

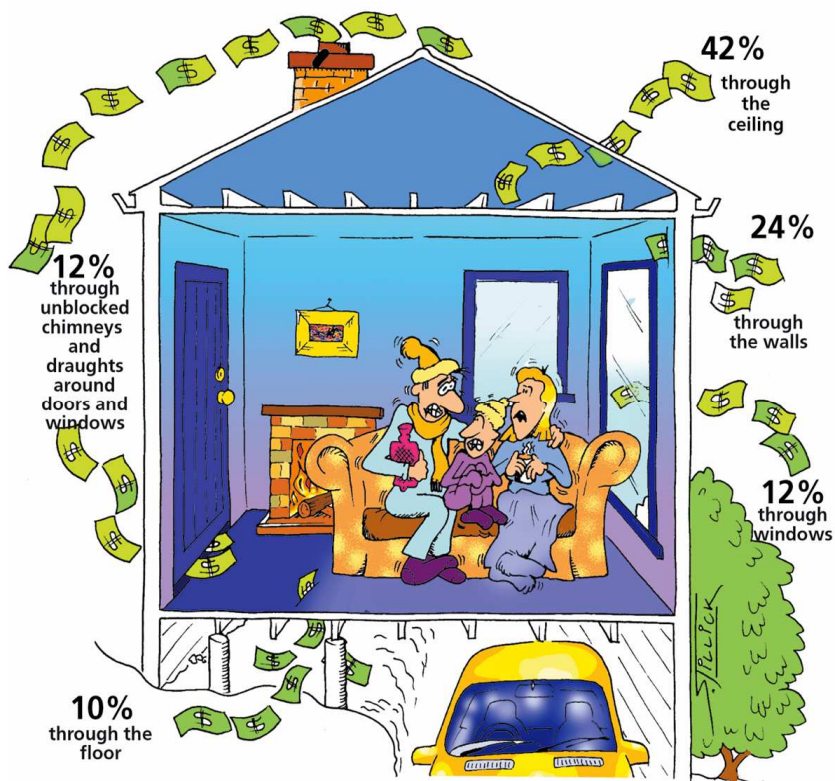
How to keep your home warm and save energy

You don't need expensive technology to make a difference to your power bill. There are lots of small things you can do to reduce your electricity consumption. These easy actions will save money, and allow you to afford energy when you really need it – to keep warm and comfortable on cold winter days.

When you own or rent a house it can be expensive to run key energy services like hot water and heating. These tips will help you to keep your house warm, healthy, and more affordable to run.

Insulation

The best way to save on your energy costs and keep warm and healthy is to make sure your house is properly insulated. Heating an inadequately insulated house to healthy temperatures can be very expensive. So expensive in fact, people sometimes give up heating their houses altogether and live in cold homes that put their health at risk.



Heat loss in an un-insulated home
Source: EECA

Ceiling insulation

Up to 40% of the heat in an un-insulated house is lost through the ceiling. All houses with adequate space between the roof and the ceiling should have good ceiling insulation. After about 15-20 years, existing insulation settles, thinning like an old blanket and needs a top up.

Check with your landlord whether he/she agrees to get a free assessment for insulation from a company, or ask permission to check in the ceiling yourself! If the insulation is less than 120mm thick, it could benefit from a top-up.

The cost could be quite high. But there are currently good subsidies available (33% for home owners and 30% for landlord). If you are tenant with a community services card, your landlord would be entitled to a 60% subsidy under the Warm Up New Zealand: Heat Smart. (check www.energywise.govt.nz for more information).

Underfloor insulation

10-15% of the heat lost in an un-insulated house is lost through the floor. Check if the house has underfloor insulation (access ways are often located in a cupboard). Many pre-1980 houses are built on timber foundations and often there is enough space between the ground and the floor to retrofit underfloor insulation. Some older houses are built too low to the ground to retrofit insulation. They may be a little cooler to live in, especially if they have polished wooden floors and no carpet. Again ceiling insulation is subsidised.



Before



After

Wall insulation

It is difficult to check whether insulation is present so ask the landlord or agent. Most houses built before 1980 will not have wall insulation and therefore will be less energy efficient than newer homes. However, older houses that have been renovated to a high standard often have bulk insulation retrofitted into walls. Wall insulation is not covered by the government subsidies.

Windows

- ❖ Check that all windows have lined or thermal curtains. If they don't, factor this cost into your own budget and prioritise installing curtains in the rooms you heat the most. You can make detachable linings.
- ❖ Consider purchasing second hand curtains. TradeMe or second hand shops are good sources. If you have a community service card, you might be eligible for free curtains. Contact the Wellington Curtain bank to find out more about this service: curtainbank@sustaintrust.org.nz, phone: 04 385 0500 x 705.
- ❖ Install plastic window insulation: plastic windows can be installed to reduce heat loss and draughts. You can buy these at DIY or hardware shops, or from Sustainability Trust (<http://sustaintrust.org.nz/shop/>).

Heating

Heating costs account for about 34% of your energy bill. Check if the house has an efficient, fixed heating appliance in the main living area. Rising energy prices make an efficient heater more and more important for home owners and tenants. Some good options include:

- ❖ An 'Energy Star' heat pump that is properly sized for the space it is required to heat. Heat pumps are the most efficient kind of electrical heating currently available. Try to find out how old the heat pump is too, as this will effect how efficient it is (you can do this by identifying the make and model number, then calling the manufacturer).
- ❖ An efficient clean burning log- burner (e.g. Clean Heat approved)
- ❖ A pellet burner
- ❖ An efficient "flued" gas heater (where mains gas is available)



Heat pump



Wood or
pellet burner



Flued gas heater

Draughts

A draughty home will be expensive to heat and uncomfortable to live in! Check:

- ❖ The frames around windows and doors are air-tight or have "draught-stopping"
- ❖ Look out for gaps under internal and external doors
- ❖ Check for gaps around service pipes in the kitchen and bathroom.

Lighting

Number of lights:

How many lights does the house have? Running lots of lights at the same time will add up. Some recessed down light fittings can create draughts because warm air travels through the light casings into the ceiling. Make a careful note of how many recessed down lights are in the house.

- ❖ Turn off lights whenever you don't need them.
- ❖ Use light bulbs which have appropriate brightness for the situation.
- ❖ Maximise natural light by opening your curtains and keeping windows clean.
- ❖ Replace incandescent light bulbs with energy efficient compact fluorescent lights (CFLs). These use about 75% less energy than an incandescent bulb for the same light output (e.g. a 22Watt CFL can replace a 100Watt incandescent light bulb). If the light is on for 4 hours per day the saving will be 114kWh per year, which at around 23c/kWh is \$26.



Hot Water

Hot water heating costs accounts for about another 30% of your energy bill so it's important to make sure the house has a good quality hot water system.

Cylinders: It's a good idea to check the following features of the hot water cylinder:

Is it wrapped or insulated?

- ❖ If the cylinder looks old and is not insulated, you could spend more than you need to heating your water. If it is hot to touch, installing an insulated cylinder wrap will reduce the energy wastage. (Please note some old cylinders cannot be wrapped because they are fitted too close to the wall).
- ❖ If the hot water cylinder has a large 'A' printed on the side or has a cylinder wrap around it, this means it is already insulated.

Size:

It's also a good idea to think about the size of the hot water cylinder and if it will suit your needs. If you have a large family or use a lot of hot water, you may need a bigger cylinder (e.g. 200 litres or over – check with your plumber).

What meter is it on?

If your hot water cylinder is heated by electricity, the metering plan for your hot water affects how much it costs to heat. A hot water cylinder on a night-rate meter will be cheaper to run because the water is heated overnight while the electricity is cheap. But make sure a cylinder on a night rate will meet your hot water needs (i.e. providing hot water when you need it). If it doesn't, most electricity companies should be able to provide a day-time boost for your cylinder.

Check the temperature:

Hot water needs to be stored at a minimum of 60 degrees to avoid the risk of bacteria growing in the cylinder. However if it is hotter than that it's using more electricity than you need to. As a rule it should be 60 degrees in the cylinder and 55 at the tap.

Shower water flow rate:

The rate at which water flows through the shower head affects how much hot water you use and heat. A good flow rate for comfortable showers that will help save on hot water heating costs is between 6-9 litres a minute. You can check the flow rate by:

1. Turning the shower on to the temperature and pressure settings you normally use.
2. Running the water for 15 seconds into a bucket or measuring jug (e.g. 4 litres)
3. Calculating the flow rate per minute by multiplying the amount of water by 4 (e.g. 4 litres by 4=16 litres). This is a high hot water flow rate which requires a lot of energy to heat.

A high shower flow rate can be reduced by installing a low flow shower head or a flow restrictor. Alternatively, encourage your family members to have shorter showers, have a low flow showerhead installed, or schedule showers at different times of the day.

Dampness and mould

A damp house is an ideal environment for mould and mildew to grow. Mould can have a significant impact on your health, especially for those who have a respiratory condition. Look out for mould on walls, carpets, ceilings, and in cupboards. Trust your nose – if the house smells musty it is possibly been under-heated and under-ventilated, or there could be an underlying problem with dampness.



1. Mould on window sill in bathroom



2. Mould on window in bedroom

A damp house is also more expensive to heat. It is important to be able to ventilate your house regularly to prevent moisture building up inside. Check:

- ❖ Windows open and close easily, and have workable security stays
- ❖ The kitchen and bathroom have effective extractor fans that vent steam and damp air out of the house (they should not ventilate into the roof space!)
- ❖ There is good ventilation under the house if it is on timber foundations – look for vents in the concrete perimeter.
- ❖ For leaks in guttering, downpipes and other plumbing – leaks can contribute to the moisture that gets into your house.
- ❖ If the ground is damp underneath your house, a polythene underneath should be installed under house to prevent moist air circulating through the floorboards.

Appliances

- ❖ Check the condition of the oven and the fridge. Check for leaky seals by running a piece of paper between the seal and the door surface. If you can move the paper, replace the seals. Check the Yellow Pages under “Fridges and Freezers - Servicing” for businesses that will do this for you.
- ❖ A very old fridge could be inefficient and expensive to run. Think about replacing the fridge.
- ❖ Start the dishwasher when it is full, not half empty.
- ❖ Use cold water only to fill your kettle.
- ❖ Don't run the hot tap continually when washing dishes, and wash as many dishes as possible at once using the minimum amount of hot water.
- ❖ Turn off appliances at the wall when they are not in use. This includes TVs, videos, stereos, microwave ovens, computers, printers and your cell phone charger. Around \$100 per year of electricity can be consumed by appliances on standby in an average home!



Garden

Evergreen trees and shrubs planted on the north side of the house will block the warmth of the sun from the during winter time. This will reduce the amount of free heat you receive from the sun! Cut vegetation back from windows and walls.

If your house is on suspended timber foundations or rests on a concrete slab, keep the air vents free of vegetation to make sure the air flows easily under and around the house.



**Home
Advice**

For more tips and advice on energy saving solutions,
visit the website
www.sustaintrust.org.nz

For personal energy advice, call or email
Home Advice
0508 SUSTAIN (78 78 24)
advicecentre@sustaintrust.org.nz