

## What a nuisance

Wood smoke may be a nuisance in urban areas, particularly if homes are built close together and a wood heater is causing excessive smoke. The odour of smoke may be offensive. It remains in clothes and curtains that have been exposed for some time.

### Hot tips to reduce wood smoke

- ✓ Store firewood in a dry place and only burn dry wood.
- ✓ Use plenty of kindling and paper to establish a hot bright fire quickly.
- ✓ Leave space inside the firebox for air to circulate.
- ✓ Keep air controls fully open for 15–20 minutes after lighting or refuelling.
- ✓ Maintain the air flow to the fire all night.
- ✓ Get your chimney checked and cleaned annually.
- ✓ Check your chimney to see if it is smoking excessively.
- ✗ Never burn rubbish or treated wood.
- ✗ Never shut down the air flow and allow your heater to smoulder overnight.

A wood heater that is not operated correctly can produce up to 30 times as much smoke and half as much heat as a wood heater that is burning brightly.



Government of **Western Australia**  
Department of **Environment Regulation**



### For more information

on wood heaters and air pollution,  
visit the Department of Environment  
Regulation's website:

[www.der.wa.gov.au/burnwise](http://www.der.wa.gov.au/burnwise)

or email

[burnwise@der.wa.gov.au](mailto:burnwise@der.wa.gov.au)

**Phone: 6467 5000**

More information  
on domestic wood smoke is also  
available from your local government's  
environmental health section.

Your local contact is:



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# Wood heaters

and your health





## Breathing in wood smoke is bad for your health.

Wood smoke is a complex mix of gases and fine particles which are the product of incomplete combustion. Wood smoke is similar to tobacco smoke in composition and has known health impacts.

## How does wood smoke impact air quality?

Smoke from wood heaters contributes significantly to particle pollution or haze during the winter. Haze is tiny airborne particles of smoke, dust, vehicle emissions and sea salt. In Perth, smoke from domestic wood heaters is a major source of air pollution. Smoke from wood heaters is also a major source of air pollution in regional centres where wood heater use is common.

Particles are one of six criteria pollutants monitored under the National Environment Protection (Ambient Air Quality) Measure. Particle pollution is a major air quality problem throughout Australia.

The WHO Global Burden of Disease Report rates outdoor air quality as eighth of the 10 leading risk factors for disease in developed nations like Australia.

### Known impacts of wood smoke

- eye, nose and throat irritation
- increased asthma and respiratory problems
- headaches, nausea and dizziness
- aggravation of chronic heart and lung conditions.

## What pollutants are found in domestic wood smoke?

The most researched constituent of wood smoke is particulate matter—tiny particles that are too small to be filtered by the nose and upper respiratory system. When we breathe they are inhaled deep into the lungs where they cause damage. They can also carry other toxic or cancer causing compounds into the lungs.



Wood smoke also contains gases that are known to be irritating or potentially cancer-causing. These include nitrogen oxides, carbon monoxide, ozone and benzo(a) pyrene.

### Who is most at risk from exposure to wood smoke?

- People with existing heart and lung problems.
- Children, as their respiratory systems are still developing.
- Elderly people, whose health is more vulnerable.
- People who work or exercise outside regularly.

Even healthy people can feel lethargic, and have irritated eyes and lungs from wood smoke exposure.

## How harmful is domestic wood smoke?

Current research suggests there is no safe level of exposure to particle pollution. However, the higher the concentration of particles, the more likely they are to impact health.

On days where the concentration of particles in the air is high, there are higher mortality rates and hospital admissions. Increased school and work absenteeism has also been documented.

The present cost of health impacts attributable to residential wood smoke in Perth is estimated to be upwards of \$18 million per year.

The International Agency for Research on Cancer (IARC) classifies indoor emissions from biomass combustion (primarily wood) as a probable human carcinogen.