

The SIA offers top tips for environmentally responsible wood-burning

As homeowners become increasingly environmentally aware, more and more consumers are turning to wood burning stoves to reduce the carbon footprint of their homes. Stove Industry Alliance manufacturers have experienced a surge in interest, reporting that an estimated 180,000 stoves were fitted in the last year alone.

Phil Wood, Stove Industry Alliance (SIA) Chairman, comments: “The considerable environmental advantage to using wood as a fuel really seems to be striking a chord with homeowners - many consumers are citing their desire to reduce their carbon emission as a key factor in their decision to install a stove.

“Renewable heat avoids the emissions of heat energy from fossil fuels. When burned, high-quality wood emits less CO₂ than it does with natural decay, and used with a correctly installed stove, approved for burning in smoke-controlled areas, it provides both economic and environmental advantages for homeowners.

“To live up to these green credentials however, it’s essential that owners remember the following key considerations:

1. Use wood logs rather than pellets or wood chips. Pellets produce 3.5 times more carbon per Kg/kWh than wood logs. This is reflected in the government approved Standard Assessment Procedure, which is used to measure energy efficiency. The energy required to process and transport pellets contributes substantially to the increase in emissions.
2. It is very important that wood is dried before burning; otherwise much of the energy created while burning is wasted in burning off water content and producing steam - freshly harvested wood contains a naturally high amount of water, between 65-90% depending on

the species. Experts therefore recommend that wood is seasoned for at least a year, preferably two.

Consumers can dry their own wood in a wood store or buy dry and seasoned wood from their supplier. However, for immediate burning experts recommend buying kiln-dried wood. These have an average moisture content of below 20% and consequently produce 4.5 kW/h per kg, compared to wet/freshly-cut wood and semi-dried logs, which produce 1.0 kW/h per kg and 3.0 kW/h per kg respectively. Using drier wood therefore means that fewer logs can be used to produce the same heat output; preventing the waste of money, labour, transport and storage associated with using more logs, all of which reduces the carbon footprint of your stove. What's more, one of the largest companies supplying kiln-dried wood, Certainly Wood, uses offcuts from its tree felling to fuel the kilns; making the process sustainable and environmentally friendly.

3. Where possible, wood should be sourced from sustainable sources. Discarded and waste wood that has been treated with chemicals should be avoided as they can release harmful gasses when burned.
4. Since transportation of wood adds CO₂ into the supply process, the locality of your wood source is crucial in reducing the carbon footprint of your stove.
5. It's important to check your stove has the correct air flow control system to ensure it is burning as efficiently as possible; reducing smoke and maximising heat output.

“Encouragingly, our research indicates that stove owners are already following these guidelines; choosing their wood source carefully, and controlling their stoves responsibly so as to maximise their efficiency and minimise their carbon footprint.”

In a survey conducted by the Stove Industry Alliance, wood burning stove retailers reported that at least 36% of homeowners supply at least half of their wood themselves. With the majority of the remaining wood sourced from a local garage or wood retailer within 5 miles of an owner's home, or

delivered from a logs/solid fuel merchant within a delivery catchment area of approx. 50 miles, environmentally-aware owners are successfully minimising the carbon footprint of their stoves.

Phil adds: “Wood is one of the most environmentally friendly fuels that can be used. It is a renewable energy and taking account of the whole life cycle of the fuel, modern wood burning stoves are virtually carbon neutral; with emissions of only 0.008 kg CO₂ per kWh¹. The natural cycle of planting and harvesting trees has created a sustainable process that will provide carbon neutral fuel into the future.

“An efficient wood burning stove can provide both economic and environmental advantages for homeowners.”

The Stove Industry Alliance (SIA) was formed in 2008 to promote the benefits of wood burning stoves. With more than 35 member organisations, including manufacturers and distributors of stove equipment, the SIA’s objectives are in support of government initiatives to reduce dependency on fossil fuels and to lower carbon dioxide emissions. For more information about the benefits of a wood burning stove, visit www.stoveindustryalliance.com or call 01789 415640.

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Notes to Editors

- ¹ DECC SAP 2009 edition (incorporating RdSAP 2009) Table 12.
- The Stove Industry Alliance (SIA) is an alliance of manufacturers, distributors, advisory/test house bodies and other interested parties who sell stoves, both space heaters and boiler stoves, and also flue and chimney products and fuel.
- The SIA works closely with HETAS which is a government recognised body for the testing and approval of biomass and solid fuel domestic heating appliances, fuels and services, including the registration of competent stove installers and servicing businesses.
- The cost comparisons we have made are based on government approved figures published in SAP 2009.

Top tips

- Installing a stove is not a DIY job. It should only be undertaken by a competent person. Most stove retailers will work with properly trained installers
- Recommend the use of a HETAS registered installer
- The chimney should also be checked to ensure that it has no cracks or leaks. A competent installer will do this as part of the installation procedure. The chimney may need to be relined.

- It is important to 'size' the heat output to match the size of the room.
- It is also important that the correct amount of combustion air is supplied to the appliance.
- Decide if you want the stove to heat a room or be linked to the central heating system.
- If your house is in a smoke control area, a DEFRA exempt stove must be used. A DEFRA exempt stove has been deemed suitable to burn wood in a smoke control area. Most urban areas are smoke control areas.
- Ensure that the wood is properly seasoned (ideally less than 20% moisture content).
- Check the standards to which the stove has been manufactured:
 - CE mark
 - HETAS approved

What is wood biomass and how does it differ from fossil fuel?

The vital difference is one of timescale.

Wood is a carbon based biological material derived from living or recently living organisms. In the context of wood biomass for fuel this is often used to mean plant based material such as trees or crops. Wood biomass can be harvested on a sustainable basis as part of a constantly replenished crop; CO₂ is taken out of the atmosphere at the same time as it is released by combustion of the previous harvest. This process is often referred to as being CO₂ Neutral – it maintains a closed CO₂ cycle with no net increase in atmospheric CO₂ levels.

Fossil fuels such as coal, oil and natural gas are also derived from biological material, but material that absorbed CO₂ from the atmosphere millions of years ago. As fuels they offer high energy density, but making use of that energy involves releasing CO₂ during the burn period, resulting in increased atmospheric concentrations.