

How good is your wood?

Is there anything better than sitting near a roaring fire? Burning wood is economical, renewable and can keep the cold at bay on those chilly winter nights. But your fire could be costing you money, energy, and in some cases, it could even be affecting your health.



A FEW OF THE ISSUES ASSOCIATED WITH WOOD BURNERS OR OPEN FIRES ARE:

- Use of the wrong materials.
- Improper installation.
- A failure to comply with standards.
- A failure to conduct proper maintenance.

This guide provides a few hot tips for healthy heating to ensure you get the most out of your wood burner. It's good for you and it's good for our Region as we work to create cleaner air.

HOW TO BURN SMARTER

There are some simple actions that you can take to help decrease the impact of your fires on local air quality:

- Make sure your home is well insulated without insulation you will lose 42 percent of your heat through the ceiling, 24 percent through the walls and 10 percent through the floor.
- Consider installing a NES compliant wood burner.
- Burn dry firewood – not only does dry fire wood burn more cleanly, smoking less and therefore emitting fewer fine particles into the air than green or 'wet' wood, it also burns more efficiently, heating your home better.
- Buy your firewood early – buying green or wet wood in the summer time and storing it in a dry ventilated place, preferably for a year or more, will ensure you have dry wood to burn when you need it. This might also cost you less as green wood is often cheaper than dry.
- Don't burn treated wood, household waste (especially plastic and oils) or food scraps indoors or outdoors. These can give off toxic substances and worsens air quality.
- Have your chimney swept every year.



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COLLECTING AND STORING FIREWOOD

The quality of your firewood is a major factor in how your wood burner runs, so the way you store it is vital. Horizons recommends that you only burn dry wood. Dry wood not only generates the most heat when burnt, but it also creates less smoke.

By thinking ahead and buying your wood in summer, you can save money and ensure your wood is dry.

Freshly cut wood needs to be stored for 8-12 months to allow it to season properly for good burning. Stack it loosely off the ground in a crisscross pattern to let dry air circulate around it. For best results store seasoned wood in a dry place with the top covered. Logs dry faster when split, so split wood into pieces 15cm thick before you store it away.

CHECK YOUR CHIMNEY

Use this handy chimney checker to see how well you are operating your wood burner. When you have got your fire going, brave the cold and go outside and look at the smoke coming from your chimney.

- If the smoke looks like the picture on the right – congratulations! You are operating your wood burner right
- If it looks like the two pictures on the left, your wood burner is producing extra smoke that is making our air quality worse, affecting the health and wellbeing of others.



Photo: Western Australia, Department of Environment and Conservation



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WOOD BURNER SIZE AND INSTALLATION

Most wood burners perform best at or close to their maximum output. If you often run your burner at low settings (damped down), your burner may be oversized. For example a room 6m x 4m by 3m high will need a 3.6kw heater. If you are buying a new wood burner, or replacing one, it is important to ensure it meets emission standards and that it is the right size for the rooms that are being heated.

Your wood burner also needs to be installed correctly. The chimney/flue is an important component of the wood burner installation and needs to be long enough to draw sufficient air for proper combustion of the fuel.

- Check with your City or District Council, or a wood burner retailer if you think your burner may not be correctly installed.
- A wood burner will perform better when located towards the centre of the home and not against an outside wall.
- Take care that your flue is not positioned where a neighbour can be affected by your smoke.

SIGNS OF A GOOD FIRE

In a well maintained wood burner that is being operated correctly, visible smoke from the chimney will reduce to a heat haze or faint smoke within about 10 minutes of lighting or putting wood on the fire.

An efficient fire will have bright swirling flames and red glowing embers with little or no smoke coming from the chimney. It may take some practice to get the cleanest burn from your burner.

LIGHTING AND OPERATING YOUR FIRE

WHEN LIGHTING A FIRE, MAKE SURE YOU:

- Use enough kindling.
- Don't put too much firewood in at first.
- Stack wood loosely in the firebox so that the air can circulate.

ALWAYS USE DRY WOOD. ONCE ALIGHT, MAKE SURE YOU:

- Keep the fire burning brightly.
- Keep the air control open for at least 30 minutes.
- Burn smaller logs rather than trying to burn a single, large log.
- If you add logs, open up the air control to "high" for at least 20 - 30 minutes before turning down.
- Be careful not to block air supply to the base of the fire with a badly positioned log.
- Don't damp down the fire.
- Don't burn rubbish in the fire.

DIY repairs to wood burners are not recommended as this may also cause smoke or fire safety problems and affect insurance in the event of a fire caused by DIY repairs.

If the wood burner is difficult to start or smoke puffs out when the door is opened then the flue is probably clogged with creosote and needs to be swept. If your current burner is more than 10 years old, it may need replacing, so think about other cleaner forms of heating – upgrade to an alternative that discharges low, or no, levels of pollutants. Alternatives include heat pumps, flued gas fire or pellet fire.

WHY KEEP THE AIR CLEAR?

There's substantial evidence that breathing particulate matter (PM) caused by smokey fires is harmful to human health. The effects of poor air quality are predominantly respiratory (lung) and cardiovascular (heart). Impacts range from reduced.

lung function and symptoms that impact a person's ability to carry out activities to those resulting in hospital admissions, reduced life expectancy and, in extreme cases, death.

In most places in New Zealand, PM10 concentrations are highest over the winter months due to wood and coal fires used for home heating.





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