

WOOD BURNING FEELS COSY, BUT THE SCIENCE IS NOW CLEAR

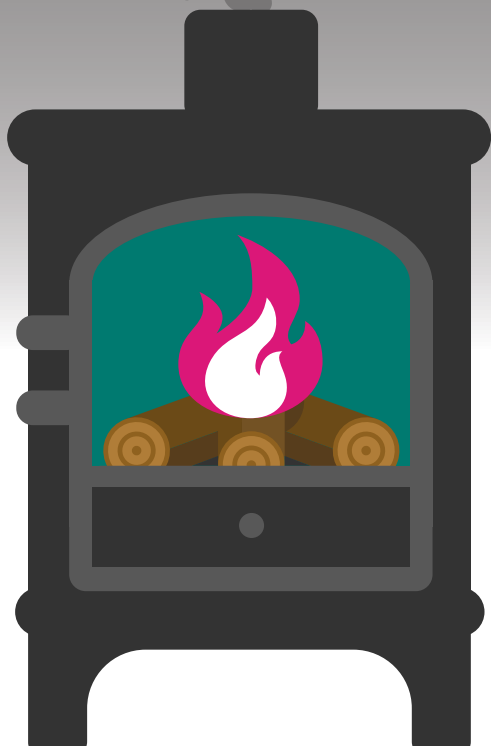
**BURNING ANY KIND OF SOLID FUEL
IN A HOME POLLUTES THE HOMEOWNER
AND THEIR NEIGHBOURS.**

Domestic combustion, mostly from burning wood in stoves and open fires, releases more particulate matter pollution (PM2.5) than road traffic in the UK.¹

PM2.5 is a particularly harmful form of air pollution which lodges deeply in the lungs, brain and other organs.

Even the newest Defra approved stove triples the PM2.5 within a home,² emits several hundred times more pollution than a gas boiler³ and costs more to run.⁴

An open fire emits over 4,000 times more PM2.5 than a gas boiler.³



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SURPRISING, BUT TRUE...

- 1** Fine particulate matter (PM2.5) – essentially tiny particles of soot – is one of the most dangerous air pollutants. Breathing it in is linked to cancer, heart damage, strokes, impaired cognition and mental health problems and it exacerbates conditions such as asthma, COPD and pulmonary fibrosis. Children and the elderly are particularly vulnerable.⁵
- 2** Burning wood releases a large number of harmful substances that are also found in cigarette smoke.⁶
- 3** Wood burning is a leading cause of PM2.5. Emissions of PM2.5 from domestic wood burning increased by 56% between 2012 and 2022, to represent 22% of overall PM2.5 emissions in 2022. This is more than all UK road transport exhausts (18%).¹
- 4** Experts at Asthma and Lung UK have asked people with wood stoves and open fires to use them only if they have no alternative source of heat.⁷
- 5** There is no such thing as clean burning. The newest Ecodesign, Defra compliant stove emits six times more PM2.5 per hour than a Euro VI heavy goods vehicle.⁸ Solid fuels labelled as ‘smokeless’ still create PM2.5.³
- 6** Wood burning is costly. The yearly cost of using a new, Defra compliant stove for 20% of a household’s heat, including purchase & installation, is 24% higher than running a typical gas boiler. Even when using an existing stove, the yearly cost is 15% higher than gas.⁴
- 7** Wood burning is not a climate friendly way of heating a home. Burning wood releases more greenhouse gases than gas, oil or coal for the same amount of heat.⁹
- 8** Leaving trees to grow and mature creates forests which capture more carbon and sustain a richer variety of species.¹⁰

To find out more, visit bit.ly/m4linfo or scan the QR code

- 1 Department for Environment, Food and Rural Affairs: *Major emission sources of PM10 and PM2.5 in the UK.*
- 2 Journal: *Atmosphere*, 2020, Volume 11(12), page 1326.
- 3 Chief Medical Officer’s Annual Report 2022: *Air Pollution*, Section 4.9.
- 4 Global Action Plan’s Report 2023: *Wood burning is more expensive than central heating.*
- 5 Department for Environment, Food and Rural Affairs: *Sources and effects of PM2.5.*
- 6 Doctors and Scientists Against Wood Smoke Pollution: *Wood smoke is toxic pollution.*
- 7 The Guardian: *Asthma and Lung UK warning over wood burners.*
- 8 Air Quality Expert Group: *The Potential Air Quality Impacts from Biomass Combustion.*
- 9 European Environmental Bureau Report: *Emissions from domestic heating with wood.*
- 10 Geos Institute: *The importance of the world’s primary forests and large, old trees in climate regulation.*



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