CityGreen

October 12, 2021

JB Charlton Homes Inc
1004 15th St. S
Cranbrook, BC V1C 5V2

File Number 7927N40189

Dear Brian Charlton,

Thank you for your commitment to energy efficiency and for choosing the EnerGuide Rating System (ERS) to evaluate the energy efficiency of your new home project.

Your final EnerGuide Rating is: 62

Enclosed, please find:

- ERS Label
- ERS Homeowner Information Sheet
- Guide to the EnerGuide label for Homes

Your EnerGuide Rating and Energy Label are important documents:

- See the Guide to the EnerGuide Label for Homes included in this package for information on understanding your EnerGuide Label and Rating. Provide the homeowner with a copy of this document. You can access an online copy at citygreen.ca/energuidelabel
- Please place the EnerGuide Rating self-adhesive label on the electrical box or near the heating system of the property.
- Consider using information about the EnerGuide rating in marketing communications about your home.
- If this home will be listed for sale, ask the Real Estate Agent to list the EnerGuide Rating on the Residential Property Disclosure Statement.

How Did We Do?
We'd like to hear your feedback about how we did. Send an email to savings@citygreen.ca, submit a note online at citygreen.ca/contact or give us a call at 1.866.381.9995. We look forward to speaking with you.

For Your Next Build:
Ask us about the BC Energy Step Code, and rebates and incentives for energy efficient new homes.

Best Regards,

Peter Sundberg
Executive Director
City Green Solutions

City Green Solutions is an enterprising non-profit with a mission to excite, inspire and lead British Columbians in finding innovative home and building energy efficiency solutions.

HOMEOWNER INFORMATION SHEET

ENERGUIDE

Your EnerGuide* rating and this report are based on data collected and, where necessary, presumed from your evaluation. Rating calculations are made using standard operating conditions.

Rating: 62 gigajoules per year (GJ/year)

Heated floor area: 296.7 m² (3193.7 ft²)
Rated energy intensity: 0.21 GJ/m²/year
Evaluated by: Ray Smith
Quality assured by: City Green Solutions
File number: 7927N40189
Data collected: April 15, 2021
Year built: 2020

NRCan.gc.ca/myenerguide

HOW YOUR RATING IS CALCULATED:

I.	Rated annual energy consumption	62 GJ/year
II.	Minus renewable energy contribution	- 0 GJ/year
	Equals your **EnerGuide rating**	**= 62 GJ/year**

I. Your rated annual energy consumption is the total amount of energy your house would use in a year based on the EnerGuide Rating System standard operating conditions. For your house, this includes 16.81 GJ of passive solar gain.

Energy Sources	Rated Consumption (GJ/year)	Equivalent Units (per year)	Greenhouse Gas Emissions (tonnes/year)
Natural gas	35	952 m3	1.8
Electricity	26	7292 kWh	0.1
Total	62		1.9

II. On-site renewable power generation systems can offset some or even all of your home's energy consumption. Renewable energy contributions are factored differently for your rating and your greenhouse gas emissions calculations.[1]

On-Site Renewable Energy	Estimated Contribution (GJ/year)	Equivalent Units (per year)	Offset Greenhouse Gas Emissions (tonnes/year)
Electricity	0	0 kWh	0.0
Solar water heating	0	0	0.0
Total	0		0.0

HOW YOUR CONSUMPTION COMPARES:

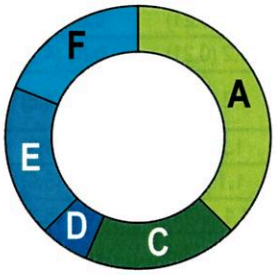
Compared to a typical new house, your house uses:

34.7% less energy;

47.9% less energy, when excluding the estimated energy consumption of lighting, appliances and electronics.

HOW YOUR RATED ENERGY IS USED:

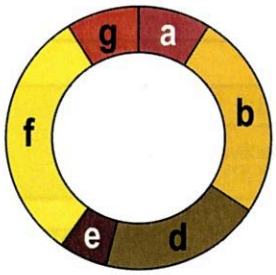
The chart below represents the breakdown of rated annual energy consumption in your home under standard operating conditions. You can use these figures as a guide to help identify where you can lower home energy costs through proper home maintenance, efficient home operation, energy efficiency renovations or equipment replacement.



A.	Space heating	38%
B.	Space cooling	0%
C.	Water heating	19%
D.	Ventilation	1%
E.	Lights & appliances	19%
F.	Other electrical	23%

WHERE YOUR HOME LOSES HEAT:

Houses lose heat through their exterior shell, or building envelope. The chart below shows where and how your home loses heat. The quality and upkeep of your home can have a major impact on the amount of energy your heating and cooling systems use annually.



a.	Attic/Ceiling	9%
b.	Main Walls	26%
c.	Exposed floors	0%
d.	Windows	20%
e.	Exterior doors	4%
f.	Basement/Foundation	32%
g.	Air leakage/ventilation	9%

*EnerGuide is an official mark of Natural Resources Canada.
Refer to the glossary section for an explanation of relevant terms.

HOUSE DETAILS

BUILDING ENVELOPE

ATTIC/CEILING

TYPE	INSULATION VALUE		AREA m² (ft²)
	Nominal RSI (R)	Effective RSI (R)	
Ceiling - 1: Attic/gable	9.29 (52.7)	9.24 (52.5)	152.2 (1638)

MAIN WALLS

TYPE	INSULATION VALUE		AREA m² (ft²)
	Nominal RSI (R)	Effective RSI (R)	
Buffered garage wall	4.23 (24.0)	3.63 (20.6)	28.5 (307)
Main floor	4.23 (24.0)	3.58 (20.3)	126.5 (1362)

WINDOWS

#	TYPE	U-factor W/m² • °C (Btu/h • ft² • °F)	RSI (R)
2	Door glass	1.4 (0.25)	0.72 (4.1)
1	Door glass	1.3 (0.23)	0.76 (4.3)
1	W11 Ensuite	1.2 (0.21)	0.82 (4.7)
1	W05 Bathroom	1.2 (0.21)	0.83 (4.7)
5	W01,W02,W03 Bedrooms family room	1.2 (0.21)	0.85 (4.8)
1	W06 Bedroom	1.2 (0.2)	0.87 (4.9)
2	W07 Bedroom	1.1 (0.2)	0.88 (5.0)
2	W08,W09, Kitchen	1.1 (0.19)	0.92 (5.2)
1	W10 Living room	1 (0.18)	0.96 (5.5)
Total window area: 25.25 m² (271.8 ft²)			

EXTERIOR DOORS

#	TYPE	U-factor W/m² • °C (Btu/h • ft² • °F)	RSI (R)
3	Fibreglass medium density spray foam core	1 (0.18)	0.98 (5.6)
Total door area: 8.44 m² (90.8 ft²)			

BASEMENT/FOUNDATION

TYPE	INSULATION VALUE		AREA m² (ft²)
	Nominal RSI (R)	Effective RSI (R)	
Foundation - 1 concrete walls: exterior	N/A	N/A	146.1 (1573)
Foundation - 1 concrete walls: interior	4.74 (26.9)	3.79 (22.0)	146.1 (1573)
Foundation - 1 header	6.13 (34.8)	6.70 (38.1)	20.5 (221)
Foundation - 1 slab	2.64 (15.0)	2.64 (15.0)	144.5 (1556)

AIRTIGHTNESS

Air leakage rate at 50 pascals	0.51 air changes/hour
Equivalent leakage area	120.4 cm² (19 in²)
Normalized leakage area	0.2 cm²/m² (0.3 in²/100 ft²)

MECHANICAL SYSTEMS

SPACE HEATING

TYPE	OUTPUT SIZE	EFFICIENCY
Condensing natural gas furnace	17 kW 58500 BTU/h	96% AFUE
Natural gas fireplace	5.1 kW 17500 BTU/h	68% Steady State
Design heating load: 5.95 kW – refer to glossary for details		

SPACE COOLING

TYPE	OUTPUT SIZE	EFFICIENCY
N/A	N/A	N/A
Design cooling load: 3.74 kW		

WATER HEATING

TYPE	TANK VOLUME	EFFICIENCY
Natural gas condensing tankless	N/A	0.96 UEF

WHOLE-HOME VENTILATION

TYPE	AIR FLOW RATE	EFFICIENCY
Heat recovery ventilator certified by the Home Ventilating Institute	30 L/s (64 cfm)	65%

HEATED FLOOR AREA

Above-grade area	152.2 m² (1638 ft²)
Below-grade area	144.5 m² (1555 ft²)

GLOSSARY

A typical new house
is a reference point on your label against which to compare your rating. It shows the estimated energy consumption of a house that is the same size, type and in the same location as yours. The typical new house is based on the energy efficiency requirements of the National Building Code.

Airtightness
describes how well the building envelope resists air leakage and is measured in air changes per hour at 50 pascals (ACH@50 Pa). The fewer air changes per hour, the more airtight the building envelope is. Equivalent leakage area is another way of describing the airtightness of the building envelope. It represents the size of a single hole in your building envelope if all the individual air leakage holes or gaps were added together. The smaller the equivalent leakage area, the less energy you will need to control the temperature of your home (but you will still need to ensure that you have adequate ventilation).

Design heating/cooling loads
provide an estimate of the capacity of the heating and cooling equipment needed to maintain your home at 22 °C in the winter and 24 °C in the summer and are provided for guidance only. Before having a new heating/cooling system installed, your heating/cooling contractor should perform an independent, detailed heat loss/heat gain calculation on your home in order to select the appropriate equipment.

Gigajoule (GJ)
is a unit of energy. It can be used as a measure of any type of energy that is consumed or produced in your home. Specifically, one GJ is the equivalent of 278 kWh of electricity, 27m³ of natural gas, 26 L of oil, 39 L of propane, or 947 817 BTUs. One GJ is roughly equal to the energy from two standard barbeque propane tanks or 30 litres of gas in a car's gas tank.

Greenhouse gas emissions
are the amounts of carbon dioxide, methane and nitrous oxide that are produced directly, by burning fossil and solid fuels, or indirectly, through the production of electricity. Greenhouse gas emissions are expressed in carbon dioxide equivalent units. Greenhouse gas emissions are calculated by multiplying the quantity of fuel or electricity used in your home by the emission factors for the particular energy source. Electricity factors vary by province because there are different emissions associated with each province's method of producing electricity. One tonne of greenhouse gas emissions is equivalent to the CO_2 emissions produced by driving an average efficiency mid-size vehicle from Toronto to Vancouver.

Heated floor area
represents the total useable area of your home that is heated, measured at the interior of the outer walls or of the walls attached to other buildings.

Insulation values
are expressed in RSI (m² • °C/W) or R-value (h • ft² • °F/Btu) and represent the resistance to the flow of heat of a given thickness of insulation or construction assembly. The higher the RSI-value (R-value), the better the performance.The nominal value represents the resistance to the flow of heat of just the insulation while the effective value represents the resistance to the flow of heat of the entire wall, ceiling or floor assembly considering the structure, insulation, framing, sheathing and all finishing.

On-site renewable energy contributions
are subtracted from the rated annual energy consumption to calculate the EnerGuide rating. For the calculation of the rated greenhouse gas emissions, on-site electricity generation only offsets emissions associated with electricity consumption, whereas a solar water heater reduces the emissions that would have been produced from the source of energy used to heat water.

Passive solar gain
is the heat from the sun that influences your home's heating and cooling requirements. Generally, south facing windows provide more solar gain.

Rated energy intensity
is calculated by dividing your rated annual energy consumption by your home's heated floor area. It allows you to compare the annual energy use of homes of different sizes on a "per square metre" basis.

Standard operating conditions
have been used to calculate your home's EnerGuide Rating. The rating assumes a standard number of occupants and energy use patterns. This allows for comparison of energy use across houses so that the house is rated and not the operation of the house by the occupants. The values are:

- Two adults and one child, at home 50% of the time;
- Hot water use of 158 - 197 L/day, variable depending on incoming ground water temperature and year the house was built;
- Thermostat settings of 21°C for daytime heating, 18°C for nighttime heating and 25°C for cooling; and
- Lighting, appliance and other electrical loads of 19.5 kWh/day.

U-factor
measures heat transferred through windows and doors, expressed in W/m² • °C (BTU/h • ft² • °F). The lower the U-factor, the better the energy efficiency of a window. The inverse of U-factor (1/U-factor) identifies the resistance to the flow of heat, expressed in RSI. The higher the RSI, the better the window is at resisting heat loss. You can use these values to choose more energy efficient windows.

For more details and additional terms, please visit NRCan.gc.ca/myenerguide.

429 Wildstone Close N,
Cranbrook, BRITISH COLUMBIA, V1C 0G4

ENERGUIDE

Data collected: April 15, 2021
File number: **7927N40189**
Evaluated by: Ray Smith

62 This house GJ/year

0 GJ/year
Best energy performance

95 GJ/year
A typical new house

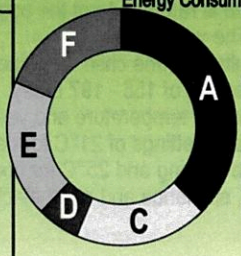
Uses most energy

One gigajoule (GJ) equals the energy from two BBQ propane tanks

Rated Annual Energy Consumption		62 GJ
• Natural gas	35	
• Electricity	26	
On-site renewable energy contributions		- 0 GJ
• Electricity	0	
• Solar water heating	0	
EnerGuide Rating:		= 62 GJ

Figures may not add up due to rounding.

Breakdown of Rated Annual Energy Consumption:



A	Space heating	38%
B	Space cooling	0%
C	Water heating	19%
D	Ventilation	1%
E	Lights & appliances	19%
F	Other electrical	23%

Rated Energy Intensity: **0.21 GJ/m²/year**

Rated Greenhouse Gas Emissions: **1.9 tonnes/year**

The energy consumption indicated on your utility bills may be higher or lower than your EnerGuide rating. This is because standard assumptions have been made regarding how many people live in your house and how the home is operated. Your rating is based on the condition of your house on the day it was evaluated.

Quality assured by: City Green Solutions

Builder: JB Charlton Homes inc

Visit NRCan.gc.ca/myenerguide

Natural Resources Canada | Ressources naturelles Canada | Canada

NEXT STEPS

If you have had a Renovation Upgrade Service, refer to your report for the roadmap to making your home more energy efficient. If you have not yet had a Renovation Upgrade Service, why not contact your service organization to learn what you can do to save on energy costs, reduce greenhouse gas emissions and improve home comfort?

Everyone uses energy in their house differently. This report was developed using standard operating conditions as explained in the glossary. Therefore, your EnerGuide rating will not match your utility bills.

UPGRADE CONSIDERATIONS

Before undertaking upgrades or renovations, find out about appropriate products and installation techniques, and ensure that all renovations meet local building codes and by-laws. Natural Resources Canada does not endorse the services of any contractor, nor any specific product, and accepts no liability in the selection of materials, products, contractors nor performance of workmanship.

Where your energy advisor has identified a potential health or safety concern such as insufficient outdoor air, risk of combustion fumes entering your house or risk of exposure to asbestos, they have endeavoured to provide a warning in this report. However, energy advisors are not required to have expertise in health and safety matters, and homeowners are solely responsible for consulting a qualified professional to determine potential hazards before undertaking any upgrades or renovations.

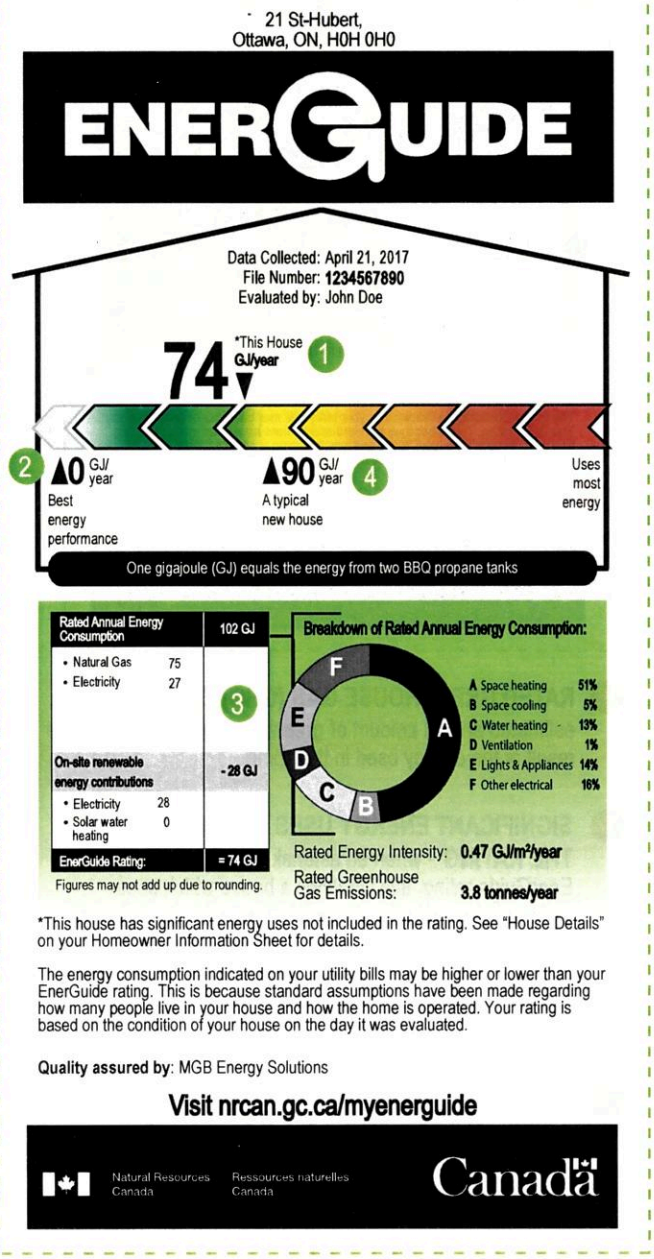
Visit us today at:

NRCan.gc.ca/myenerguide

GUIDE TO THE ENERGUIDE LABEL FOR HOMES

Congratulations on taking an important step towards understanding the energy efficiency of your home. Your EnerGuide label and the companion Homeowner Information Sheet provide you with information about your home's energy use. Improving the energy efficiency of your home can lead to lower energy costs. Other benefits include improved comfort and indoor air quality, reduced consumption of and reliance on energy resources, and fewer greenhouse gas emissions. This guide provides you with information to understand your EnerGuide label by illustrating the features of two sample labels.

An example of a label for a high-performing home



1 **ENERGUIDE RATING** - unique to each home, the EnerGuide rating is determined by an energy advisor registered under Natural Resources Canada's housing initiatives and working for a licenced service organization. The energy advisor assesses energy-related aspects of the home such as the home's size and structure, level of insulation and mechanical equipment. The data is assessed using energy simulation software and standard operating conditions to produce the home's EnerGuide rating. The rating is measured in gigajoules (GJ) per year. The lower the rating, the less energy you consume.

2 **TOWARDS BEST ENERGY PERFORMANCE** - the better the energy performance of a home, the closer to zero its rating will be. Some homes produce as much energy as they consume over the course of a year and as such they receive a rating of zero. Homes that produce more on-site renewable energy than they consume from conventional sources (e.g. natural gas, oil) are referred to as "net positive energy homes" and have a rating of 0★.

3 **HOW THIS RATING WAS CALCULATED**

102 - 28 = 74

102 GJ/year: the estimated amount of energy the home uses each year, largely a reflection of how the house was designed and built.

28 GJ/year: the estimated amount of energy generated annually from on-site renewable sources such as the sun and the wind.

74 GJ/year: the EnerGuide rating.

4 **HOW YOUR HOME COMPARES** - the EnerGuide rating of your home if built to typical new house standards[1]. It shows the rating of a house with similar characteristics to yours; similar size, construction type and location. This can be used as a point of comparison for your home's rating. For example, the evaluated house on the label to the left performs 18% better than "A typical new house".

[1] Your home's EnerGuide rating provides no indication of whether or not your house meets the building code.

LABEL LEGEND

1 2 3 4 - refer to page 1.

5 **HOUSE ADDRESS** - the location of the rated home.

6 **DATA COLLECTED** - the date the evaluation was conducted. Modifications to the house after this date could affect its rating.

7 **FILE NUMBER** - the unique identifier that should be referred to when contacting the service organization for additional services.

8 **EVALUATED BY** - the name of the energy advisor who rated the home.

9 **ENERGUIDE RATING SCALE** - shows the EnerGuide rating of a house and "A typical new house" with similar characteristics. The better the house performs, the closer the rating is to zero. The scale is in gigajoules per year.

10 **A GIGAJOULE (GJ)** - is a unit of energy. It can be used as a measure of any type of energy that is consumed or produced in your home. Specifically, one GJ is the equivalent of 278 kWh of electricity, 27 m^3 of natural gas, 26 L of oil, 39 L of propane, or 947 817 BTUs. One GJ is roughly equal to the energy from two standard barbeque propane tanks or 30 L of gas in a car's gas tank.

11 **RATED ANNUAL ENERGY CONSUMPTION** - the total amount of energy the house consumes in a year regardless of energy sources.

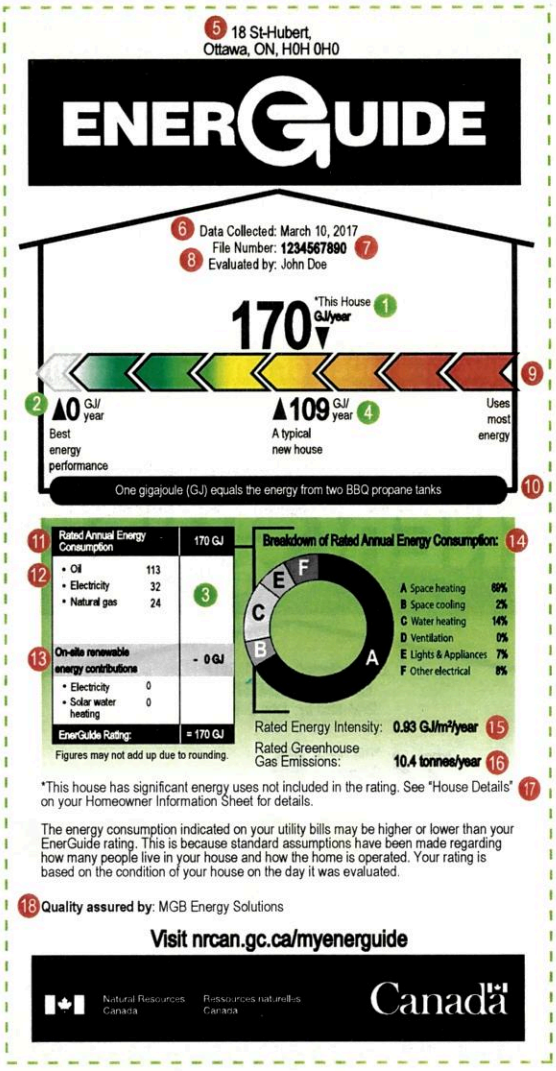
12 **ENERGY SOURCES** - the sources and amounts of conventional energy (e.g. gas, oil, electricity) that the house consumes annually. The total amount equals the rated annual energy consumption for the house.

13 **ON-SITE RENEWABLE ENERGY CONTRIBUTIONS** - the estimated annual amount of energy generated on site by renewable energy technology. This consists of solar photovoltaic and wind technology. The generated renewable energy is subtracted from the rated annual energy consumption to produce the EnerGuide rating.

14 **BREAKDOWN OF RATED ANNUAL ENERGY CONSUMPTION** - the pie-chart provides a breakdown of the major energy uses within the house and provides an initial overview of where you can lower home energy costs.

15 **RATED ENERGY INTENSITY** - is calculated by dividing the rated annual energy consumption by your home's heated floor area. It allows you to compare the annual energy use of homes of different sizes on a "per square metre" basis.

An example of a label for a lower-performing home



16 **RATED GREENHOUSE GAS (GHG) EMISSIONS** - the estimated annual amount of greenhouse gases emitted as a result of the energy used in the home.

17 **SIGNIFICANT ENERGY USES NOT INCLUDED IN THE RATING** - when an asterisk appears next to the EnerGuide rating, this identifies a house which uses significant energy for uncommon items such as a pool or hot tub. This energy use is not included in the rating. However, information on these items can be found in the House Details section of your Homeowner Information Sheet.

18 **QUALITY ASSURED BY** - the name of the service organization that quality assured the house file.