

Cleaner Air for All on the Waterways

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Information and advice about air pollution and boats



Air pollution affects us all.

The Government is increasingly committed to reducing air pollution in our cities as tighter controls to reduce road vehicle and domestic emissions are put in place.

Inland waterway corridors provide a cleaner, greener space for walking, cycling and recreational activities. Trees and vegetation along the waterways help clean the air and regulate the environment for people and wildlife to flourish.

While boats are by no means a major contributor to urban air pollution concentrations^[1] they can have a localised impact on air quality.

Pollution and boaters

The two main types of local air pollution are nitrogen oxides (NOx) and particulate matter (PM). NOx is a gas that comes from burning fossil fuels including diesel and coal, and PM are tiny particles released when burning liquid fuels such as diesel and solid fuels like wood and coal. Pollution also comes from chemicals in cleaning products, toiletries and from cooking.

For boaters, running diesel and petrol engines and generators, and burning solid fuel in stoves are the biggest forms of pollution and will affect you and those around your boat.

Health impacts for boaters and wildlife

Both NOx and PM cause serious health problems. PM2.5 is so small you cannot see it. Particles enter the bloodstream and lodge in the organs – heart, brain and lungs. This can lead to diseases including cancer, heart problems, asthma, dementia and cause premature death.

NOx can also negatively impact wildlife, reducing biodiversity both through acidification of soils and through direct impact to plants and fungi and the insects, mammals and birds they support.

Important:

Waste wood should never be used as it is likely to contain chemicals that will be emitted when the wood is burned. These may be toxic and may cause ill health effects as well as polluting the local environment.



Burning solid fuel

There are two types of fuel; smokeless and non-smokeless.

Fuels are burned in either Defra-approved (or Defra-exempt) stoves or non-Defra approved stoves <http://smokecontrol.defra.gov.uk/>.

Burning smokeless fuel (not house coal or wood) in a Defra-approved stove produces the least amount of pollution. However, smokeless fuel **still creates pollution**. It does not produce visible smoke, but according to the World Health Organisation it produces PM2.5, a more dangerous form of pollutant due to its fine particulate size.

Burning smokeless fuel in a Defra-approved stove produces **335 times** more pollution (PM2.5 at the point of use) than using electricity for heating.

Most of London, and **all of Tower Hamlets, is a Smoke Control Area**. This means you can only burn smokeless fuel, or non-smokeless fuels with a Defra-approved stove. We encourage all boaters to

follow the same rules.

As emissions from canal boats are at low-level around the towpath, not at high roof-level like many houses, and canals are often in built up areas, dispersion is not so rapid. A longer-term aim is to remove the need for burning solid fuel to reduce harmful pollution on the inland waterways.

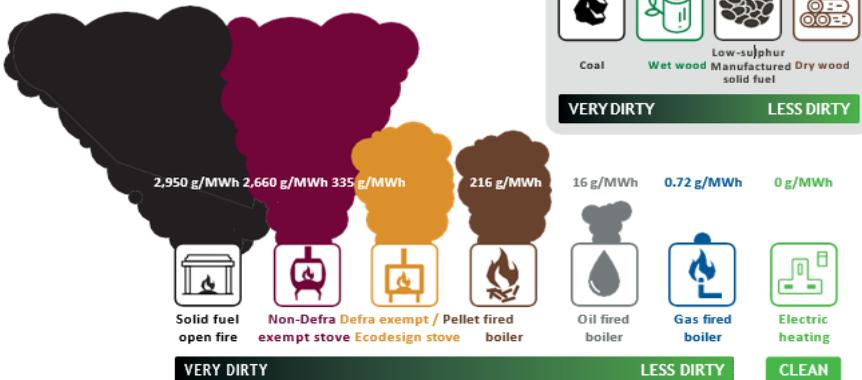
Fuels

The Air Quality (Domestic Solid Fuels Standards) (England) Regulations 2020 introduced limits on the sale of firewood, manufactured solid fuels and traditional house coal. The aim is to reduce levels of PM2.5 by removing the most polluting fuels from sale and encouraging the use of more efficient wood and manufactured solid fuels such as using wood with a moisture content of 20% or less. Traditional house coal is also not allowed in a smoke control area. For further details please see [domestic solid fuel rules](#)

The Environment Act 2021:

Moored vessels e.g., canal boat can now be included in the scope of smoke control areas. This means a financial penalty can be issued for chimney smoke from boats. There is exemption for smoke which is created to propel the vessel or to generate electricity. There is no exemption for heating.

Relative PM_{2.5} emissions in your home from domestic heating methods



Smoke plumes are not to scale. Emissions factors show emissions in the home – emissions during production of fuel or electricity are not included here. Emission factors taken from EMEP 2016 Guidebook (1A4 - small combustion tables). The following definitions were used: Solid fuel open fire: wood burned on open fire; Non-Defra approved stove: wood in a conventional stove; Defra-approved / Ecodesign stove: wood in an advanced / ecolabelled stove; Pellet fired boiler: wood in pellet stoves and boilers; Oil fired boiler: fuel oil in a medium (>50kWth) boiler; Gas fired boiler: gas in a small (<50 kWth) boiler

Going green and clean

Every boat is different, and costs will vary and change. We encourage all boaters to look into what changes can be made to their boat to make it more eco-friendly and less polluting. Email enquiries.londonsoutheast@canalrivertrust.org.uk to get in touch with the Canal and River Trust to discuss the barriers you're facing and we will try to help. For further help and advice visit: www.canalrivertrust.org.uk

Batteries

It is recommended to charge batteries whilst the boat is navigating. Running engines whilst moored may cause excess noise and diesel pollution which is harmful to health - your health and potentially the health of those living close to where the boat is moored.

Stoves

In order to make your stove more efficient and environmentally friendly there are certain simple steps you can take. Make sure your stove is cool before carrying out any maintenance.

- ✚ Sweep the flue.
- ✚ Examine the register plate and flue pipe seals.
- ✚ Check the door is properly sealed.
- ✚ Give the firebox a good clean checking the baffle, firebricks, and grate are all in good condition.
- ✚ Regularly sweep the and clean the grate.
- ✚ We recommend installation of a Carbon Monoxide (CO) monitor.

Maintenance

The best way to keep your engine fully maintained is to have it serviced regularly by a qualified marine engineer. To keep your engine running at optimum efficiency:

- ✚ Check oil levels regularly.
- ✚ Make sure your fuel tank is topped up.
- ✚ Change oil and oil filter at least once a year.
- ✚ Check gearbox oil at least once a year.
- ✚ Change air filter at least once a year.
- ✚ Check fan belt regularly (if your boat has one).
- ✚ Ensure all moving engine parts are fully greased.
- ✚ Keep spare cooling hoses on board.
- ✚ Remove water that has built up in tank when required.
- ✚ Check anti-freeze strength and top up as required.
- ✚ Regularly check couplings on the boat.
- ✚ Bilges need to be checked to ensure they are not full of water and oil.