

Wood Smoke

What are some problems with wood smoke?

Wood smoke is a pollutant and it has the potential to cause an adverse effect on our health. When we breathe air polluted by wood smoke, very small airborne particles can become trapped in our lungs. These fine particles can aggravate respiratory illnesses, such as asthma and emphysema, and can also affect people who have heart conditions. Elderly people and very young children are the most at risk from wood smoke.

Research has confirmed that the smoke produced by incorrectly operated domestic wood heaters is the main cause of the brown 'stain' that often appears in the Perth skies during winter, particularly on cold windless days. This pollution problem is called 'haze' and, unfortunately, is getting worse.

What can I do to help?

Store Right

The use of dry firewood significantly reduces the amount of pollution your wood heater produces. Wet or green wood doesn't generate much heat and causes the wood heater to smoke excessively. Below are some tips for sourcing and storing suitable firewood:

- Dry wood should make a hollow cracking sound when two pieces are banged together. It is now illegal for firewood retailers to sell wood with a moisture content of more than 20% moisture.
- If you stockpile wood during summer, you can ensure there is an adequate supply of firewood for winter and allow sufficient time for the wood to dry and become well seasoned (approximately 4–6 months). Hardwoods, such as *Eucalyptus marginata* (or Jarrah), are preferable to softwoods, such as *Pinus radiata*.
- Split logs dry faster than large logs, so it is recommended that you split your wood into pieces about 10–15 cm thick before you store it.
- Store your firewood loosely in a place that is well ventilated and protected from the weather.

Burn Bright

Continuous smoke is the most obvious sign of inefficient burning. A properly operated heater should only be smoky when it is first lit or when additional wood is added. Following the tips below for the careful operation and maintenance of your wood heater will result in the economical use of wood, saving you time and money:

- Clean your chimney and flue regularly. A build up of soot will reduce the fire's efficiency and can cause chimney fires. Never burn household rubbish or chemically treated wood in the heater because this may produce toxic or corrosive gases.
- The fire should be started using kindling wood, firelighters, or paper so that a hot fire can be obtained as quickly as possible.
- Larger pieces of wood can then be added in a crisscross fashion once a bed of coals has been established. The air controls should be left fully open for 30 minutes to help the fire to heat quickly, thereby burning the wood cleanly and completely.
- Every time you add more wood to your fire, leave the air controls open for 15–20 minutes to allow the new wood to burn properly. You may then turn down the controls to give a comfortable fire.
- An efficient fire should have bright, swirling flames and red, glowing embers. Little or no visible smoke should come from the chimney. Check your chimney regularly and if it is smoking too much, open the air controls to allow proper airflow through the flue.
- Do not shut the air controls overnight or when you leave the house. Closing the air controls will cause your fire to produce excessive smoke that may fall on your neighbours' properties and pollute your own home. Let the fire burn out completely overnight. A well insulated house will hold enough heat to keep your home warm.

Choosing a suitable wood heater

- Your heater should be manufactured and installed according to the Standard AS/NZS 4013:1999.
- The size of the heater in relation to the space to be heated is very important. A heater that is disproportionately large produces too much heat and you will need to close the air controls to reduce the heat output. This produces excessive smoke pollution.
- The chimney height must comply with the requirements of the *Building Code of Australia*.
- Where possible the flue should be fitted with a venturi cowl or parallel rain excluder, which will encourage smoke to travel vertically, rather than a conical cap, which will restrict airflow.

Do you need further information?

Should you require further information please contact the City's Health and Environmental Services on **9400 4933**.

You may also wish to visit the following websites:

www.erin.gov.au

www.dec.wa.gov.au