

Considering Purchasing a Heat Pump?

Experience the Benefits of a Heat Pump

September 24, 2022

The Community Energy Coach supports communities, local governments, and industry stakeholders in the promotion of CleanBC rebate programs and education of heat pumps.



AGENDA

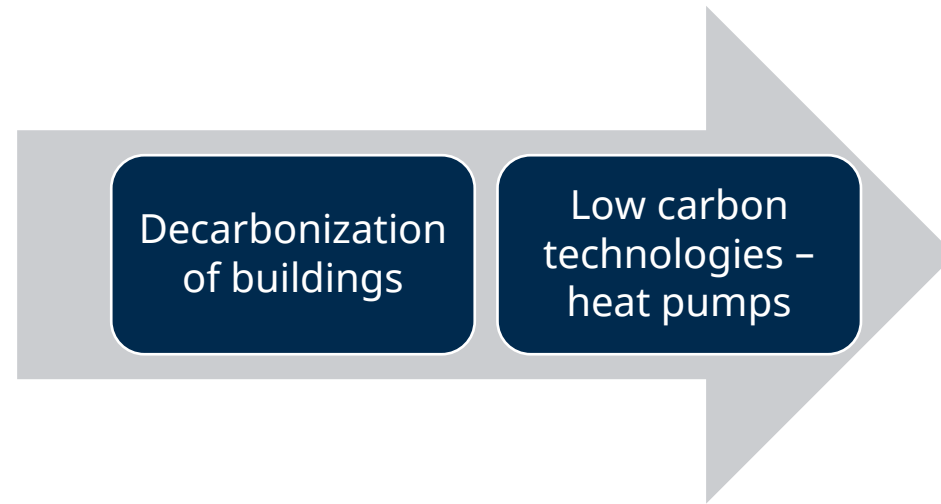
1. Why a Heat Pump
2. What is a Heat Pump
3. Heat Pump Types
4. Heat Pump Myths
5. Know before you Buy
6. Finding a Heat Pump Contractor
7. Available Rebates
8. Low-Interest Financing Program
9. Heat Pump Group Purchase Rebate (GPR)
10. CleanBC Income Qualified Program
11. Canada Greener Homes Program (CGHG)
12. Central Saanich PACE
13. CleanBC Energy Coach Service
14. Q&A



HEAT PUMPS: WHY?



CleanBC – Roadmap to 2030



Drastically reducing GHG emissions by 2030 in order to contribute to meeting net zero emissions target by 2050.

https://www2.gov.bc.ca/assets/gov/environment/climate-change/action/cleanbc/cleanbc_roadmap_2030.pdf

Emissions Reductions



Buildings in BC
represent ~11%
of province's
total emissions

54% of
homes
heated by
fossil fuels

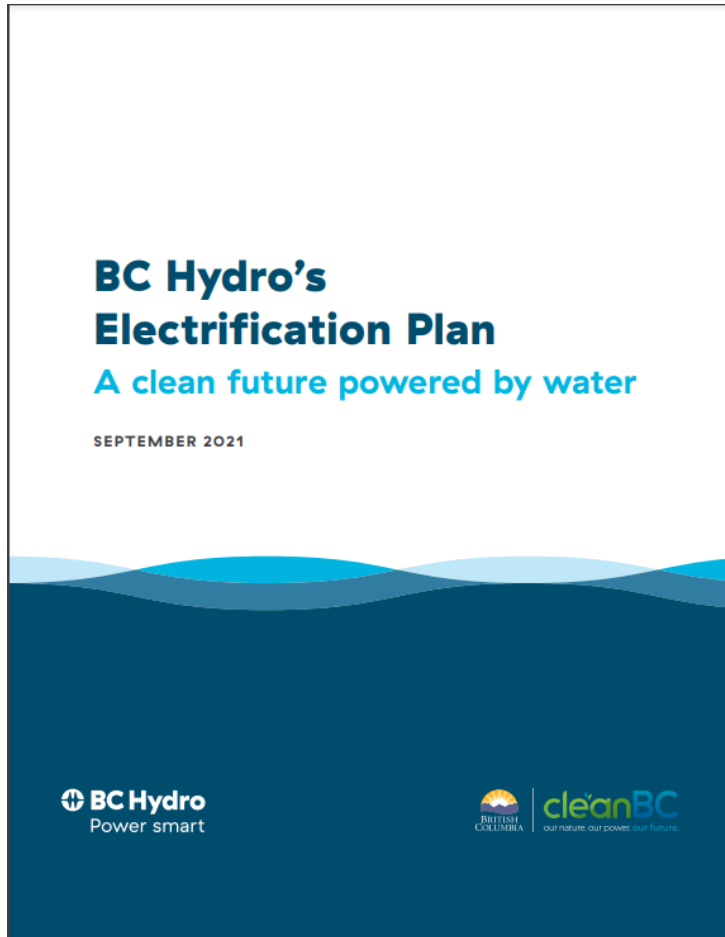


Shift towards heat
pumps

<https://www.bchydro.com/content/dam/BCHydro/customer-portal/documents/corporate/electrification/Electrification-Plan.pdf>

Future of our homes – Electric

BC Hydro's Plan



Raise awareness of heat pumps

Make heat pumps more affordable through rebates

\$6,000 heat pump rebate (CleanBC and BC Hydro)

GHG target: reduce 200,000 tonnes in the next 5 years

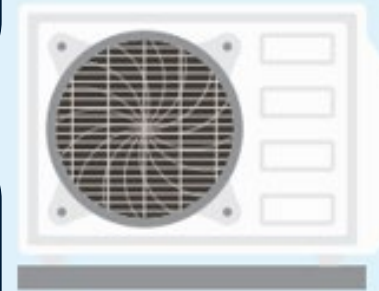
<https://www.bchydro.com/content/dam/BCHydro/customer-portal/documents/corporate/electrification/Electrification-Plan.pdf>

Future of our Homes - Electric



Shift towards
electrification
in homes

Heat pumps
are 300%
energy efficient



HEAT PUMP BENEFITS

- Increased efficiency
- 2 for 1 heating and cooling
- Long-lasting

(In comparison, electric baseboards are 100% efficient)

Benefits of a Heat Pump?

The most energy efficient heating and cooling system currently available

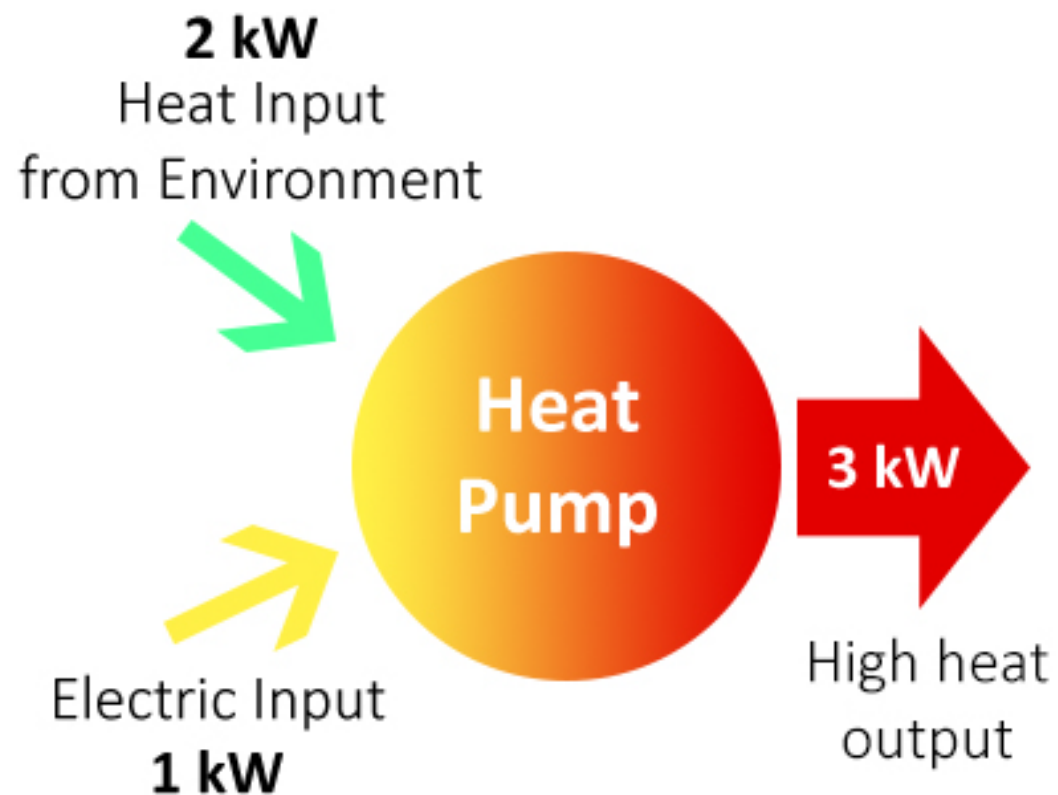
Year-round comfort

A climate-friendly home

Healthier home

You pay no carbon tax on your energy bill





**3 to 4 times more
efficient than high-
efficiency gas furnace
or electric baseboard
heating.**

MAXIMUM EFFICIENCY

**The most energy efficient heating and
cooling system currently available**



Jens, Realtor/Farmer, Saanich

COST-EFFECTIVE HEATING

The most energy efficient heating and cooling system currently available

The most cost-effective electric heating option.



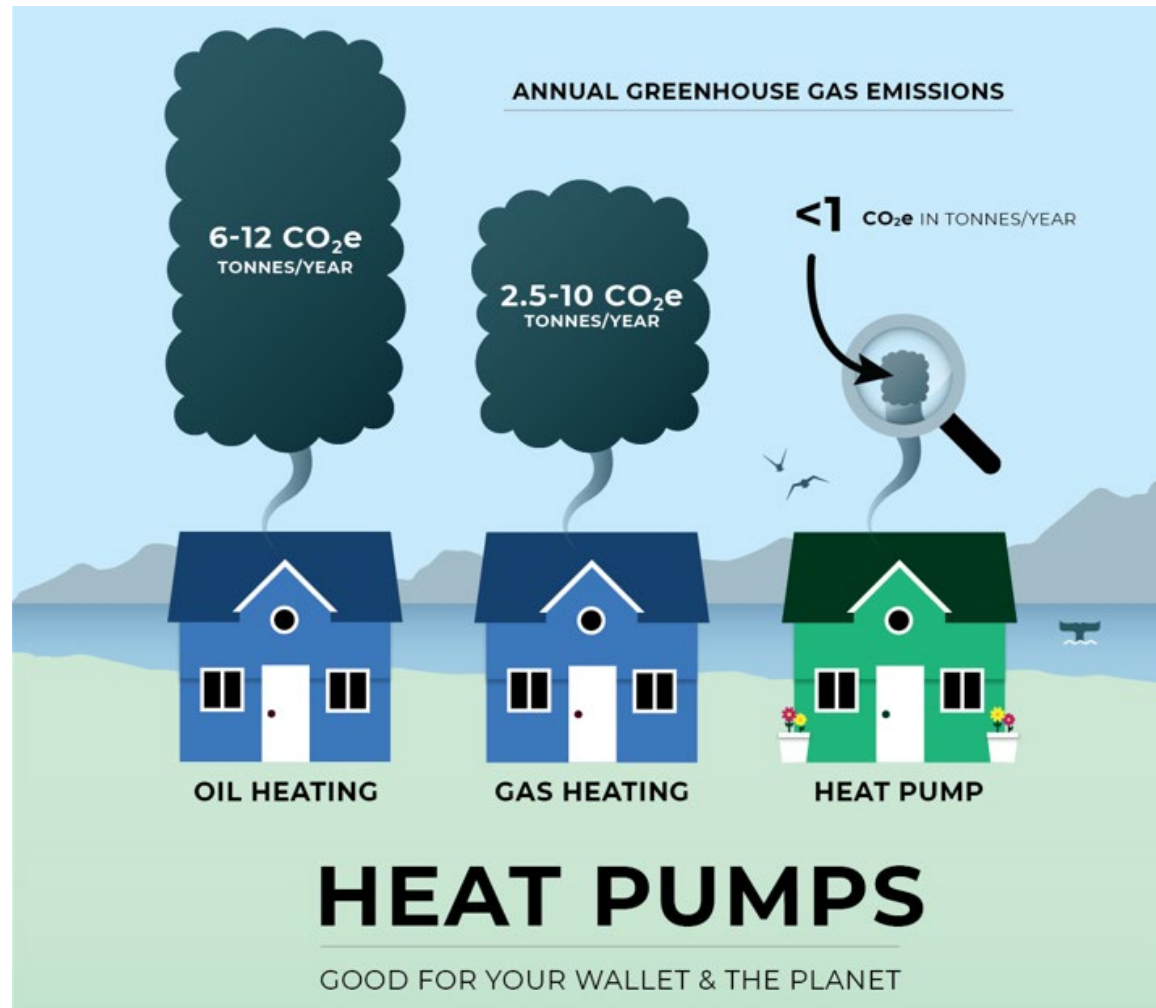
COOLING AND DEHUMIDIFICATION

Year-round comfort

Two systems in one!

Provides cooling on
hot summer days!

Find a cool and
comfortable home
during a **heat dome!**



CRD (January, 2022).

CLIMATE-FRIENDLY

A climate-friendly home

The most climate-friendly heating and cooling system available in B.C.



**Provides air filtration
and humidity control!**

**Helps rid your home of
indoor pollutants,
dust, pollen, and other
allergens.**

BETTER INDOOR AIR QUALITY

Healthier home



ZONAL HEATING OPTIONS

Ductless Heat Pump Systems

Efficient heating of rooms you are using.

Different heating controls for different areas of a home or separate systems for rental or inlaw suite.

Meets the comfort needs of different members of the household.



Don, Saanich

EASE OF USE

**Enjoy a low
maintenance home,
efficient air
conditioning, and
affordable energy
bills.**

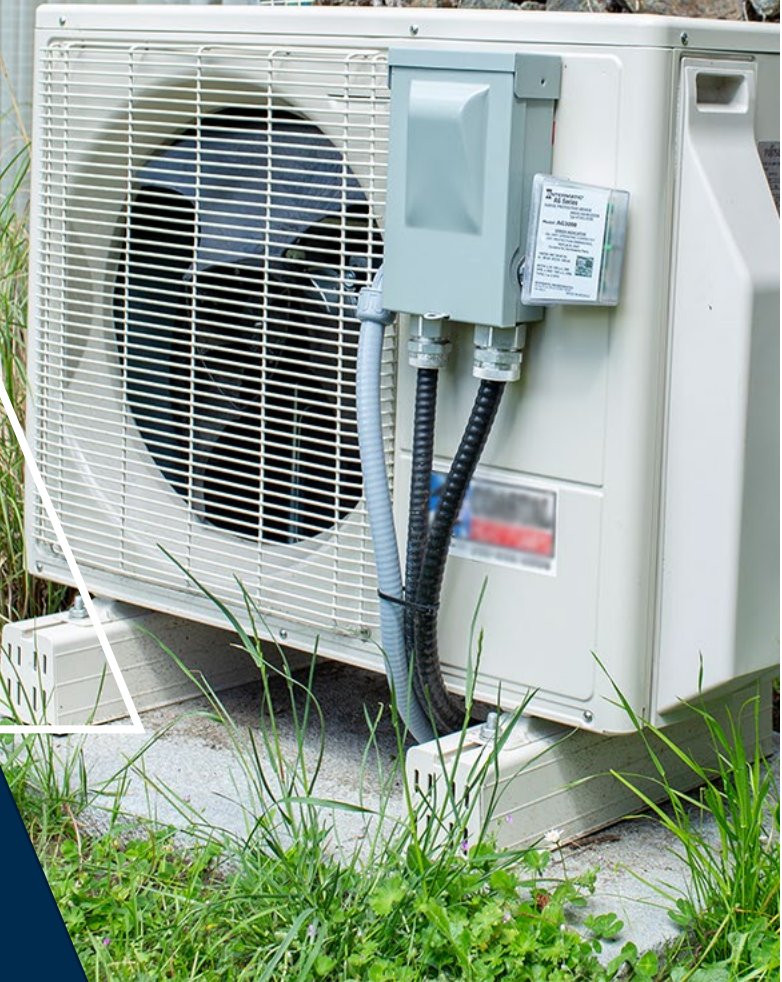


Ted and Carol, Saanich

Like electric vehicles,
efficient heat pumps are
the heating systems of
the future
(that are available today)

**MODERN – THE HEATING
SYSTEM OF THE FUTURE**

HEAT PUMPS: HOW DO THEY WORK?



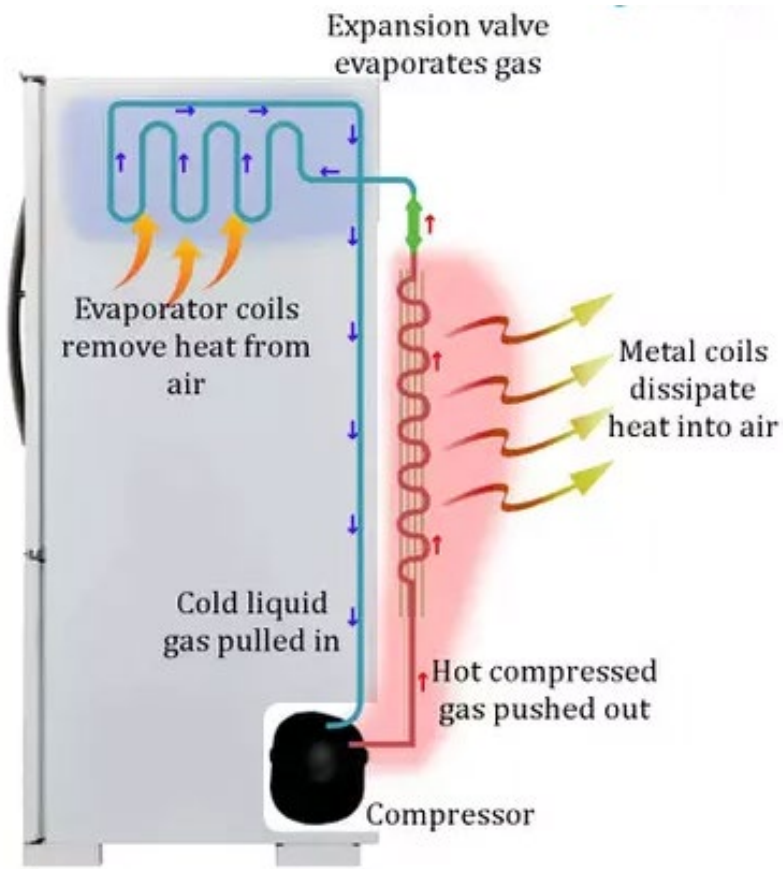
**Did you know
that you have a
heat pump at
home?**



CONSIDERING BUYING A HEAT PUMP

Your Refrigerator Is...

An insulated box with a type of heat pump in it



Heat is removed from inside a refrigerator and the temperature inside the refrigerator drops.

The coils on the back of the refrigerator give off the heat that is removed from the refrigerator.

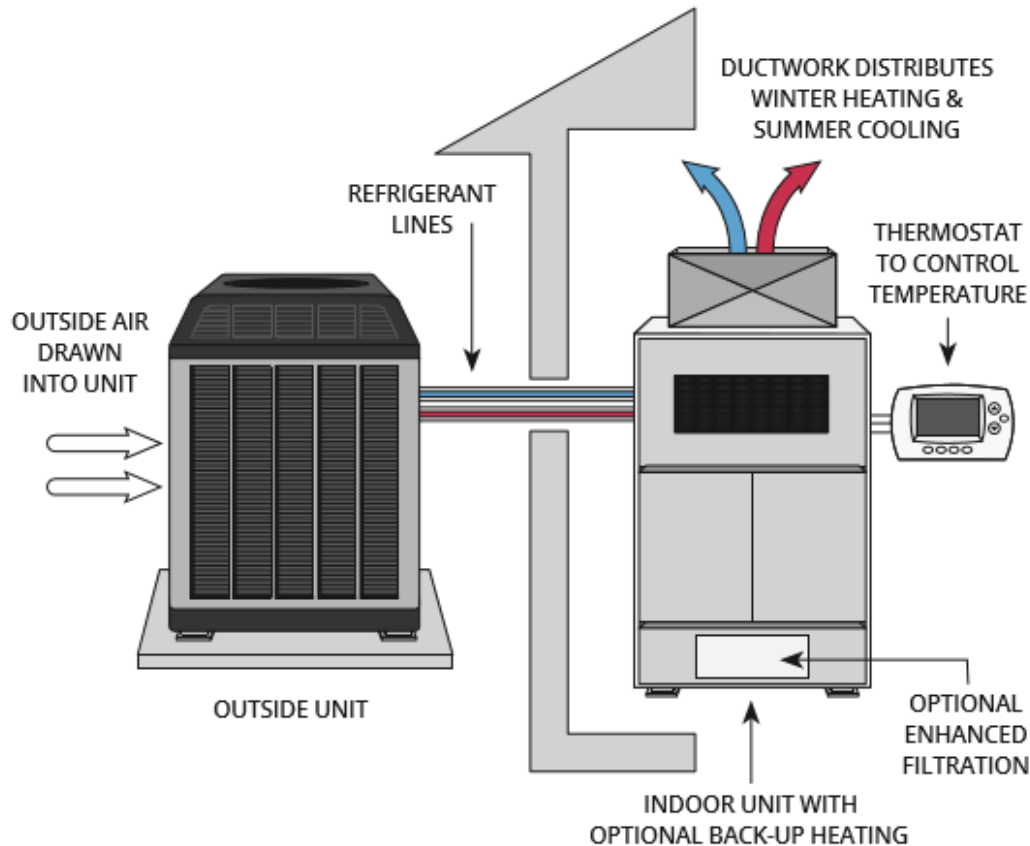
How Do Heat Pumps Work?



HEAT PUMPS: THE TYPES



Central Ducted Heat Pump

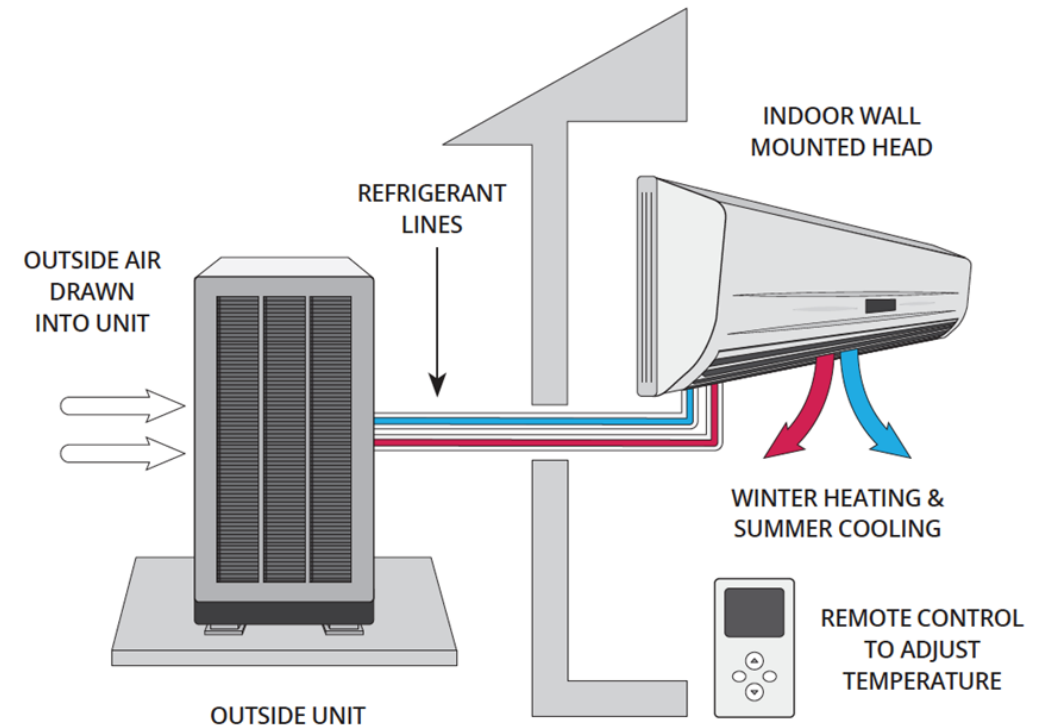


- Uses **ductwork connected to vents** in your home to circulate warmed or cooled air.
- Provides whole home heating and cooling.



Ductless Mini-Split Heat Pump

- Provides heating and cooling via **indoor heads**, without the use of ducts.
- Provides **zonal heating and cooling**.



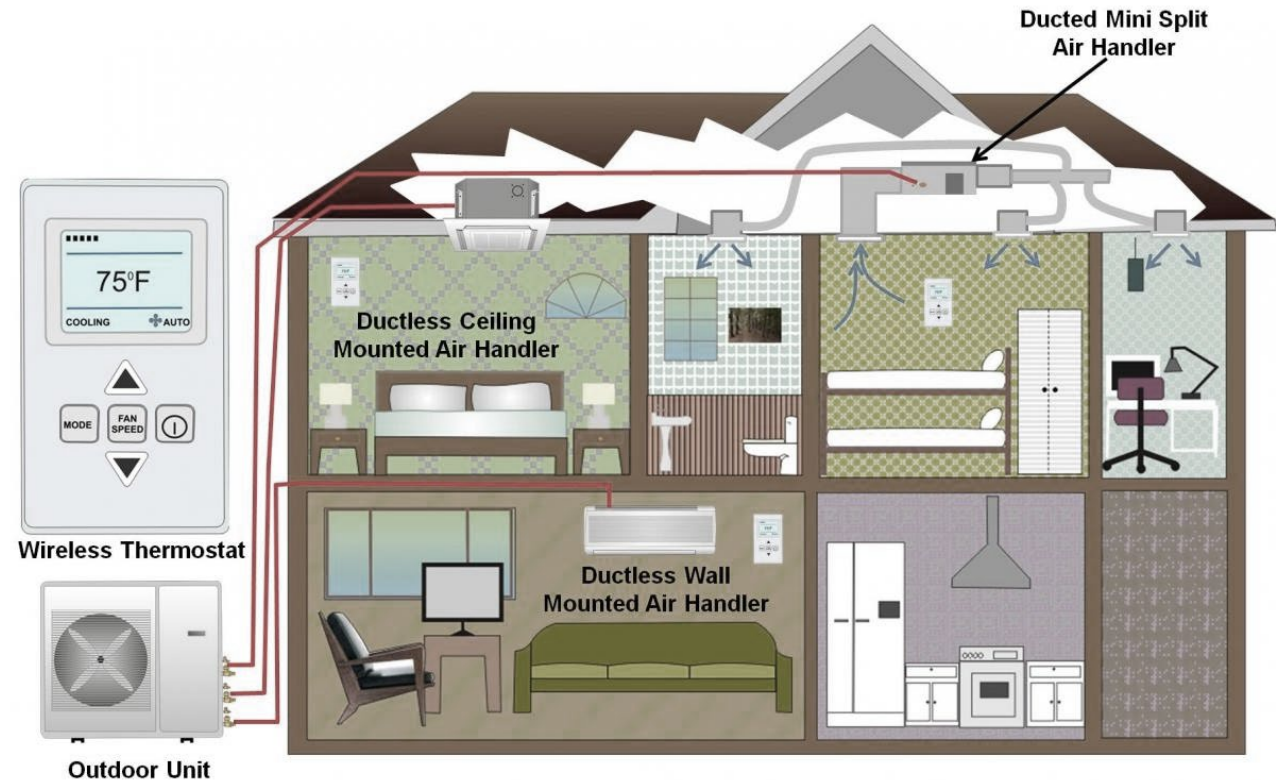
Ducted Mini-Split Heat Pump?

Other common names include:

- Mini-split
- Multi-split
- Split system
- Ducted mini-split*



*Some ducted mini-split systems may be classified as a central heat pump, check [Qualifying Product List](#).



https://basc.pnnl.gov/sites/default/files/HVAC%20132minisplit-5_DS2014.jpg

Ducted Systems Vs. Ductless Heat Pumps

Factor	Central Ducted Heat Pump	Ductless Mini-Split Heat Pump
Air Conditioning?	✓	✓
Zonal Heating?		✓
Ductwork Required?	✓	
Air Filtration & De-Humidification	✓ (options for high-quality add-ons)	✓ (limited)
Ideal Installation in Homes:	<ul style="list-style-type: none">✓ Existing ductwork✓ Central heating✓ More effective air filtration	<ul style="list-style-type: none">✓ Zonal heating✓ Open concept layout✓ No ducting or older inefficient ducting✓ Electric baseboards, wood stoves, gas fireplace✓ Removing ductwork in basement✓ Lower cost system for part of home (common area, basement suite, addition)

HEAT PUMPS: THE MYTHS



Myth #1 - Heat Pumps are Expensive To Purchase

Heating System Comparison	High-Efficiency Gas Furnace	Central Ducted Heat Pump
Equipment and Installation Cost	Range: \$6,000 to \$18,000 Average: \$7,000	Range: \$12,000 - \$27,000 Average: \$18,000
Rebates Available	Up to \$1,000	Up To \$11,000
Cost After Rebates	Average: \$6,000	Average: \$7,000
Air Conditioning	No	Yes
After Upgrade Greenhouse Gas Emissions Emitted Per Year	3 to 6 Tonnes	Under 1 Tonne

Myth #2 – Heat Pumps are Noisy

- Modern heat pumps are around 50-60 decibels (dB)
- Newer ultra quiet models with lower ratings
- Many household appliances are louder than the average heat pump
- City of Vancouver has a [Heat Pumps & Noise FAQ here](#).



Heat
Pump
(50-60 dB)



Dryer
(60-70dB)



Toilet
Flushing
(75+ dB)

Quiet: Where to Locate the Outdoor Unit

Locate Away from Property Line

- Avoid the side yard
- Favour the front or rear yard

Keep Away of high travel and weather-exposed areas

- The unit should not be under a drip line

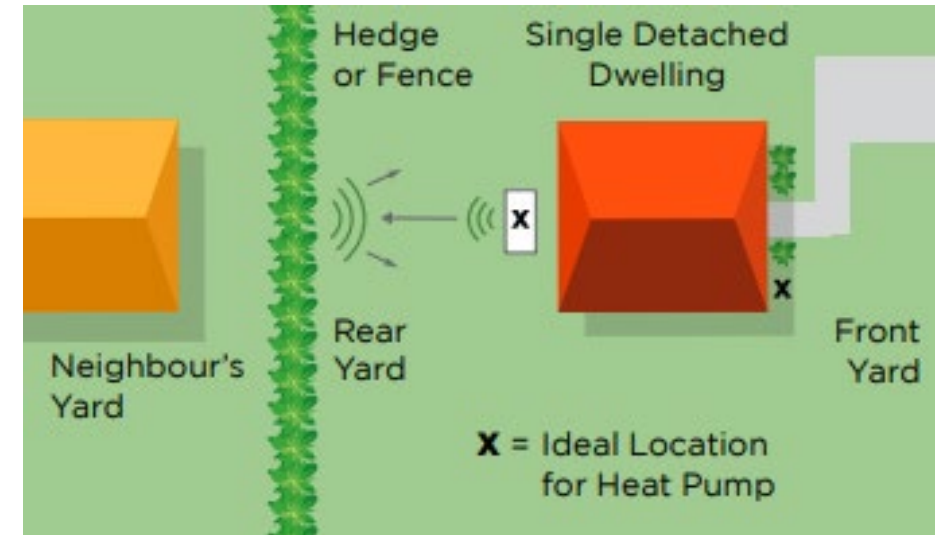
If you can see it, you can usually hear it

- Use existing barriers like fences, landscaping, or decks
- Keep the unit away from neighbouring windows
- Ensure sufficient air flow clearance
- Consider acoustic barriers

Mount the unit on the ground

- Mount on a solid base such as a concrete pad
- Installed with rubber pads or dampeners to minimize vibration

Check in with your municipality for specific bylaw requirements for siting



<https://vancouver.ca/files/cov/heat-pump-noise-guide.pdf>

Myth #3 - Heat Pumps Need a lot of Maintenance




Every heating system requires regular maintenance

Schedule maintenance every 1 to 2 years with your installer

<https://www.powersmart.ca/tip/heat-pump-mythbusters>

Maintenance Considerations

Regularly:

- Check the manufacturer's manual
 - Clean or replace the indoor filters of dust and pollen
 - Check the batteries in the remote control and replace if necessary
- 

Seasonally:

- Clear the outdoor unit of any debris, leaves, snow, and dirt
- 

Annually:

- Schedule a servicing appointment with your installer

Myth # 4

Heat Pumps are Expensive to Operate

Homes with heat pumps can have comparable to lower operating costs to natural gas homes

- ✓ **Changes to your Hydro Bill:** If you are switching from fossil fuel heating you will see an increase in your electricity consumption, which will be offset by a decrease in your fossil fuel consumption.
- ✓ **Purchase Highest Efficiency Heat Pump:** The more efficient the heat pump you purchase the lower your energy consumption and energy bills. In many locations in BC, it may make sense to purchase a cold climate heat pump.
- ✓ **Quality Installation:** A heat pump that is sized for the home and well installed will work more efficiently and cost effectively.
- ✓ **Other Home Upgrades:** By making your home more energy efficient (insulation, windows, air sealing) your home will have lower energy bills.

Heat Pump Operation Tip #1

Set It & Forget It:

In really cold weather, best practice is to **set your thermostat to your preferred comfort temperature and then let it be.**

A heat pump is designed to maintain a steady temperature and work gradually and efficiently.



Myth #5 - Heat Pumps Don't Work in Cold Weather



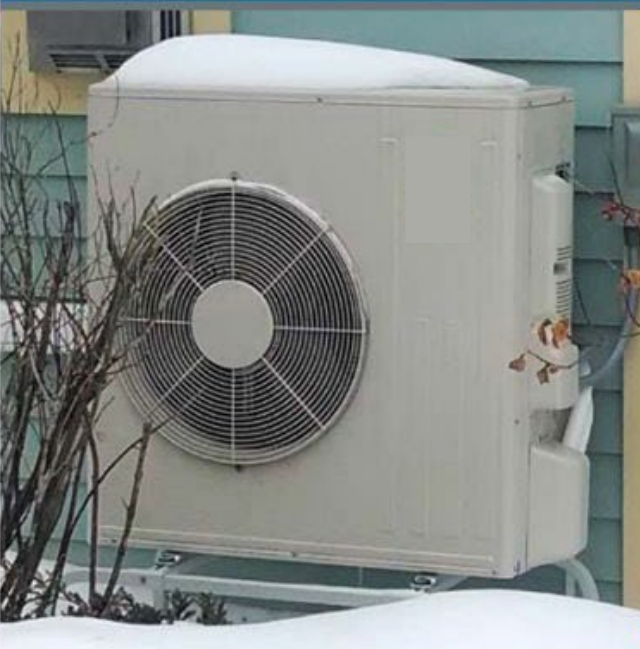
- Operates in temperatures as low as **-25 degrees Celsius**.
- **Higher HSPF** (performance in the heating season)
- Examples all around North America

-13 degrees Fahrenheit winters in Colorado is -25 Celsius!

Heat Pumps in the North Eastern United States

U.S. DEPARTMENT OF
ENERGY | Energy Efficiency & Renewable Energy

Technology Solutions for New and Existing Homes



Building America Case Study

**Field Performance of
Inverter-Driven Heat Pumps
in Cold Climates**

Connecticut, Massachusetts, and Vermont

New
England
Heat Pumps!

Winters
average -8
degrees
Celsius.

<https://www.energy.gov/sites/default/files/2015/09/f26/ba-case-study-inverter-driven-heat-pumps-cold.pdf>

Heat Pumps in Nova Scotia

Canada Greener Homes Grant program offers grants of up to \$5,000 to help homeowners make energy efficiency retrofits to their primary residences. To qualify, Canadians must obtain an EnerGuide assessment prior to installing any upgrades.
[Learn more about how to register.](#)

efficiency
NOVA SCOTIA

[Residential](#) ▶ [Business](#) ▶ [Preferred Partners](#) [Tools & Resources](#) [About Us](#)

Save money, breathe cleaner air,
and enjoy comfortable temperatures year
round

Rebates in
Nova Scotia!

Cold winters
can be -18
degrees
Celsius!

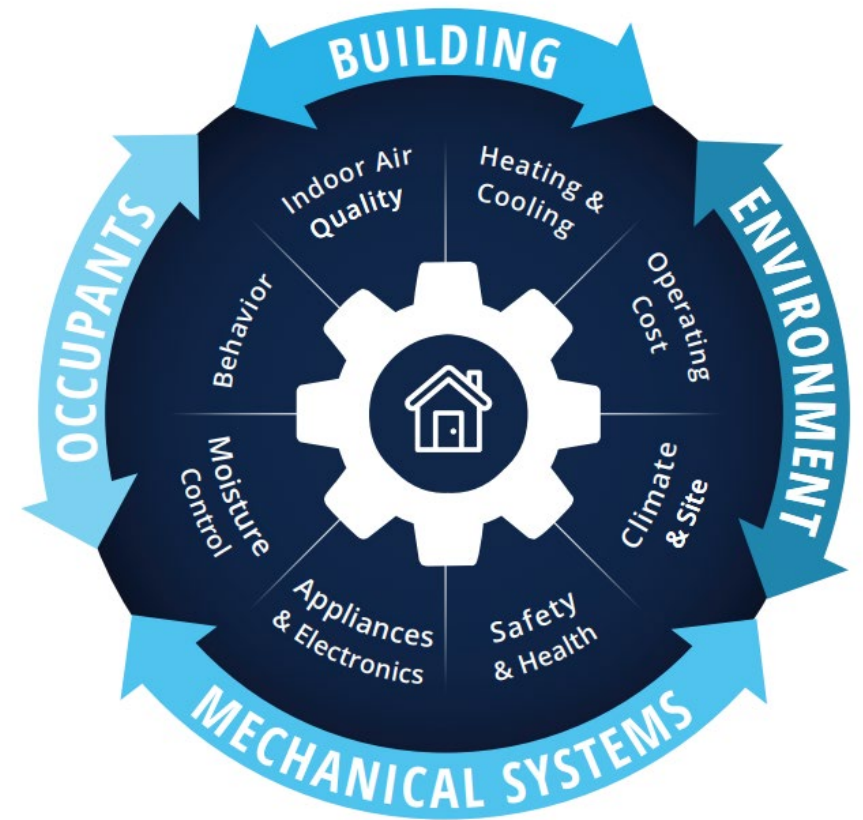
<https://www.energycyns.ca/residential/products-rebates/heating-cooling/heat-pumps/>

HEAT PUMPS: KNOW BEFORE YOU BUY



Buyer Best Practices

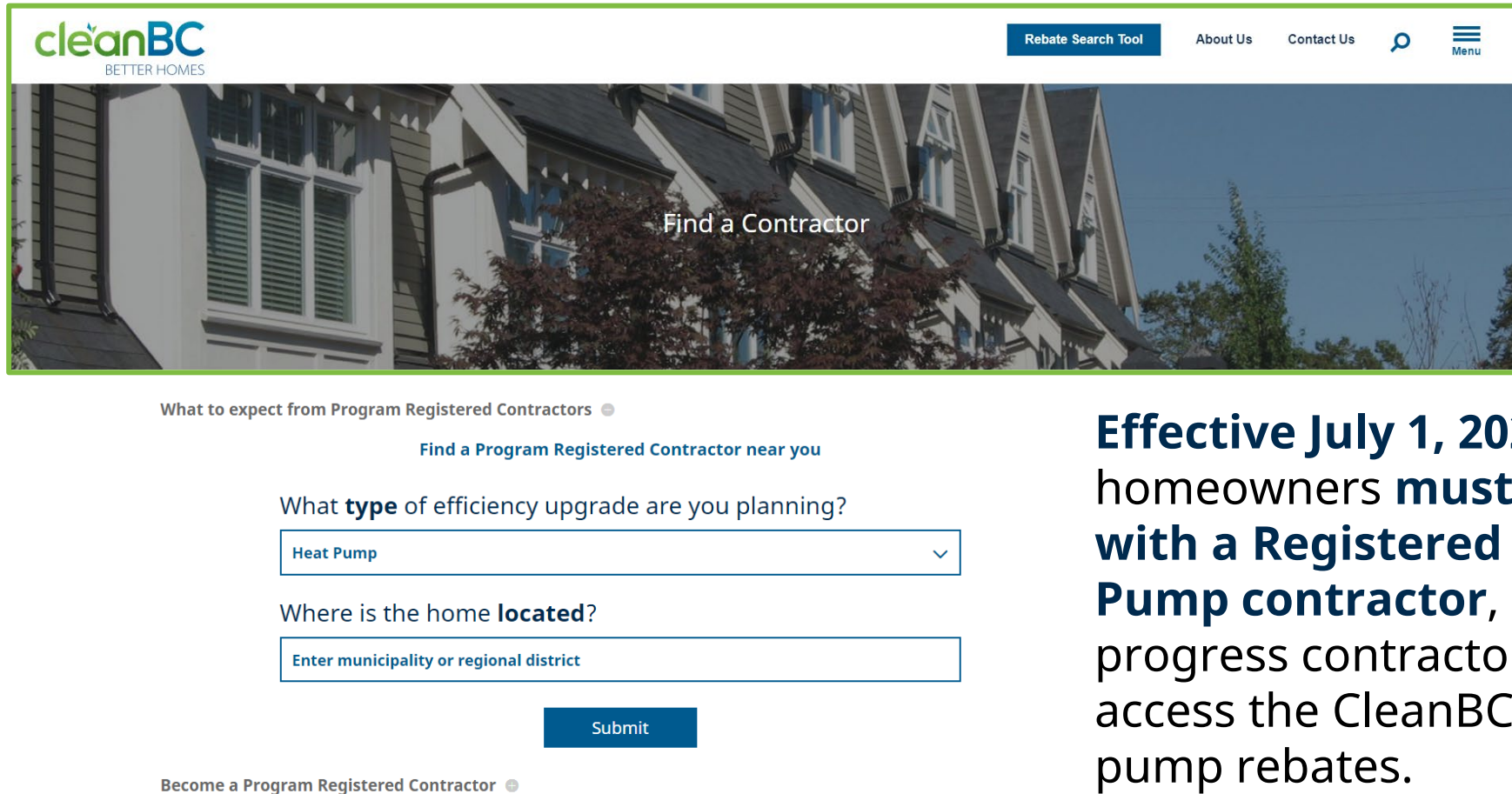
- ✓ Buy through a **qualified installer**, avoid buying wholesale or online.
- ✓ Obtain **multiple quotes** from different installers.
- ✓ **House as a System** - Address air leakage and insulation issues before purchasing your system to ensure high performance, comfort and affordability.
- ✓ Select a heat pump that is **properly sized for your home**, designed for your climate, and includes a supplementary heating system if necessary.
- ✓ Consider starting with an **EnerGuide Home Evaluation (and access extra federal rebates)**



FINDING A HEAT PUMP CONTRACTOR



Finding a Heat Pump Contractor



cleanBC
BETTER HOMES

Rebate Search Tool About Us Contact Us

Find a Contractor

What to expect from Program Registered Contractors

Find a Program Registered Contractor near you

What **type** of efficiency upgrade are you planning?

Heat Pump

Where is the home **located**?

Enter municipality or regional district

Submit

Become a Program Registered Contractor

Effective July 1, 2022, homeowners **must work with a Registered Heat Pump contractor**, or in-progress contractor to access the CleanBC heat pump rebates.

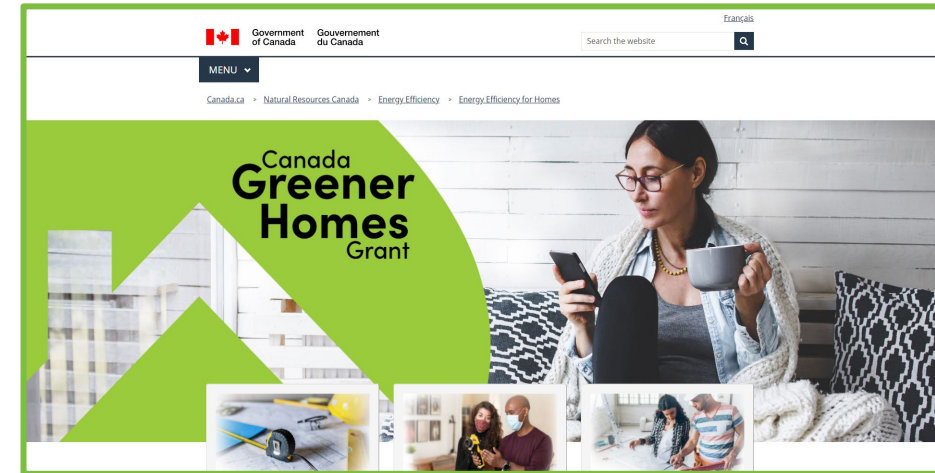
AVAILABLE REBATES



Two Stackable Programs



Provincial – CleanBC Better Homes and Home Renovation Rebate Program (CBC)



Federal – Canada Greener Homes Grant and Loan (CGHG)

All rebates/grants are stackable up to 100% of the upgrade cost (excluding tax)

Heat Pump Provincial Rebates and Federal Grants – Overview

Upgrade	Canada Greener Homes Grant	CleanBC Electric to Heat Pump Rebates	Estimated Total (Electric to Heat Pump)	CleanBC Fuel Switch Rebates	Estimated Total (Fossil Fuel to Heat Pump)
Ductless Mini-Split Heat Pump Single Head	\$0	\$1,000	\$1,000	\$6,000	\$6,000
Ductless Multi-Split Heat Pump	Up to \$5,000	\$1,000	Up to \$6,000	\$6,000	Up to \$11,000
Central Ducted Heat Pump	Up to \$5,000	\$2,000	Up to \$7,000	\$6,000	Up to \$11,000
Dual Fuel Heat Pump	Up to \$5,000	-	Up to \$5,000	\$3,000	Up to \$8,000
Air-to-water Heat Pump	\$0	-	\$0	\$3,000	\$3,000



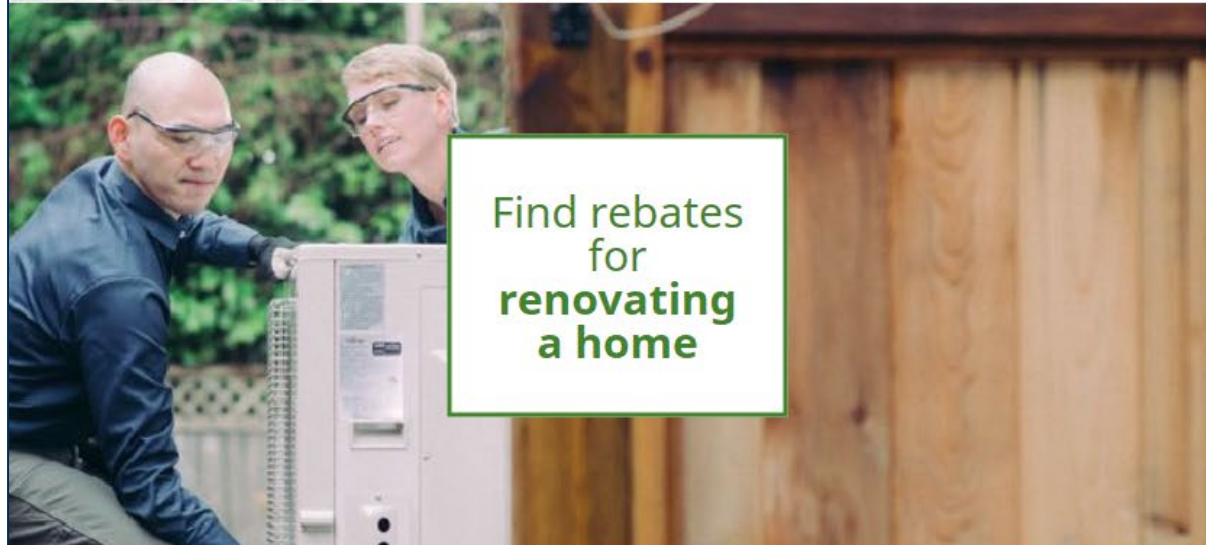
[Rebate Search Tool](#)

[About Us](#)

[Contact Us](#)



Better Homes helps British Columbians find rebates that save energy and lower greenhouse gas emissions.



Find rebates
for
**renovating
a home**



Find rebates
for **building
a home**

[Not sure where to start? Follow our step-by-step guide](#)



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CleanBC – Energy Coaching

Self-Serve Online Resources

- Incentives, rebates, contractor and financing search tool
- Resources to learn about energy efficiency products and services
- Frequently asked questions

Free Energy Coaching Support

- www.betterhomesbc.ca
- 1-844-881-9790
- ask@betterhomesbc.ca



CleanBC Rebate Search Tool

Rebate Search Tool

What **type of project** are you completing?

Renovating a home

Where is the home **located**?

Enter municipality or regional district

How is the home **currently heated**?

If the home has more than one system, select the main heat source.

- ☐ Electricity (baseboard, furnace)
- ☐ Natural Gas or Propane (furnace, boiler, fireplace)
- ☐ Oil (furnace, boiler)
- ☐ Wood (stove, fireplace)
- ☐ District energy (locally created energy)
- ☐ Heat Pump
- ☐ Geothermal
- ☐ Not sure, view all rebates

Submit

Heating

Install a Heat Pump

Central Ducted Heat Pump Rebate

Compatible with a new or existing duct system

\$1,200 - \$6,000

Ductless Mini-Split or Multi-Split Heat Pump Rebate

Compatible with homes with no duct system

\$1,000 - \$6,000

CleanBC Dual Fuel Ducted Heat Pump Rebate

Integrate an existing fossil fuel heating system with a central heat pump

\$3,000

CleanBC Air-to-Water Heat Pump Rebate

Air-to-water space heating systems

\$3,000

CleanBC Combined Space and Hot Water Heat Pump Rebate

Space heating and domestic hot water system

\$1,000 - \$4,000

CleanBC Better Homes Low-Interest Financing Program

Fuel switch to a heat pump and access low or no-interest loans upon approval

up to \$40,000 loan

CleanBC Program Note!

- Program Changes starting on October 1st, 2022.
 - The upcoming slides reflect these changes.
 - For all invoices dates on or after October 1st
 - All updates prior to October 1st are not affected.
- All heat pumps must have an HSPF of 10.00 or higher.
- Single-head mini-splits for homes 1,200sqft or less only.
- All heat pumps must be at least 12,000 BTUs (1 ton)

Heat Pump Rebates:

BC Hydro Electrically heated homes

- Electrically heated homes in BC Hydro's Service Area must meet a **minimum electricity consumption** to be eligible.
 - Check eligibility by entering your BC Hydro account number and home's square footage at bchydro.com/hero/eligibility

Heat Pump Type	Rebate Amount
Ductless Mini Split Heat Pump (Single Head) HSPF ≥ 10.00, SEER ≥ 16.00, Variable Speed Required Eligible home must be 1,200sqft or less	\$1000
Ductless Multi-Split Air Source Heat Pump (Two or more Heads) HSPF ≥ 10.00, SEER ≥ 16.00, Variable Speed Required	\$1000
Tier 2 Central Ducted Heat Pump HSPF ≥ 10.00, SEER ≥ 16.00, Variable Speed Required	\$2000

*Replacing or adding to an existing heat pump is not eligible for provincial rebates

Heat Pump Rebates:

Fossil fuel heated homes

For converting from oil, natural gas, or propane to a heat pump

Heat Pump Type	Rebate Amount (BC Hydro Territory)
Ductless Mini Split Heat Pump (Single Head) HSPF ≥ 10.00 , SEER ≥ 16.00 , Variable Speed Required Eligible home must be 1,200sqft or less	\$6000
Ductless Multi-Split Air Source Heat Pump (Two or more Heads) HSPF ≥ 10.00 , SEER ≥ 16.00 , Variable Speed Required	\$6000
Tier 2 Central Ducted Heat Pump HSPF ≥ 10.00 , SEER ≥ 16.00 , Variable Speed Required	\$6000

Heat Pump Low-Interest Financing Program

- Interest Rates of **0%** over 60 months (5 years)
- Loans of **\$1,000** to **\$40,000** available
- Access CleanBC financing **OR** the CleanBC heat pump rebate, **but not both**.
- Upgrades **must** be installed by a **Finance Registered Contractor**.
- Homes must be switching from fossil fuel (oil, gas, propane) to a heat pump
- Same heat pump requirements as the provincial heat pump rebates

Group Purchase Rebate (GPR)

The GPR rewards groups of homeowners working together **to switch from natural gas, oil or propane heating to an air source heat pump.**

Group Purchase Rebate: Up to \$500 more in rebates.

- + up to a **\$6,000 Heat Pump Rebate from CleanBC**
- + the **\$500 Electrical Service Upgrade Rebate**
- + applicable **municipal top-ups**
- + the **Canada Greener Homes Grant: Up to \$5,000**



GPR Rebate Amount is Based on Group Size

Size of Group	Each Participant Receives
2-4 Homes	\$200
5-9 Homes	\$275
10-14 Homes	\$350
15-19 Homes	\$425
20-30 Homes	\$500

Tell us how you want to participate *

- ☐ I am starting a new Group Purchase Rebate group
- ☐ I am joining an existing Group Purchase Rebate group

Submit

1) Start a group – register and start a new group.

2) Join an existing group – receive a GPR **Code** from another participant.

CleanBC Income Qualified Program

Number of people living in your home (including adults and children)	Combined pre-tax annual income of all adults in your home (excluding dependents):	
	Income Level 1	Income Level 2
1	\$42,593	\$55,903
2	\$53,026	\$69,596
3	\$65,189	\$85,560
4	\$79,147	\$103,880
5	\$89,768	\$117,820
6	\$101,242	\$132,880
7 or more	\$112,718	\$147,943

- Enhanced rebates that **cover 60-95%** of your home upgrade costs
- Support in multiple languages
- Meet **income qualifications** (see table)

CleanBC Income Qualified Program

- **Heat pump rebates up to \$9,500**
 - Up to \$9,500 when switching from fossil fuel
 - Up to \$5,000 when switching from electric baseboards/furnace, or wood
- Work with an Income Qualified **Program Registered Contractor**
 - Contractor will submit rebate and **deduct the rebate** from the final cost of the upgrade

Pre-Registration Form

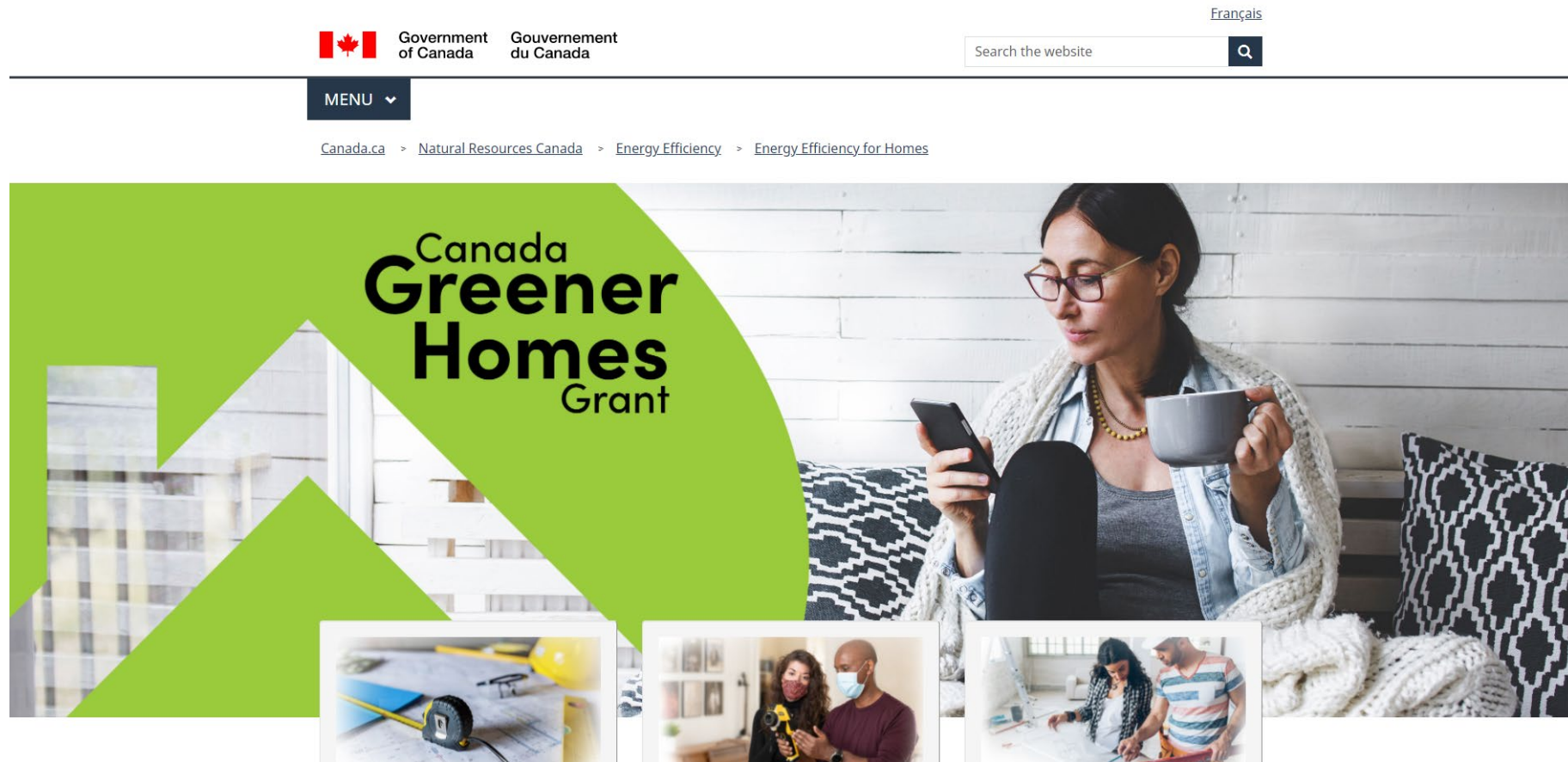
Already know what upgrades you want to complete?
Submit the online pre-registration form using your computer or mobile device.

Estimated time to complete: 10 minutes

Get started



Canada Greener Homes Program



Canada Greener Homes Grant (CGHG)

- Up to \$5,000 towards upgrades plus up to \$600 towards EnerGuide Evaluations
- **Heat Pump grants** range between **\$2,500 and \$5,000**
- Homeowners **must register** in the Homeowner Portal and have **both a Pre- and Post-Retrofit EnerGuide Home Evaluation**
- Home must be homeowner's primary residence
- **Grants can stack** with the CleanBC rebates, up to 100% of the total cost



Canada Greener Homes Loan

Invest in your home

Improve your home's energy efficiency with a Canada Greener Homes Loan

- Launched June 17th, 2022
- Stackable to the \$5,000 grant
- Loans up to \$40,000 Interest-free
- Registration and EnerGuide required
- Repayment over 10 years

Both Programs?

- **Start** with an **EnerGuide Home Evaluation**
 - Requirement for Canada Greener Homes
 - Optional for CleanBC
- **Register** with the federal program
- **Call the Energy Coach Service**

An energy evaluation is a comprehensive service designed to help you improve the comfort and energy efficiency of your home. Learn more about energy evaluations through our Frequently Asked Questions for [renovating a home](#) or [building a home](#).

Who are Program Qualified Energy Advisors ●

What **type** of project are you completing?

Select Type ▼

Where is the home **located**?

Enter municipality or regional district

Submit

Find energy advisors at betterhomesbc.ca/ea

Central Saanich Oil to Heat Pump Program

- **Financing is attached to the property**, not the homeowner and is repaid through an additional charge on the home's property tax.
- Central Saanich is offering up to **\$12,000 in 0% interest** financing for 10 years to **replace oil** heating systems with a heat pump.
- Homeowners **must register** and have their **financing agreement signed** before starting any work.



Oil to Heat Pump Program Continued

- Homeowners are required to **complete an EnerGuide home evaluation** (just like the federal program).
- Once registered, homeowners will be given a list of **registered contractors** required for the Oil to Heat Pump Program offer.
- Any cost beyond the \$12,000 is covered by the homeowner and can be offset by provincial and federal rebates.



In summary

Financing

- Central Saanich Residents that have oil heating can reach out to the District for Financing
- Central Saanich Residents that have natural gas heating could apply for the CleanBC Financing or Federal Loan

Central Saanich Oil to Heat Pump Program Contact

Jennifer Lukianchuk

Jennifer.Lukianchuk@csaanich.ca

250-652-5789 x2224

Rebates

- Up to \$11,000 in rebates/grants for Fossil Fuel heated homes
- Up to \$7,000 in rebates/grants for Electric/Wood heated homes

Questions, Contacts

- **CleanBC Energy Coach Service**
 - Free coaching support, rebate and contractor search tools
 - **1-844-881-9790**
 - ask@betterhomesbc.ca
 - www.Betterhomesbc.ca
- **Canada Greener Homes**
 - 1-833-674-8282
 - Nrcan.canadagreenerhomesgrant-subventionmaisonsvertes.nrcan@Canada.ca



THANK YOU!

**For more information
visit betterhomesbc.ca**

