

## CONSIDERING PURCHASING A HEAT PUMP WEBINAR – May 26, 2022

City of New Westminster, Follow Up Questions.

For the most up to date information on what rebates are available in your area please visit [betterhomesbc.ca](https://betterhomesbc.ca) or contact an Energy Coach by emailing [ask@betterhomesbc.ca](mailto:ask@betterhomesbc.ca) or calling 1-844-881-9790.

### **What support is available?**

CleanBC Better Homes is BC's online hub for homeowners and businesses to access information, rebates and support to reduce energy use and greenhouse gas emissions in new and existing homes and buildings. Support includes:

- Easy to use [rebate search tool](#) for when you are renovating a home or building a new home
- Information and answers to frequently asked questions on energy efficiency upgrades and [accessing rebates](#)
- [Free Energy Coaching Services](#) for homeowners and businesses undertaking renovations, including a phone and email hotline staffed by energy coaching specialists
- Search tool to find registered EnerGuide Rating System [energy advisors](#) for residential renovations and new construction
- [Contractor directories](#) to find registered contractors in your area

### **What rebates are available?**

[CleanBC Better Homes and Home Renovation Rebate Program](#) – this provincial program provides rebates for upgrades such as insulation, heat pumps, windows and doors, and more. Review the [Program Requirements](#) and [Additional Terms and Conditions](#) to ensure you are eligible for the program. All upgrades must be completed by a contractor with a valid BC business license.

### **Heat Pump Rebates\***

- [Ductless Mini-Split Heat Pump](#) – up to \$6,000 + up to \$500 with the [Heat Pump Group Purchase Rebate](#)
- [Central Ducted Heat Pump](#) – up to \$6,000 + up to \$500 with the [Heat Pump Group Purchase Rebate](#)
- [Dual-Fuel Ducted Heat Pump Rebate](#) – \$3,000 + up to \$500 with the [Heat Pump Group Purchase Rebate](#)
- [Combination Space and Water Heat Pump](#) – up to \$4,300 + up to \$500 with the [Heat Pump Group Purchase Rebate](#)
- [Hydronic Heat Pump](#) – \$3,000 + up to \$500 with the [Heat Pump Group Purchase Rebate](#)
- [Electrical Service Upgrade](#) – \$500
- [Electric Heat Pump Water Heater](#) – \$1,000
- [CleanBC Better Homes Low-Interest Financing Program](#) – receive a loan of \$1,000 - \$40,000 for installing an eligible heat pump
- [Heat Pump Group Purchase Rebate \(GPR\)](#) – receive an additional up to \$500 when switching from fossil fuel to a heat pump. The GPR rewards groups of homeowners working together to reduce greenhouse gas emissions by switching from an oil, natural gas, or propane heating system to an air source heat pump. The GPR ranges from \$200 per home, for a group of 2

homes up to a maximum of \$500 for a group of 20 to 30 homes. To register for the GPR, visit [www.betterhomesbc.ca/gpr-register](http://www.betterhomesbc.ca/gpr-register).

\*Rebate amounts vary depending on your location, primary space heating system prior to upgrade, and electricity provider. Review the summary pages for more detailed information.

**CleanBC Income Qualified Program** –Based on your household income, this program offers enhanced rebates to make energy-saving home upgrades more affordable. Visit the program’s page for more details on the income requirements and other eligibility details. Please review the [Rebate Eligibility Requirements](#), [Participant Terms and Conditions](#), and [Contractor Terms and Conditions](#). Keep in mind that **all upgrades must be completed with an Income Qualified Program Registered Contractor**. After completing the upgrade, the contractor will submit the rebate application and deduct the rebate from the final cost of the upgrade.

- You may be eligible to receive enhanced rebates that cover 60-95% of your home upgrade costs, with maximum rebate values of:
  - [Ductless Mini-split, ductless multi-split and central ducted heat pumps](#) – up to 9,500
  - [Dual fuel ducted heat pumps](#) – up to \$9,500
  - [Air-to-water heat pumps](#) – up to \$9,500 or up to \$13,000 for a combined space and water heat pump
  - [Heat pump water heaters](#): Up to \$3,500
  - [Electrical service upgrade](#) – up to \$3,500
- Additional rebates are available for necessary health and safety, ventilation, and electrical panel upgrades.
- Free energy coaching, virtual energy assessments, and support in multiple languages can help identify the home upgrades and rebates that are best for you.
- For more information, please contact the Income Qualified Program directly at 1-833-856-0333 or email [incomequalified@betterhomesbc.ca](mailto:incomequalified@betterhomesbc.ca)

**Canada Greener Homes Grant**- this [federal program](#) offers up to \$5,600 in rebates for homeowners completing energy efficient upgrades on their home, including insulation, air sealing, windows, heating systems, solar systems, and resiliency measures. **Up to \$5,000 is available for installing a heat pump.** The completion of an [EnerGuide Home Evaluation](#) before and after upgrades is required to be eligible. You can access rebates from both the Greener Homes program and the CleanBC Better Homes and Home Renovation Rebate Program, however eligibility requirements and application steps differ. Carefully read the Greener Homes [eligibility page](#) to confirm your home is eligible and the [eligible retrofits page](#) to learn about efficiency requirements and available grants for each retrofit.

## Webinar Questions:

### **Doesn't heat pump efficiency drop when temperature drops below 0 degree Celsius?**

Yes, heat pumps will eventually decrease in efficiency as the temperature outside drops however new systems are much more efficient than older systems maintaining high efficiencies even below 0 degrees.

A standard, non-cold climate heat pump works at a high efficiency down to -8° to -12° Celsius. Cold climate heat pumps are built to work efficiently in conditions down to -25° Celsius, with some systems maintaining an efficiency of over 200% at -18° Celsius.

Speak to a heat pump installer to find a system that will work well in your home. If a heat pump contractor informs you that you are required to have a back up heating system, we would recommend that you access a second quote from a contractor that specializes in heat pumps. You can get started with the [Registered Contractor Search Tool](#), and the [Registered Contractor In-Progress list](#). You can also check out our [tips for hiring a contractor FAQs](#).

The need to rely on back up heating can be minimized by:

- Having a high efficiency heating system, properly sized and installed in the home
- If the home is not energy efficient, considering complementary home energy improvements so there is less heat loss – including upgrading insulation, windows and air sealing.
- Purchasing a cold climate rated heat pump. Cold climate heat pumps are built to work efficiently in conditions down to -25° Celsius, with some systems maintaining an efficiency of over 200% at -18° Celsius.

Check out some useful FAQs below:

- [Do Heat Pumps Work Well in Cold Weather?](#)
- [Do I need a backup heat source for my heat pump?](#)
- [What is a cold climate heat pump?](#)
- [Am I eligible for a heat pump rebate if it is combined with a gas, propane, or oil furnace as a back up?](#)

### **If we have an 80,000 BTU furnace, is there a formula to know how many BTU the heat pump would likely need to be?**

The size of an existing heating system is not a good gauge or formula for determining the size of a heat pump. Often existing gas furnaces are very oversized for the home. Additionally, when installing a heat pump, or any new heating system, it is best practice to consider other home energy improvements that can be completed to reduce the heat loss in the home and the size of the new heating system. Doing complementary improvements will often allow for a smaller sized heating system to be installed. Ask your contractor do to a [heat load calculation](#) to see what size of heating/cooling system your home needs.

**Is the noise generated dependent on the type of heat pumps, or by individual models?**

Each heat pump system has a sound rating, measured in decibels (dB). Like different models of dishwashers, some heat pumps are noisier than others. We recommend that homeowner take the decibel rating of the heat pump they are purchasing into consideration.

Outdoor unit sound ranges from 40 to 60 dB+ and indoor units range from 18 to 30 dB. For comparison:

- A quiet office or library is about 40 dB
- A typical refrigerator is about 50 dB
- A normal conversation is about 60 dB

Keep in mind that a 60 dB heat pump will sound twice as loud as a 50 dB heat pump. It is recommended to look for heat pumps with variable speed motors, as they tend to run more smoothly and quieter than single- or two-stage motors. Additionally, regular maintenance will play a role in the sound produced. Well-maintained equipment will operate more efficiently and quietly than equipment that has not been maintained.

If noise is a concern, ask your contractor for a quieter system and ask your contractors providing you with quotes to confirm the decibel rating for the outdoor and indoor units of the system that they are proposing to installed at your home. To learn more about heat pump noise, too see sound comparisons, and to learn about how good installation practices and outdoor unit placing can address noise concerns check out the FAQ on [heat pumps and noise](#).

**Can you compare the operating cost to a gas furnace, rather than other electric heating sources?**

We do not have data to demonstrate the operational cost savings from removing a gas system and switching to a heat pump. Studies are currently being conducted on this topic and will be available in 2022.

It is important to note that gas is currently cheaper than electricity but heat pumps are much more efficient. If a higher efficiency heat pump system is installed and if the heating system switch is complemented by other home energy improvements the home heating costs with a heat pump can be lower or comparable to the cost of heating with gas.

The actual operational costs of switching may be dependent on the efficiency of the heat pump installed, the efficiency of the home, and how the heating system is used. For example, during the summer of 2021 many new heat pump owners enjoyed the comfort of air conditioning during the heat dome and on hotter days. For these homes, due to the addition of air conditioning, there would have been an increase in annual energy consumption and higher energy bills in the summer season.

**What is the maintenance cost of a heat pump and how long is the life time of one?**

In terms of maintenance, homeowners will generally pay \$150-\$250 per year in servicing fees. Just like install costs, this will vary depending on your system (how many outdoor heat pump units) and the contractor you work with. When receiving quotes for a system, be sure to inquire about annual maintenance costs.

Proper maintenance is critical to ensure your heat pump operates efficiently, reliably, and has a long service life. You should have a qualified contractor do annual maintenance on your unit to ensure everything is in good working order. In addition, make sure the outdoor unit is kept clean and clear of debris year round, this will help maintain its operation – the user guide typically includes care instructions for homeowners.

Aside from annual maintenance, there are a few simple things you can do to ensure reliable and efficient operations. Be sure to change or clean your air filter every 3 months, as clogged filters will decrease airflow and reduce the efficiency of your system. Also, be sure that vents and air registers in your home are not blocked by furniture or carpeting, as inadequate airflow to or from your unit can shorten equipment lifespans and reduce efficiency of the system.

Like all heating systems, air-source heat pumps have a service life of between 15 and 25 years. The compressor is the critical component of the system. The warranty on heat pumps can vary widely and may affect cost.

**What do you do when you are holiday? Turn off or leave on?**

Just like any type of heating system, if you were away on holiday when the outdoor temperature was expected to be very cold you should leave your heat pump on so that your pipes don't freeze and to prevent frost build up on windows and doors. 16 degrees Celsius is the typical recommended temperature to set your thermostat at when away in the winter.

Similarly, when cooling your home in the summer time when you are there, you would not need to operate the system for the whole summer. For those warmer summer days/nights you can use the heat pump for a few hours or days then turn it off when the temperature doesn't require air conditioning.

**My home is on a 100A electrical service. Would I likely need to upgrade to a 200A service?**

This will vary depending on the system installed, house size, the other electrical demands in the home. Often a heat pump will require at least 30 amps. When receiving quotes, contractors will gather the technical details needed for your home's specific needs and determine if an electrical service upgrade is required. There are newer heat pumps on the market that have lower power requirements.

If an electrical service upgrade is required to support the installation of a heat pump in your home, and your current primary heating system is natural gas, you can access the [Electrical Service Upgrade Rebate](#) from the provincial CleanBC Program when increasing your amp service to 100, 200, or 400amps.

### **Will residents get credit for carbon tax in New Westminster if their heating is all-electric? Electricity provided by City of New West?**

There are a few elements to carbon taxation in British Columbia:

BC residents pay a carbon tax on fossil fuel consumption, including on gas for vehicles and natural gas for home space and water heating. This tax puts a price on carbon pollution, and encourages investment in low-carbon innovation. Different fuels generate different amounts of greenhouse gas emissions, and therefore result in different tax rates. Learn more [here](#).

The BC climate action tax credit is in place to help offset the impact of the carbon taxes paid by residents. If you are eligible to receive this credit, you will receive the payment from the Canada Revenue Agency quarterly. The credit is combined with the GST/HST credit. There are thresholds based on family net income, so not all residents of BC will receive this credit. Learn more [here](#).

To inquire about how the Carbon Tax relates to your home, contact the Canada Revenue Agency or discuss it with your accountant or tax agent.

### **Can a home in a strata access all of these rebates as an individual homeowner?**

Homes in a strata can access rebates as individuals, so long as the utility accounts are in the name of the resident and/or homeowner; utility accounts in the name of a strata corporation are not eligible.

Further, the home must be considered an eligible building type: Single family homes, individually metered secondary suite in a single-family home, mobile home that is permanently fixed (sits on a foundation and is structurally complete with installed and connected plumbing, heating, electrical, water and sewer services; towing apparatus and axle must be removed), duplex, triplex, row home or side-by-side townhome, where each unit has its own natural gas and/or electricity meter.

Some multi-unit residential buildings, heated by natural gas, are eligible for CleanBC Better Buildings Rebates:

- [CleanBC Custom Lite](#): Must demonstrate measures will have 500 - 1200 tonnes Co2e of lifetime GHG savings.
- [CleanBC Custom](#): Must demonstrate measures will have at least 1,200 tonnes Co2e of lifetime GHG savings.

Like most changes to a property when living in a strata, you will likely need to contact the representative for the building owner, usually a Building Manager or a Strata Council member, to discuss upgrades before getting started with your home renovations.

### **Is the CleanBC Income Qualified Program based on your net income?**

Yes, the [CleanBC Income Qualified Program](#) is based on net income. The income level thresholds are based on the total number of people living in your home (adults and children).

**Is it imperative to have had an EnerGuide assessment prior to acceptance for rebates? There are two assessments?**

Completing an [EnerGuide home evaluation](#) before and after your upgrades is a requirement for federal grants but are not required if you would like to access individual upgrade rebates through the provincial CleanBC program. If looking to access incentives from both programs, it is recommended to start with an EnerGuide home evaluation prior to starting any upgrades.

**Are the rebates available to new construction?**

There are two provincial new home programs offered through CleanBC. The CleanBC Better Homes New Construction Program and the FortisBC New Home Program. Learn more by visiting the program webpages below:

- [CleanBC Better Homes New Construction Program](#)
- [FortisBC New Home Program](#)

To learn about additional rebate offers for new home construction, visit the [CleanBC Rebate Search Tool](#) and filter by '*Building a home*' to see what other offers may be available.

Note that the **federal** [Canada Greener Homes Grant](#) is for existing homes only and does not currently offer a new home program at this time.