



INTRODUCTION

Space heating and cooling is one of the largest energy uses in the average New Zealand household, accounting for approximately 30% of an average home's energy use (excluding vehicles). This makes it the biggest user of energy 'inside' the home, although this varies based on climate, with colder regions in the south or central North Island spending an even greater share of their energy bills on heating their homes. Space cooling in New Zealand is less common due to our temperate climate and typically requires significantly less energy than space heating, meaning warmer regions spend less on heating and cooling. The good news is that the same efficient appliance can be used to both heat and cool your home: the heat pump. Alongside water heaters, space heaters are typically one of the biggest users of gas in a home, making it a key household appliance to electrify for health benefits, cost reductions and emissions savings.



**RECOMMENDED:
HEAT PUMP (ALSO KNOWN
AS REVERSE-CYCLE
AIR CONDITIONER OR
SPLIT SYSTEM)**

BREAKDOWN

Average upfront cost (before rebates)	\$3,000 - \$10,000	installed for average sized home
Average annual costs (with solar)	\$183	
Average annual costs (without solar)	\$235	
Emissions Saved	High	Ten times fewer emissions than gas heating
Lifetime	15 - 20 years	
Savings over 15 years	\$16,000	vs LPG heating
	\$10,000	vs gas heating
Rebates available	Yes	for eligible homes
Difficulty of installation	Moderate	
Electrical upgrade required	No	Generally not required
Installers Required	Yes	Licensed heat pump installer

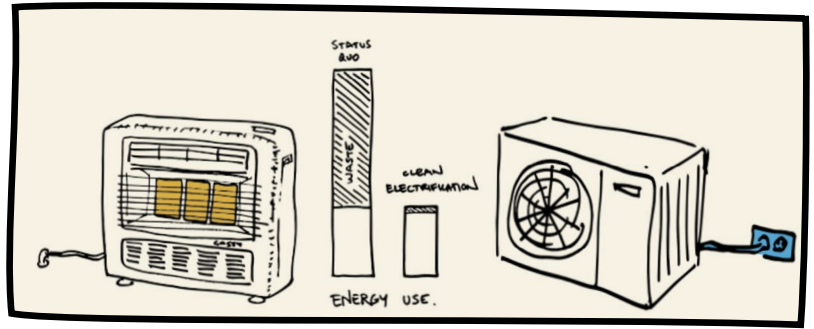


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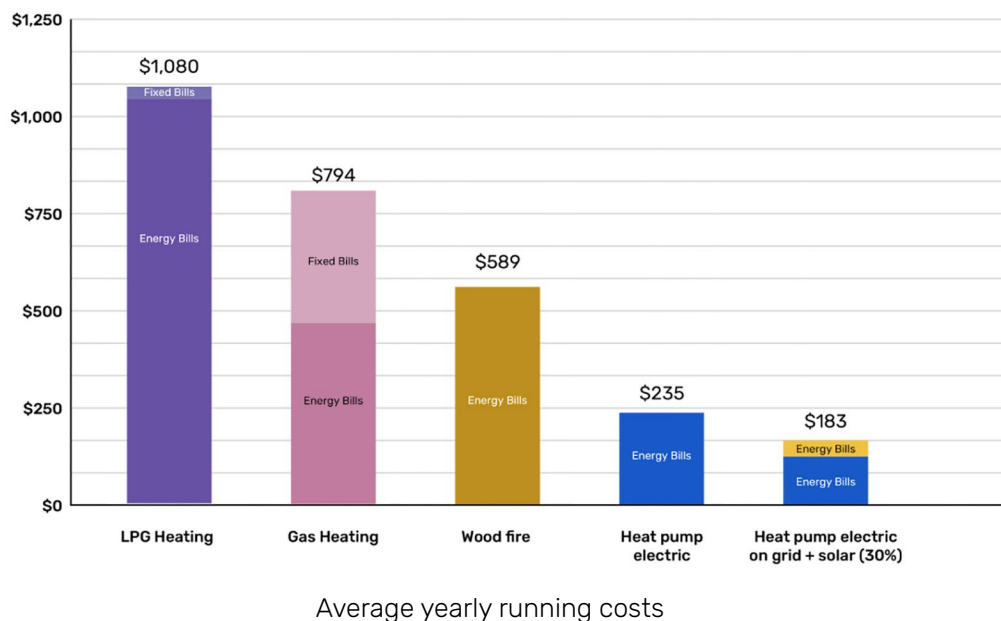
SPACE HEATING

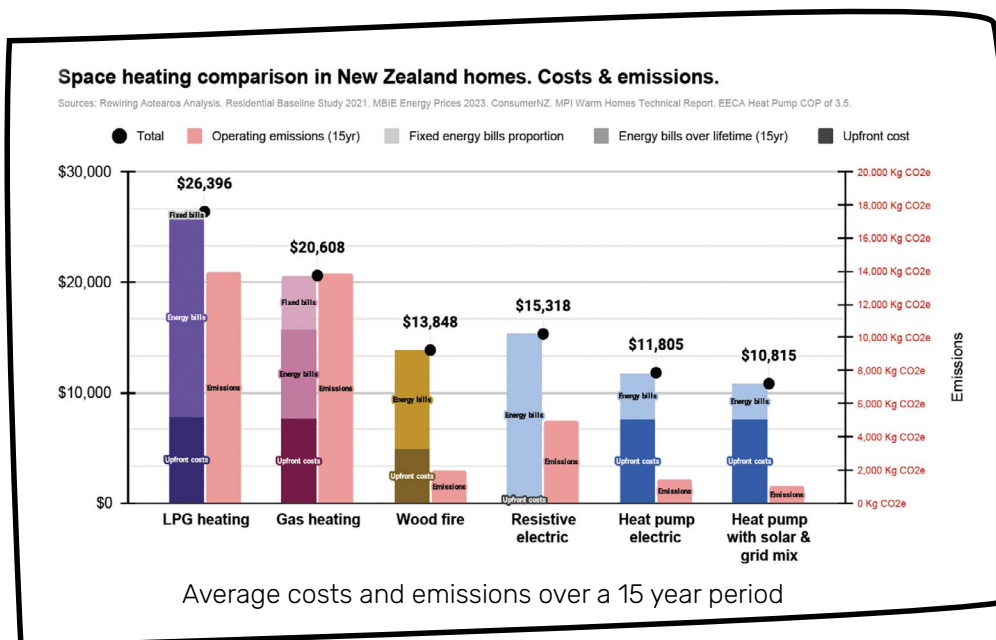
Space heaters vary greatly in size, fuel source and technology, but in general the most efficient way to heat your home is with a heat pump.



WHY CHOOSE A HEAT PUMP?

- **They use less energy:** Heat pumps are 3 to 4 times more efficient than gas heaters, and 2 to 3 times more efficient than standard electric resistance heaters, such as oil-column heaters/fan heaters/radiant-electric panel heaters.
- **They're cheaper to run:** Switching from inefficient heating systems that run on gas, oil, or traditional electric resistance can save households up to \$1,000 per year. Heat pumps deliver more than three times lower energy bills than gas heating. If timed with rooftop solar production (for instance pre-heating a home during the day), running costs can be as low as, on average, \$183 a year.
- **They're healthier in your home.** As highlighted by many leading health organisations, gas heaters and stoves emit noxious gases such as carbon monoxide, methane, nitrogen dioxide and formaldehyde, impacting the health of residents. These toxins are especially harmful if the heater is unflued.
- **They're better for our climate:** Heat pumps deliver ten times lower emissions than gas heating.
- **Flexible:** Most models include timers so you can plan when it's in use, for example, running your heat pump when your solar is generating energy. They can also be used for heating and cooling.





WHAT TO CONSIDER

Heat pumps are either ductless split systems or ducted systems.

Split System Heat Pump (ductless). These are a lower cost yet still very efficient option. The term 'split' means the two coils are split, with one indoors and the other outdoors. They are connected together by a refrigerant line that passes through the wall. The outdoor unit is about the size of a suitcase. You might have multiple units in different rooms to create zones with multiple individual outdoor units. These systems are mounted on indoor walls.

If you want multiple indoor units but only one outdoor unit, the multi-head system fits this bill. However they are less efficient than split systems and the outdoor unit is larger.

Ducted Central Heat Pump. This is a system that uses ducts (generally in the ceiling) to distribute cooled or warmed air. The system has both an inside and outside unit. If your home already has existing ducts (perhaps for outdoor central air conditioning or central ducted gas heating), be sure to check with an installer to see whether these ducts are suitable for a heat pump. Ducted central heat pumps are more expensive and less efficient to run than split systems. Renters could choose to purchase a window unit or portable heat pump or present information to their landlord to make the case for a heat pump.

GETTING IT INSTALLED

1

Research - Familiarise yourself with the range of options available and identify the key areas in your home that should be targeted for heating.

2

Seal leaks - It's a good idea to also identify and seal up gaps where air leaks and look at other simple draught proofing measures.

3

Quotes - Receive multiple quotes from licensed installers to correctly size heat pumps for your home and needs.

4

Install & Maintain - After installation make sure you clean the filter once a year. This is essential as blocked filters can reduce the efficiency and operability of your system.

GOVERNMENT ASSISTANCE

- **Warmer Kiwi Homes.** Eligible homes can get up to 80% of the cost of an approved heat pump installed. Heater grants are capped at \$3000 including GST. [Check if you're eligible.](#)

Rebates current as of May 2024.

FAQ

How do I get the most out of my heat pump?

- Make sure you clean the filter once a year to ensure it runs effectively and efficiently.
- If it is primarily for heating your home, you may want to have it mounted on or near the floor. This allows the heated air to flow across the floor, providing immediate warmth.
- Choose a system that has timer functions and/or wi-fi or bluetooth connectivity to ensure you can have flexible control and equip your home with smart technology (such as programming it to work only when it reaches a certain temperature indoors). You may also want to try and coincide your heating and cooling with solar production windows to maximise savings.
- Seal up any air leaks in your home.

Does a heat pump work in cold climates?

Yes! A heat pump can keep your home warm even when the temperature dips down as low as -10°C. In fact, heat pumps heat roughly half the homes in Norway, Finland, and Sweden.

Do I need to insulate my home first?

Getting off gas appliances is essential to reducing energy bills and household emissions and should be a key priority. Insulation will improve the efficiency of heating and cooling your home and may be a good idea if you live in colder areas or a particularly draughty home. However, insulation doesn't need to be done before electrification and it isn't essential to experience the economic, health and environmental benefits of switching from traditional gas and electric resistance heaters to efficient electric heat pumps. To improve the thermal performance of your home, start by looking at the low hanging fruit such as sealing up air leaks, installing better interior window coverings, covering up windows and closing doors at night. You may want to also consider the big ticket items like ceiling, wall and floor insulation.

Does a heat pump require ductwork?

No. For homeowners with smaller homes, or for those with a need to heat and cool individual spaces within larger homes, mini-split or ductless heat pumps allow you to regulate the temperatures in individual rooms. Mini-split systems are perfect for retrofitting homes with non-ducted heating systems.

Isn't adding a heat pump just wasting electricity in our cold, damp, draughty homes?

We want some insulation for health reasons, but it doesn't have to be either or. Electric machines are - in general - significantly more efficient than their fossil fuel counterparts. This is important to understand as it drives many of the cost savings available through electrification. For example, heat pumps deliver three times lower energy bills than gas heating, and ten times lower emissions. If you're trying to stay warm, it will likely be cheaper and more effective to install a heatpump than to insulate.

What finance options are available?

Besides government rebates for those who are eligible, there are many private finance options available that may help you afford the upfront cost. Many of them require you to have a home loan with that institution but offer low-interest loans for products like heat pumps.

KEEN TO LEARN MORE? VISIT [REWIRING.NZ](https://rewiring.nz)

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