Heat pumps:

Good for your wallet AND the environment

CONSERVATION COUNCIL OF NEW BRUNSWICK

Heat pumps save you money, support climate action in New Brunswick, and provide a safer option for you and your family to keep warm in the winters and cool in the summers.

Household energy bills drop between two and six per cent after transitioning from a natural gas boiler to a heat pump. They're also convenient, requiring very little maintenance throughout the year.

Plus, they don't depend on burning fossil fuels to heat your home, lowering safety concerns for you and your loved ones, such as carbon monoxide poisoning.

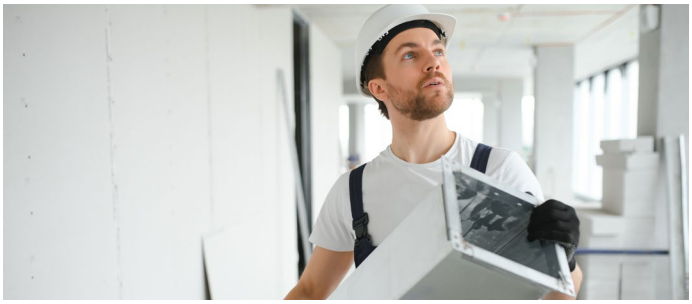
Switching to heat pumps means supporting climate action in the clean electricity transition. Heat pumps **reduce greenhouse gases by at least 20 per cent** compared to gas boilers.

Using clean electricity across New Brunswick means creating affordable, accessible, and reliable electricity for all communities.

HEAT PUMPS Explained

A heat pump is an energy-efficient option for heating and cooling your home, compared to traditional natural gas furnaces or electric baseboards.

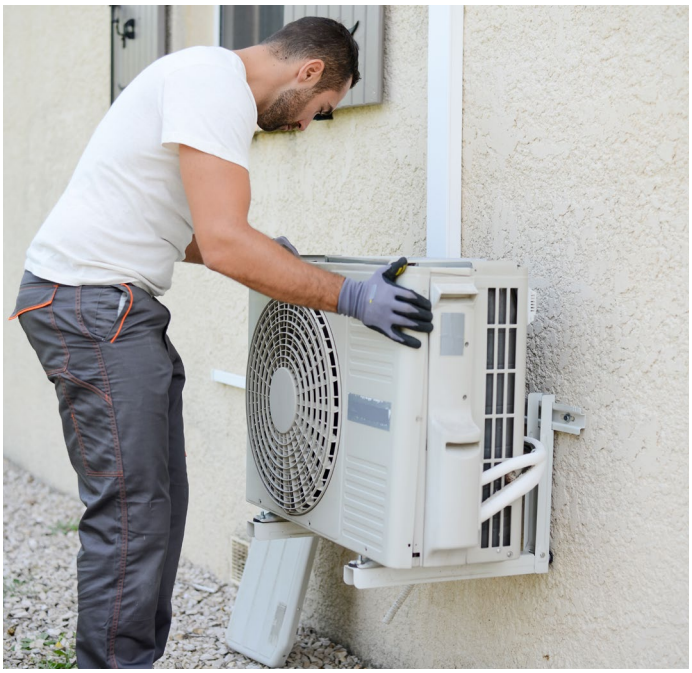
A heat pump is a reliable option to keep your home temperature controlled and comfortable year-round. It does this by moving heat from one place to another. In cold months, it brings warm air from outside and pulls it into your home. In warmer months, a heat pump operates like an air conditioner, shifting warm air from inside your home to outside, while distributing cool air indoors.



There are two types of air-source heat pumps currently on the market for both rural and urban communities: ducted and ductless.

Ducted heat pumps

Ducted heat pumps heat and cool your home using air ducts, and they sit outside your home. A ducted heat pump is a great option to replace a natural gas furnace, as it depends on the same ducting system.



Ductless heat pumps

Ductless heat pumps, otherwise known as mini-split heat pumps, heat and cool single rooms and are on the inside and outside walls of your home.

Ductless heat pumps are two to three times as efficient as electric baseboards. Although electric baseboards are 100 per cent efficient—giving you 1 kWh of heat when you pay for 1 kWh of electricity—ductless heat pumps are between 200 and 300 per cent as efficient. Buying 1 kWh of electricity with a ductless heat pump gets you an average of 2 kWh to 3 kWh of heat because they don't generate heat from electricity. Instead, they extract heat from the outside air and transfer it into your home using pumps and compressors.

Long lifespan with minimal maintenance

With proper maintenance, heat pumps can last 15 to 30 years in your home, often outperforming traditional systems. Maintaining your heat pump is easy: simply change the filter monthly and schedule maintenance checks every one to two years in different seasons with a local technician.

Safer for your home

Oil and gas furnaces may keep your home warm, but New Brunswick's winters are getting colder, forcing these systems to bear the brunt.

Typically, gases from these combustion products are minor and get vented outside. However, wear and tear from older oil and gas furnaces, poor ventilation options such as a blocked chimney or vents with subpar circulation, and backdrafting increase the likelihood of combustion gas spilling into your home. Risks to you and your family include minor headaches to more serious concerns, including carbon monoxide poisoning and furnace combustions.

Heat pumps are a safer alternative for your home. Technology in heat pumps pushes air around without burning anything, lowering the risk of accidents while being reliable and comfortable.

To ensure your heat pump lasts for decades, follow these maintenance tips:

SUMMER

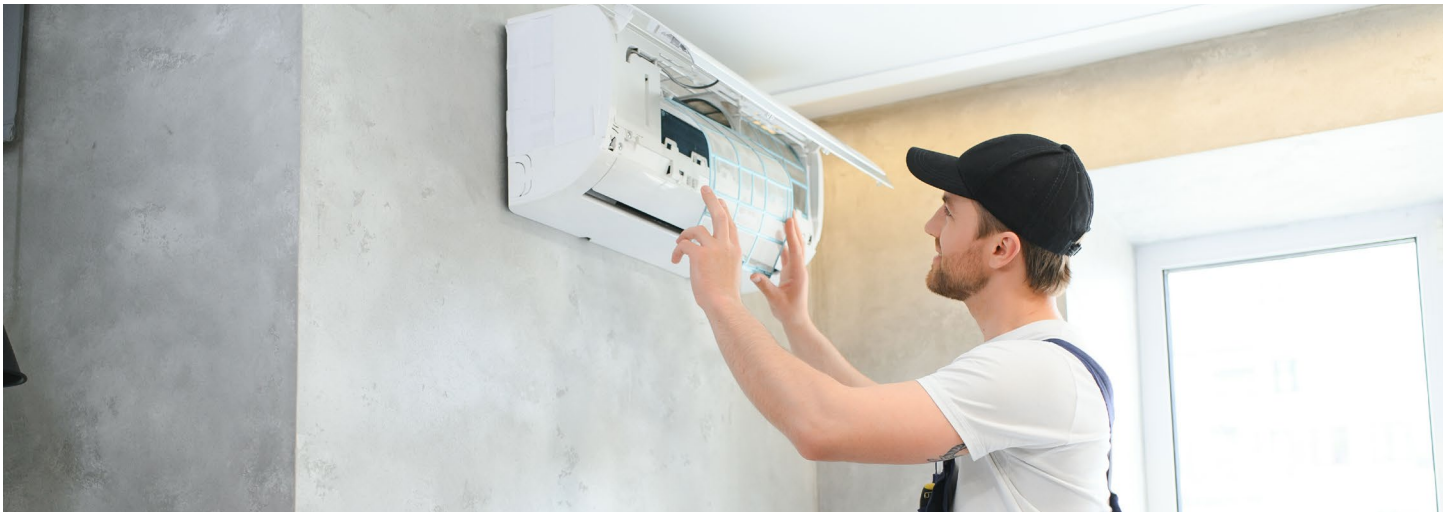
- Regularly clean filters and dust atop heat pump
- Use the dehumidify or fan mode when possible, and the cold mode only when needed most

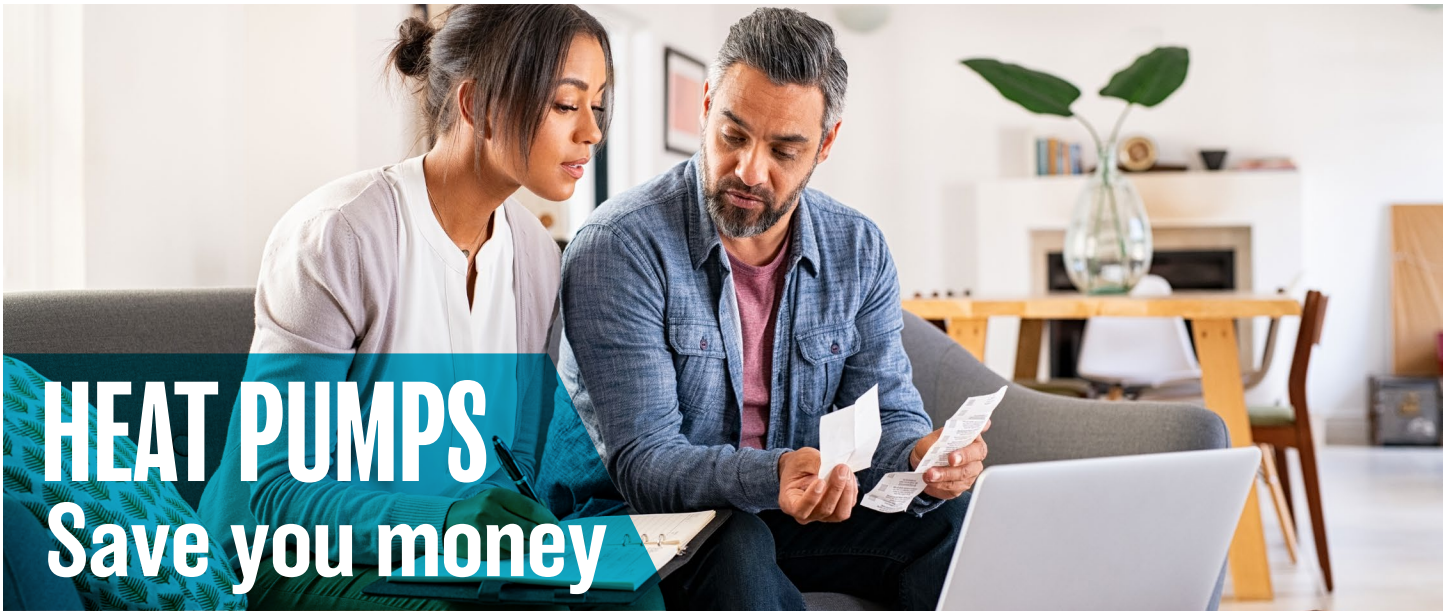
WINTER

- Use the heat mode
- Once you find a temperature that works for you, set it and forget it to allow the heat pump to work efficiently

YEAR ROUND

- Avoid auto mode
- With ducted heat pumps, clean the outdoor unit during major seasonal changes to avoid ice buildup or dust and debris restricting airflow





HEAT PUMPS Save you money

Heat pumps save New Brunswickers money on their monthly energy bills, protect them from price shocks, and help them save for things that matter.

Approximately one-third of New Brunswickers live in energy poverty, forced to spend an unsustainable portion of their monthly income on energy costs. For many, this means paying more than six per cent of their after-tax income on energy—simply to ensure their home is a comfortable temperature for themselves and their family.

Households in Atlantic Canada pay more for electricity and fuel than other provinces. The average Canadian household pays $1,394 annually on electricity, while New Brunswickers pay over $2,400 per year. Communities across the province struggle to make ends meet and cannot bear the burden of inefficient and costly fossil fuels to heat their homes.

Heat pumps are the cost-effective way to cool and heat your home

Clean electricity is affordable, reliable, and sustainable—and ready to be deployed right now.

Throughout their decades-long lifetime, heat pumps save you money and protect from price shocks as traditional energy prices skyrocket. Many households have their energy bills drop between two and six per cent after transitioning from a natural gas boiler to a heat pump.

In 2021, 51 per cent of Canadian homes used a forced air furnace as the primary heating system. In New Brunswick, the percentage of homes with forced air furnaces is much lower, sitting at merely 13 per cent. Forced air heating is a traditional heating system used to warm your home through vents and ducts instead of baseboards, radiators, heat pumps, or a boiler.

New Brunswickers are far more dependent on electric baseboard heaters, with 37 per cent using them to heat their home compared to Canada's 25 per cent. However, the Atlantic provinces use more heat pumps in comparison to Canada, with New Brunswick leading at 32 per cent compared to Canada's six per cent.

A major contributor to this shift in heat pump adoption throughout New Brunswick has been financial support to help households reduce their dependence on heating oil and fossil fuels.

Comparing the cost of a litre of oil to a bundle of firewood to a monthly energy bill won't tell you which one is a more cost-saving way of heating your home. Luckily, each energy source can be measured in how many British Thermal Units (BTUs) it produces. Below is a breakdown of how much it costs to generate one million BTUs of heat per energy source:

- High efficiency mini-split heat pump: **$12.09**
- Natural gas: **$27.48**
- Standard electric baseboard: **$34.02**
- Furnace oil: **$56.16**

Case Study

SAVING OVER $5000 PER YEAR BY SWITCHING TO A HEAT PUMP

A renewable energy consultant from the Maritimes used to heat his home with an oil-fired furnace, but the rising costs of his energy bills made him switch to a heat pump.

He tracked the financial and environmental results of his first year off oil and on the heat pump, from April 2022 to April 2023.

His old furnace burned fossil fuels, contributing to greenhouse gas emissions. Had he kept heating his home with this furnace, he would have emitted an estimated **10,704 kg of greenhouse gases in one year. His heat pump only emitted 2,312 kgs,** meaning he can keep the temperatures in his house comfortable while furthering climate action and saving money.

PURCHASE

Purchasing and installing the heat pump cost **$15,558**. However, he received a government incentive of **$7,092** to help cover expenses.

COSTS

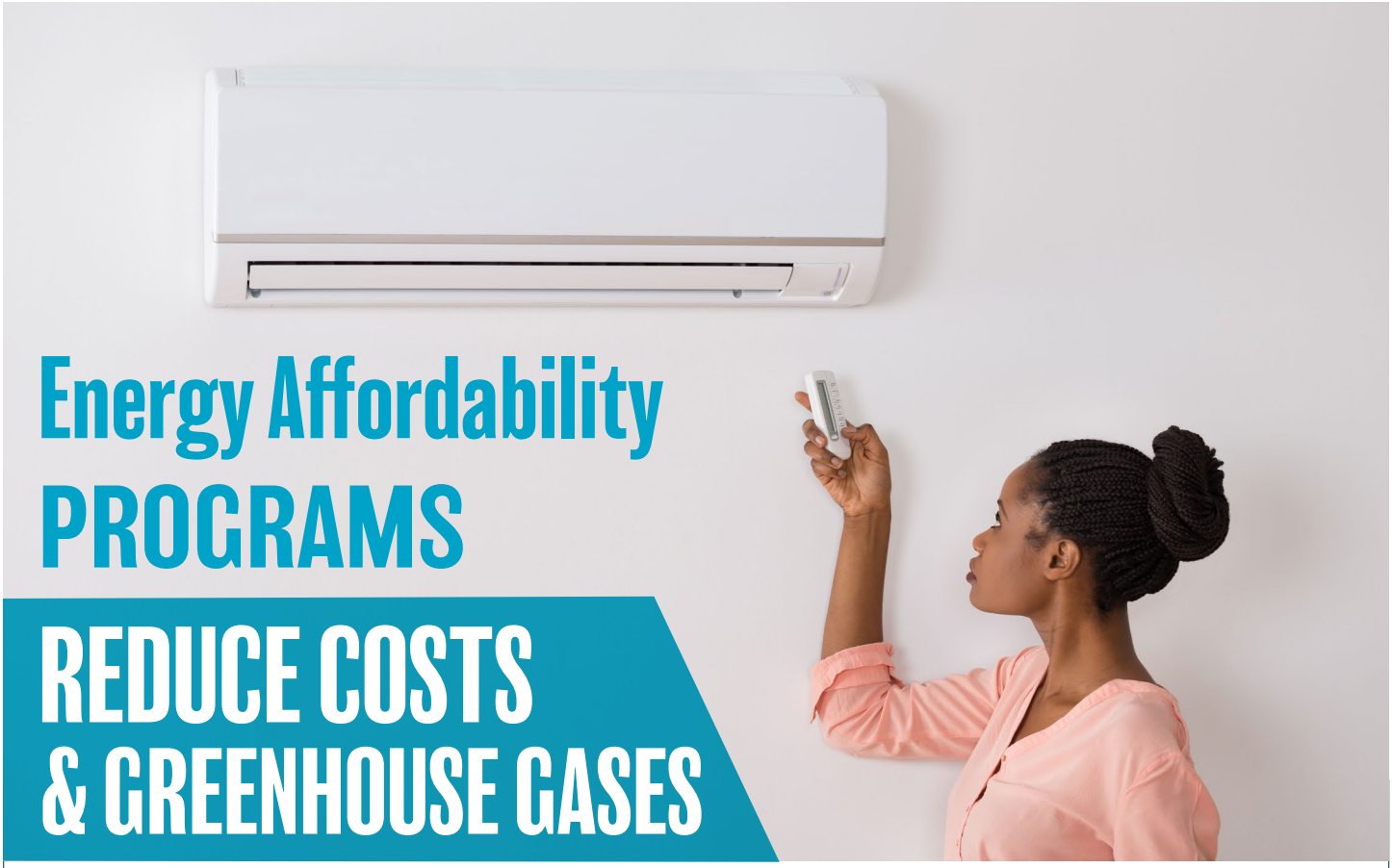
His energy bill on the oil-fired furnace was **$2 per litre,** with an estimated conversion price of just over **$5 per kWh**.

SAVINGS

Now that he's using a heat pump, his energy bills have dropped to **$0.177 per kWh**.

RESULTS

Had he stayed on the oil-fired furnace, his energy bills would have been **$5,164 higher.** Switching to a heat pump saved him over **$5,000 in just one year**!



Energy Affordability PROGRAMS

REDUCE COSTS & GREENHOUSE GASES

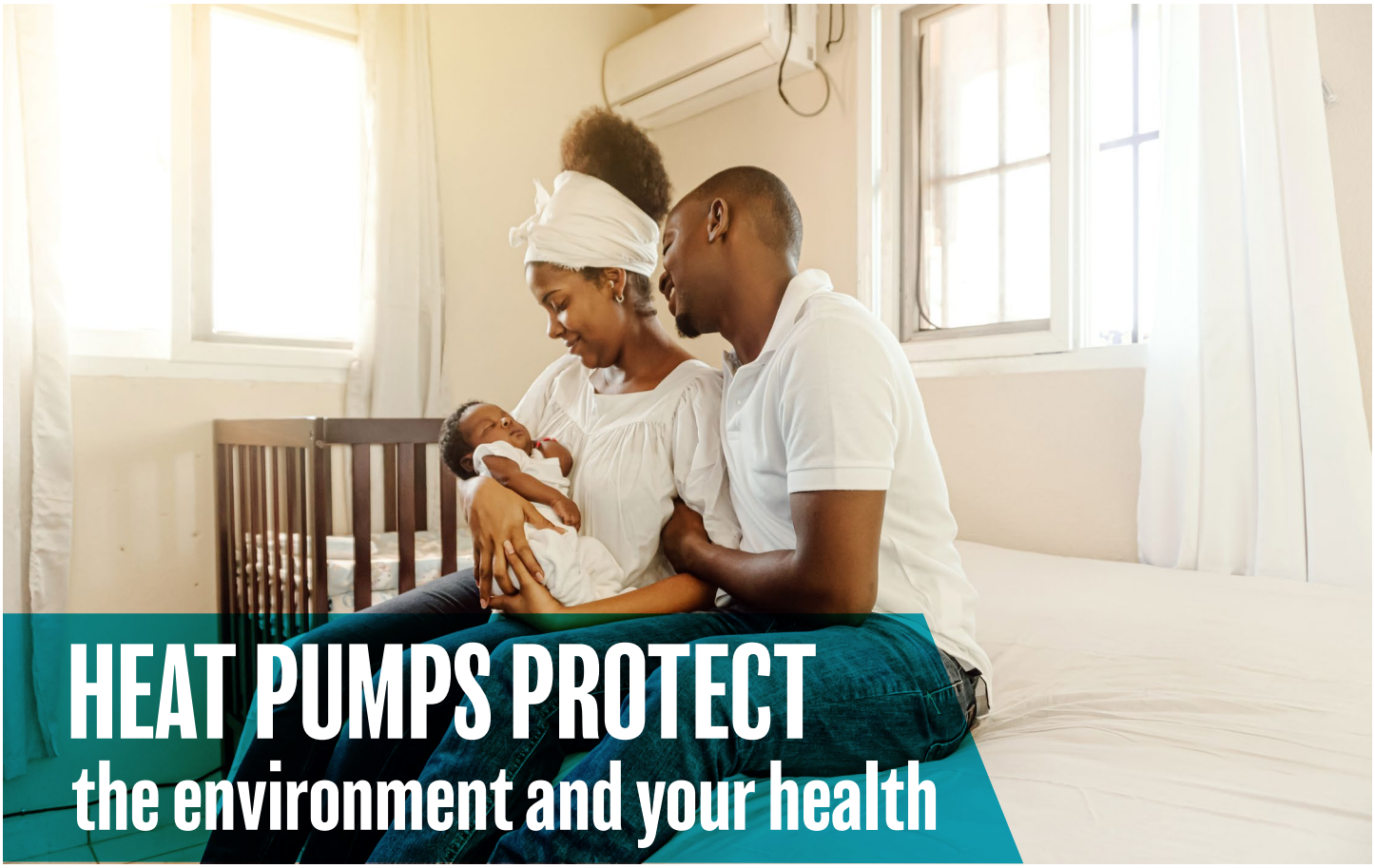
Three provincial affordability programs are available to help you adopt cleaner electricity, protect the environment, save money, and live comfortably.

ENHANCED ENERGY SAVINGS PROGRAM	TOTAL HOME ENERGY SAVINGS PROGRAM	RENTER ENERGY SAVING KIT PROGRAM
Overview A program for New Brunswick homeowners, or the primary resident of that home, whose home needs major energy efficiency retrofits and upgrades, with a combined annual household income of $70,000 or less.	**Overview** A program for New Brunswick legal property owners of residential properties no more than three stories high and smaller than 600 m^2.	**Overview** This program offers New Brunswickers renting their home a free kit mailed directly to their residence to reduce energy use and costs.
Benefits Targeted upgrades are free of charge, based on an evaluation by a Certified Energy Advisor. Mini-split heat pumps installed have a 10-year warranty with three free deep cleans. Post-installation review by an Energy Advisor and training on use, operation, and warranties.	**Benefits** Homeowners can get money back after implementing energy-saving upgrades. A Certified Energy Advisor will conduct an evaluation of all upgrades once completed	**Benefits** Renters get a kit including four LED lightbulbs and an LED nightlight, an electric power bar, two faucet aerators, a water-efficient showerhead, and an installation guide per product.
Learn more	Learn more	Learn more

Energy affordability programs to reduce costs and greenhouse gases

There are also nation-wide programs New Brunswickers can apply to.

CMHC ECO PLUS	CANADA GREENER HOMES GRANT	CANADA GREENER HOMES LOAN	OIL TO HEAT PUMP AFFORDABILITY PROGRAM	CANADA GREENER AFFORDABLE HOUSING
Overview This Canada Mortgage and Housing Corporation (CMHC) program is available to homes with: • an energy efficiency certification to meet energy efficiency or greenhouse gas targets, and • Insurance by CMHC.	**Overview** This initiative is available to all homeowners, as long as proof of ownership is available. The house must also be your primary residence. Indigenous governments and organizations, as well as representatives of Indigenous services with formal partnerships with said groups, can also apply.	**Overview** To qualify for this loan, you must be eligible for and apply to the Canada Greener Homes Grant. You must be the homeowner and the home must be your primary residence. The loan can be combined with the Canada Greener Homes Grant. This loan does not apply to work that is already completed or underway, or retrofits that have not been recommended by an energy advisor.	**Overview** This program is designed for household incomes qualifying as median or below for homes heated with oil. You must prove this heating method through receipts of at least 1,000 litres of heating oil for your home in the 12 months leading up to your application. Funds from this program cannot be combined with the Canada Greener Homes Grant or Loan.	**Overview** Suitable for landlords, this program provides forgivable and low-interest loans to help finance retrofitting in multi-unit residential buildings. CMHC funds 100% of eligible retrofit costs up to $170,000 per unit. Forgivable loans are the lesser of $85,000 per unit or 80% of costs.
Benefits Partial premium refund of 25 per cent.	**Benefits** Grants range from $125 to $5,000, so you can get back a portion of upgrade costs. Homeowners can also get up to $600 toward the cost of pre- and post retrofit EnerGuide evaluations.	**Benefits** Interest-free loans from $5,000 to $40,000 with a 10 year repayment term.	**Benefits** An upfront payment of up to $10,000 that can be combined with additional financial assistance from federal, provincial, and utility programs.	**Benefits** This program can also be used for pre-retrofit activities of up to $130,000 per project. The residential building must have at least five units.
Learn more	Learn more	Learn more	Learn more	Learn more



HEAT PUMPS PROTECT
the environment and your health

Switching to heat pumps to warm and cool your home reduces the use of fossil fuels, mitigates greenhouse gas emissions, and improves air quality.

Natural gas, oil, and coal are examples of fossil fuels. When burned, fossil fuels release harmful air pollutants and greenhouse gases. Heat pumps are a fossil-free way to heat and cool your home, supporting climate action in New Brunswick. Heat pumps are estimated to reduce greenhouse gases by at least **20 per cent** compared to a gas boiler, though this number could be as high as **80 per cent** when coupled with cleaner electricity.

Researchers from Natural Resources Canada used a test house near Ottawa, Ontario, to determine how effective hybrid heating systems—a combination of an electric air source heat pump with a natural gas furnace—are at reducing carbon dioxide emissions. In one heating season, greenhouse gas emissions reduced by **30 per cent on the hybrid system** compared to a natural gas furnace alone.

Heat pumps also have filtration systems to remove pollutants and irritants from the air you and your family depend on. Additionally, you no longer need to worry about carbon monoxide leaks from furnaces, as heat pumps run on electricity and can't cause leaks and the subsequent damage to your health.

Frequently Asked Questions

Can heat pumps work in New Brunswick's cold winters?

Yes. Recent advances in heat pump technology allow them to work in temperatures as cold as –30°C. In extreme cold climates, supplemental heating from your home's original heat source may be required.

Are heat pumps more expensive than traditional heating and cooling systems?

The cost of a heat pump system varies based on different factors, from the type of system to the size of the home. Without installation, a heat pump ranges from approximately $800 to $4,500.

Despite an upfront investment, homeowners save significant amounts of money month over month thanks to lower energy bills. Heat pumps are up to 50 per cent more efficient than window A/C units and up to 300 per cent more efficient than electric baseboard heaters.

What does this mean for you? One 12,000 BTU heat pump will cost the same to heat and cool your home as a single 1,000 watt electric heater—but produces the same amount of heat as four to six baseboards.

With New Brunswick summers getting hotter and extreme winter cold fronts happening more often due to climate change, heat pumps provide our communities with an efficient and cost-saving alternative to the expensive and environmentally harmful traditional options.

Are heat pumps loud?

No. Outdoor units are about 60 decibels, or the volume of light rain, whereas indoor units are between 18 and 30 decibels, the latter being comparable to people whispering in a library six feet away from you. Some units also come with quiet modes.

How much space is needed for a heat pump?

Heat pumps need 24 inches of clearance on all sides and can be installed indoors or outdoors. To compare, the average indoor furnace needs a minimum of 30 inches of clearance on all sides.

Finding the right sized heat pump for your home is crucial to keeping the temperature comfortable without racking up your energy bills. While there are a few techniques to determine sizing, a good rule of thumb to follow is getting a heat pump that provides 12,000 BTUs for every 500 square feet of your home. If your home is 1,500 square feet, your heat pump should operate at 36,000 BTUs.

The size of heat pumps vary, but outdoor units are typically up to three feet wide, three feet high, and one foot deep. This is smaller than the typical loveseat.

Indoor units are, on average, up to two feet tall, about two and a half feet wide, and one foot deep.

Can heat pumps create jobs?

Yes. As demand for clean electricity grows, so too will the need for jobs to maintain this growth. Specifically, more jobs in maintenance, manufacturing, and installation of heat pumps will be needed.

For example, the Canadian Sustainable Jobs Act—otherwise known as the Just Transition Bill—will create new economic opportunities for both rural and urban New Brunswickers as the demand for clean electricity accelerates. Across Canada, the Sustainable Jobs Act expects to create up to 400,000 new jobs before 2030 to help those working in the energy industry keep food on their tables and keep our lights on.

How can landlords and renters reduce their energy bills and support the transition to clean energy?

Renters can apply for the Renter Energy Saving Kit Program. Landlords are eligible for the Total Home Energy Savings Program, (page 6). Alternatively, landlords can apply for the New Home Energy Savings Program. This program is specifically for new home builds of single detached, semi-detached, and row homes. It's important to note that multi-unit residential buildings are not eligible.

Can heat pumps help Canada meet their 2030 climate goals?

Yes. The Government of Canada committed to halting and reversing nature loss by 2030 as part of the historic adoption of the Kunming-Montreal Global Biodiversity Framework at COP15 in December 2022.

Nature loss and climate change go hand in hand. As we mitigate climate change by transitioning to cleaner energy, we restore nature for people and animals alike.

Heat pumps can reduce global carbon dioxide emissions by half a gigatonne by 2030, making them critical in the clean energy transition.

Take advantage of this cost-saving technology to keep your home comfortable

The renewable energy transition is happening now. You can be a leader in green electricity while creating a comfortable home and saving money.

Learn more about the provincial programs available to help fund your transition to heat pumps.

Established in 1969, the Conservation Council of New Brunswick is the province's leading public advocate for environmental protection.

A member of the United Nations' Global 500 Roll of Honour, we work to find practical solutions to help families and citizens, educators, governments and businesses protect the air we breathe, the water we drink, the precious marine ecosystem and the land, including the forests, that support us.

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