licensed by a recognized Natural Resources Canada Service Organization, and be able to produce a verified EnerGuide label. Otherwise, there will be no quality assurance process or auditing. It will take time to build the capacity of qualified energy advisors the city and/or district needs before joining the BC Energy Step Code.

3. TRAINING

Training on the new code requirements will need to be completed by everyone involved in the building process, including builders, staff, tradespeople, energy advisors and building inspectors. The new code is a big shift from the previous prescriptive approach.

TOO MUCH, TOO SOON



CANADIAN
HOME BUILDERS' ASSOCIATION
CENTRAL OKANAGAN

265+ MEMBERS

- ★ Licensed Home Builders
- ★ Renovators
- ★ Suppliers

WE OFFER:

- ✓ Awards Program
- ✓ Okanagan Construction Industry Conference (OCIC)
- ✓ Education Courses
- ✓ Networking Events

CHBA Central Okanagan, a not-for-profit and voluntary membership association, is proudly affiliated with the Canadian Home Builders' Association of BC and National Canadian Home Builders' Association.



**A Seat at
The Table**



**The Opportunity
to Upgrade**



**Access to Industry
Information**



**Building Your
Network**



**Building Your
Reputation**



**Saving You
Money**



4 IN 5
RENTERS
want to own
A HOME.

75%

of Canadians
view **homeownership**
as a key to
FINANCIAL SECURITY.

*Source: CHBA National
Opinion Poll, April 2018

50% of

British Columbians
THINK HOUSING is the
MOST IMPORTANT
ISSUE
IN THE PROVINCE.

*Source: Insights West Poll, January 2018

Approximately
95%

of residents live in
MARKET-PROVIDED
HOMES,
that are owned or rented.

APPROXIMATELY OF RENTAL UNITS THAT BECOME AVAILABLE
80% EACH YEAR IN **CANADA**
ARE FROM PEOPLE BECOMING
HOMEOWNERS.

BENEFITS YOU CAN BUILD ON.

To become a member visit chbaco.com/join-now



CANADIAN
HOME BUILDERS' ASSOCIATION
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