

Healthy Air for All

Wood Burning and Smoke Control

Information and advice about air pollution from wood and coal burning for home heating



Burning wood or coal at home produces air pollution which affects everyone's health, including the health of those burning these fuels at home, their neighbours, and the wider community

The best way to reduce air pollution is to avoid burning any wood, coal or any other solid fuels at home

Please choose to protect everyone's health by not burning wood or coal at home in Camden unless you do not have any other source of heating



Air quality and health

Exposure to air pollution can affect anyone's health, at any stage in our lives

London's air pollution exceeds the World Health Organization guidelines. **Burning wood and coal for heating emits dangerous pollution known as fine particulate matter (PM_{2.5})¹**, which is a known carcinogen and is so small that it cannot be seen and can enter deep into the respiratory system and the bloodstream.

Exposure to PM_{2.5} can cause asthma, heart disease, and other serious illnesses affecting our lungs, hearts and brains, and can trigger the symptoms of existing health conditions. Long-term **air pollution exposure is attributable for up to 4,100 premature deaths in London each year.**

For more information please visit [Public Health England – Health matters: air pollution²](https://www.gov.uk/government/publications/health-matters-air-pollution/health-matters-air-pollution)

Air pollution from wood burning

Burning wood and coal is a major source of health-damaging air pollution in Camden

Only 7.5% of the UK population uses wood as a fuel for home heating, but this still produces 38% of total fine particulate (PM_{2.5}) emissions. In London, wood burning is estimated to contribute 23-31% of PM_{2.5} emissions. Air pollution from wood burning affects public health throughout Camden.

Camden is very well-served by the mains gas network, and **there is no reason for any building in Camden to rely on wood or coal fuels for heating.**



¹ <https://www.london.gov.uk/what-we-do/environment/pollution-and-air-quality/guidance-wood-burning-stoves-london>

² <https://www.gov.uk/government/publications/health-matters-air-pollution/health-matters-air-pollution>



Wood burning and indoor air quality

Indoor air pollution is a serious risk to the health of those burning wood and coal

Recent research analysing the impacts of wood burning on indoor air quality has found that **using wood stoves can increase indoor PM_{2.5} levels to three times those found in homes with no wood burning³.**

Using cleaner sources of heat, such as mains electricity, will significantly reduce air pollution and will help to protect everyone's health.

Wood burning and the law

There are strict rules about wood and coal fuels and the appliances you can use

Camden is designated as a **Smoke Control Area** under the Clean Air Act and **you can be fined up to £1,000 for not complying with the law.** It is illegal to purchase or use unauthorised fuels, such as wood, within a Smoke Control Area unless these are for use in an 'exempt appliance'.

In a Smoke Control Area, you can only burn the following government-authorised '**smokeless fuels**'⁴ in a fireplace or wood-burning stove, unless you are using government-approved **exempt appliance**⁵:

- Natural gas
- Anthracite and semi-anthracite
- Low volatile steam coal

Wood, wood chips and wood pellets are non-authorised fuels and can only be burned in exempt appliances.

Exempt appliances burn fuels more efficiently than older stoves and open fireplaces, but **even the cleanest appliances still produce 300 times more PM_{2.5} air pollution than gas boilers** and six times more than a modern diesel lorry.

An open fireplace produces 4,000 times more air pollution than a gas boiler.

Even if you are using approved smokeless fuels and exempt appliances, they still have a negative impact on air quality and public health, and will produce indoor air pollution inside your home.

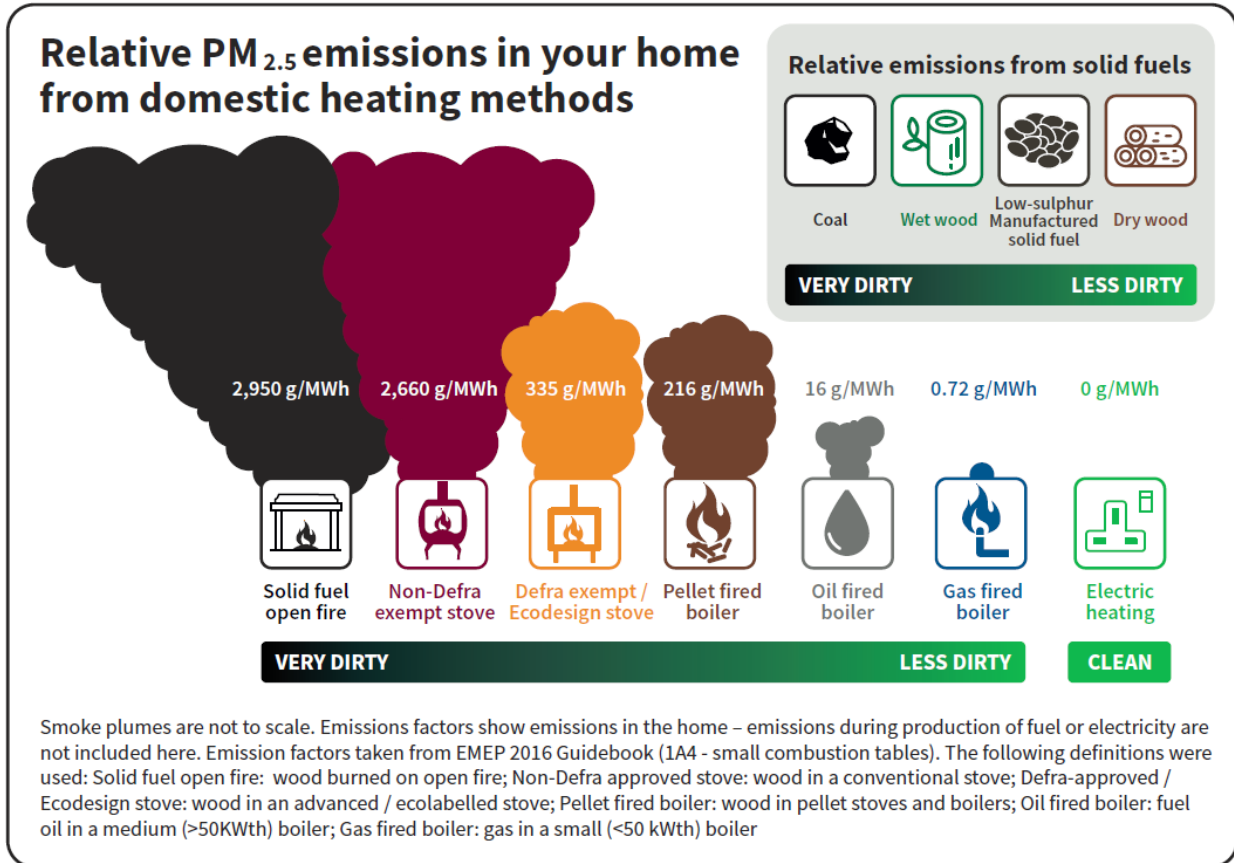
³ Chakraborty et al., 2020, 'Indoor Air Pollution from Residential Stoves: Examining the Flooding of Particulate Matter into Homes during Real-World Use', *Atmosphere*, 11, 1326

⁴ <https://smokecontrol.defra.gov.uk/fuels.php?country=england>

⁵ <https://smokecontrol.defra.gov.uk/appliances.php?country=england>



The infographic below shows a comparison of the pollution produced by different types of heating systems and fuels.



Reducing air pollution from wood burning

Even if you have no other source of heat, you can still help to reduce air pollution

- **Only use authorised smokeless fuels** – you must still comply with the law
- **Try to burn less fuel where possible** – is your home already warm enough?
- **Use and service your stove correctly⁶**
- **Keep your chimney or flue clean**
- **Ensure you never burn plastics, chipboard, treated wood and other types of rubbish**

The best way to reduce air pollution and protect health is simply to avoid burning wood, coal or other solid fuels at home.

⁶ BurnRight: We all breathe the same air, 4th edition October 2018. <https://edition.pagesuite-professional.co.uk/html5/reader/production/default.aspx?pubname&pubid=c88a0e8e-aafd-4917-bfcb-31d6aef97027>



Outdoor fires: garden waste bonfires and barbeques

Outdoor fires also produce air pollution which affects everyone's health

Garden waste bonfires

Burning garden waste produces smoke which contains health-damaging PM_{2.5} air pollution. Green or damp garden waste is especially polluting when burned, and can release as much as 30 times more particulate matter than burning wood logs in a wood stove.⁷

How to avoid or reduce air pollution from garden waste bonfires:

- **Have your garden waste collected** – see [Camden Council garden waste collection](#)⁸
- **Try composting your garden waste** – see [RHS advice about home composting](#)⁹

You must not burn household rubbish as this material is likely to contain toxic chemicals which can damage health, in addition to effects from the air pollution produced.

Barbeques and other types of outdoor fires

Other types of outdoor fires also produce PM_{2.5} air pollution when solid fuels are burned (for example: wood, coal and charcoal), and this includes cooking and heating appliances such as barbeques, pizza ovens, chimeneas, fire pits and outdoor fireplaces.

How to avoid or reduce air pollution from barbeques and other types of outdoor fires:

- **Only use authorised smokeless fuels** (but remember, these still produce air pollution)
- **Switch to an electric or gas barbeque, grill or oven**
- **Keep appliances clean and well-maintained**
- **Clean your barbeque or grill thoroughly** – oils and fats in food produce a lot of air pollution when burned, so it's important to keep all types of cooking appliances clean

Just like with indoor wood stoves and fireplaces, **the most effective way to help improve air quality is simply to avoid having outdoor fires** or burning any solid fuels or garden waste.



⁷ Noblet et al., 2021, 'Emission factors and chemical characterization of particulate emissions from garden green waste burning', *Science of the Total Environment*, 798, 149367

⁸ <https://www.camden.gov.uk/garden-waste-collection>

⁹ <https://www.rhs.org.uk/soil-composts-mulches/composting>



With all indoor and outdoor fires, **please be considerate of your neighbours and your community**. Air pollution affects everyone's health, but children, older people, and people with existing health conditions such as asthma or cardiovascular (heart) diseases are more vulnerable and can be very seriously affected by air pollution from solid fuel burning.

We need your help to make Camden's air safer for everyone. Please avoid burning wood or coal unless you have no other source of heating, and think twice before lighting a garden waste bonfire or barbeque.

Further information

- [Improving Indoor Air Quality: Advice for Homes¹⁰](#)
- [Improving Indoor Air Quality at Home \(flyer\)¹¹](#)
- <https://www.camden.gov.uk/air-quality>
- [British Lung Foundation: Air pollution¹²](#)
- [airTEXT air pollution alert service¹³](#)

Contact

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¹⁰ https://www.camden.gov.uk/documents/20142/0/Camden+Improving+Indoor+Air+Quality+-+Advice+for+Homes+FINAL_v2_April21.pdf/b3d7bfea-6ce1-27b2-967a-7d5be3bcb6c7?t=1619615988707

¹¹

https://www.camden.gov.uk/documents/20142/0/Camden+Wood+Burning+and+Indoor+Air+Quality+Trifold+FINAL_v1_May21.pdf/247a4fdb-a741-7be5-9050-fc8c315023ed?t=1626694921090

¹² <https://www.blf.org.uk/support-for-you/air-pollution>

¹³ <https://www.airtext.info/>