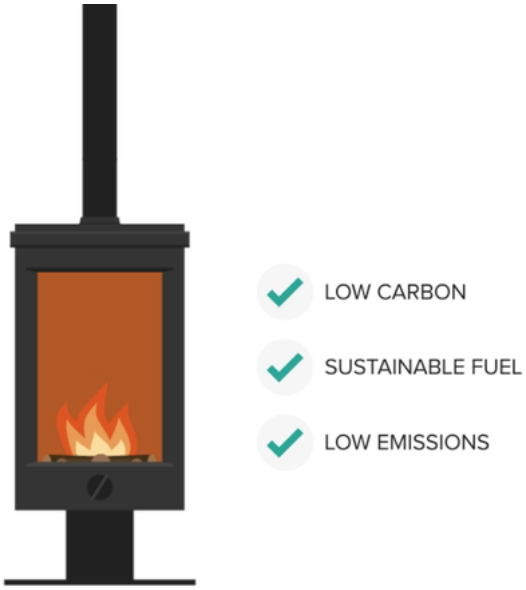
Wood Burning Stoves
A guide for local authorities

Traditional heating for the 21st century

Wood burning stoves and fireplaces offer tried and tested, low carbon heating. Within this document the Stove Industry Alliance (SIA) will explain their numerous benefits and the role they play in helping local authorities develop sustainable heating strategies and deliver on air quality improvement objectives.

Wood burning is the original form of sustainable and renewable heating. People have been warming their homes with wood fuel for centuries, and a real fire creates a warming and familiar backdrop for family life.



Today's wood burners are highly efficient, very low carbon and they can help reduce reliance on fossil fuels for domestic heating. They offer a highly efficient and cost effective single space heating solution and can be used in conjunction with other innovative low carbon heating solutions such as heat pumps.

Tackling fuel poverty

Over the past year there has been an unprecedented surge in the number of people working from home due to the Covid pandemic and it is a trend that is set to continue. A wood burning stove offers a convenient, sustainable and low emission way of heating a single room or workspace in the home.

Tackling fuel poverty remains a key challenge for local government. Having access to a low cost, effective, efficient and controllable source of single space heating is imperative for those in fuel poverty.

Combining technologies

With challenging targets for local air quality improvement and carbon reduction to be met, the way we heat our homes is another key area of focus for local authorities.

With a range of innovative low carbon heating technologies now available, its important to remember that there is no one-size fits all solution.

Image source: NIBE.eu

A modern wood burning stove can be partnered with other technologies. Used in conjunction with a heat pump, for example, which operates at a steady state, a modern wood stove will deliver fast, controllable and low carbon heat to deal with the common temperature fluctuations of the UK climate.

Health & wellbeing benefits

Wood burning stoves and fireplaces have long graced the pages of glossy home interior magazines and it's not just because they look good, they make us feel good too.

The relaxing ambience a real fire creates has been studied by scientists and found to have wide ranging benefits for health and wellbeing. Lower blood pressure and reduced anxiety and depression, for example, are among the documented benefits. People gather around a fire which can also help to create a better sense of family cohesion and togetherness.

A recent study, Burning in UK Homes & Gardens, conducted for the UK government by Kantar and published in March 2021, found that it was these aspirational features of wood burning at home that attracted people to consider a wood burning stove. 1 in 20 people questioned by the study that were not currently using a wood burner, said they had considered having one installed because of their association with cosiness.

Identifying the best performing appliances

The Stove Industry Alliance is keen to help local authorities better understand modern stoves and fireplaces and the role that they play in delivering the many benefits outlined above, as well as helping to improve local air quality.

At present there are two key requirements that a wood burning stove must meet:

- Under the Construction Products Regulation it must have a CE mark (recently replaced by UK CA following Brexit)
- It needs to have Defra exemption to be used in a smoke control area.

Current UK CA marking requires evidence of an appliance conforming to European safety and efficiency standards. The stove will have to meet minimum efficiency requirements (currently 65%) and be within maximum carbon monoxide (CO) emission levels.

Tough new standards

At the start of next year (1st January 2022) the Ecodesign Regulations will come into force. Ecodesign sets tough new standards for wood burning stoves well beyond what is currently required for the UK CA mark under the Construction Products Regulation.

Not only will the minimum required efficiency for the appliance rise to 75%, Ecodesign will require an 88% improvement on permitted CO emissions and will also set strict emission limits for the following:

- Particulate matter (PM)
- Organic gaseous compounds (OGC)
- Nitrogen oxides (NOx)

The emissions above are NOT currently covered by the UK CA mark.

Defra exemption

Easily identifying those appliances that have been granted Defra exemption to burn wood in a smoke control zone is an important consideration for stove buyers and local authorities alike.

But it is important to note that because the Defra exempt appliances listing can be slow to update (a particular issue in Wales), it doesn't show all appliances available that are Defra exempt.

Read on to find out what the stove industry has done to help address this.

What has the stove industry done to improve appliances?

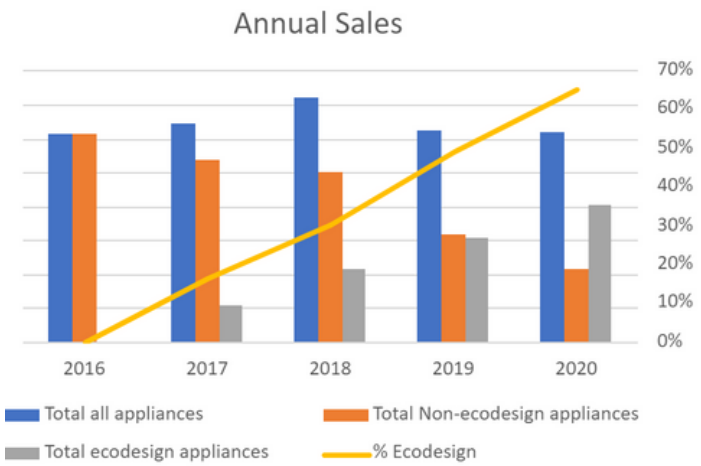
Stove design and technology has come a long way in the last decade and the stove industry was very quick to respond to the forthcoming Ecodesign Regulations.

In 2017, almost five years in advance of the January 2022 deadline, the industry launched the SIA Ecodesign Ready scheme - an appliance certification scheme which clearly identifies those appliances that meet the requirements of Ecodesign.

At the **launch of SIA Ecodesign Ready** at the Palace of Westminster in February 2017, Robert Jenrick MP said that the scheme shows that "industry is playing its part in meeting the challenge of air pollution".

As the graph below clearly shows, since the scheme launched sales of SIA Ecodesign Ready appliances have risen and already exceed sales of non-Ecodesign appliances well ahead of the 2022 deadline.

A full list of SIA Ecodesign Ready appliances can be found on the SIA website by clicking here.



Information collated from SIA sales data 2016 - 2020

Further improvement

In August 2020 the industry went a step further and launched clearSkies, a new and independent emissions and energy performance certification mark for solid fuel stoves and fireplaces.

clearSkies
clearskiesmark.org

All clearSkies appliances meet the requirements of Ecodesign and in many cases they go significantly beyond, offering even better appliance efficiency and greatly reduced emissions. Plus, any appliance certified as clearSkies Level 3 and above is also Defra exempt making the clearSkies mark an easy to recognise benchmark that ensures a future proofed appliance.

Improving air quality with wood burning stoves

Thanks to the advances in appliance design and stove technology and the development of initiatives such as SIA Ecodesign Ready and clearSkies, a modern wood burning stove can offer a measurable reduction in PM emissions when compared with an open fire or old stove (10+ years old).

Swapping an older stove that is 10 or more years old for a modern appliance that is either SIA Ecodesign Ready or clearSkies certified would see an **80% reduction** in particulate emissions.

Open fires are the most inefficient and polluting way of burning wood fuel. Replacing an open fire with a modern stove would see a **90% reduction** in particulate emissions

Single most effective policy

Evidence from the SIA User Survey conducted in 2019 shows that **51%** of wood for domestic heating is still being burnt on open fires or older stove models.

Open fires in London are believed to account for over **70%** of domestic wood burning across the capital. Burning wood on an open fire is highly inefficient and also is not permitted in smoke control areas.

Nationally replacing these appliances with an SIA Ecodesign Ready or clearSkies certified appliance would reduce emissions by around **45%**. These reductions would be **immediate**, making this the single most effective policy for reducing emissions from domestic wood burning.

An opportunity for change

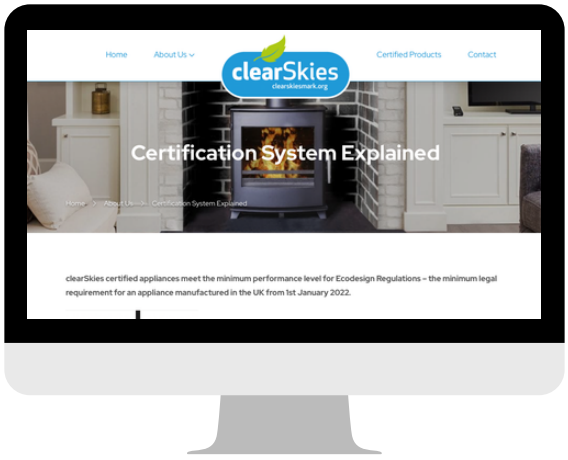
The new clearSkies certification mark represents a very real opportunity for local authorities to deliver on their policy objectives for air quality improvement by recommending these appliances and advising on the benefits of replacing open fires and older stove models with a clearSkies appliance.

As explained overleaf, all clearSkies models meet the requirements for Ecodesign and at Level 3 and above they are also certified for use within smoke control areas.

Levels 4 and 5 within clearSkies set apart those appliances that go well beyond the 2022 emission requirements (see table below).

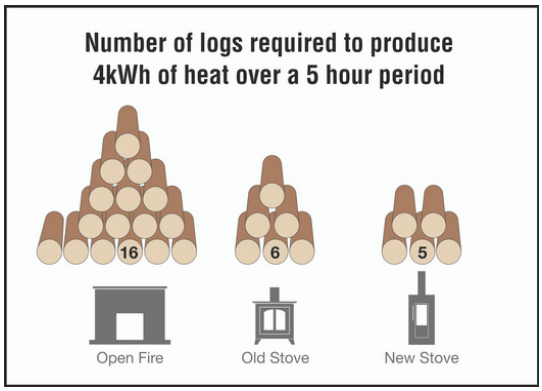
clearSkies 2 clearskiesmark.org	**Ecodesign compliant; but NOT listed as Defra Exempt**
clearSkies 3 clearskiesmark.org	**Ecodesign compliant; AND Defra Exempt**
clearSkies 4 clearskiesmark.org	**15% improvement on combined emissions & efficiency performance over Level 3; AND Defra Exempt**
clearSkies 5 clearskiesmark.org	**Further 15% improvement in emissions & efficiency performance on Level 4; AND Defra Exempt**

You can find further details on the clearSkies certification Levels, including full details of the emissions and efficiency criteria required to achieve each level on the **clearSkies website.**



Less fuel, less waste, less cost

Alongside measurable reductions in particulate matter and improved efficiency, modern wood burning stoves are also very cost effective to run because they use significantly less fuel than older stove models and open fires to produce the same amount of heat.



In addition to the advantages this reduced fuel consumption has for those in fuel poverty, wood burning stoves can also help reduce our reliance on fossil fuel driven heating such as gas central heating.

Avoiding misconceptions

In order to be able to best advise residents on the available options for heating their home, it is important to ensure that the common misconceptions around wood burning stoves are avoided.

The most common misconception is that domestic wood burning accounts for 38% of UK particulate emissions. While this figure is stated in the Clean Air Strategy it is now known to be **highly inaccurate**.

The figure is flawed for a number of reasons, but key to the inaccuracy is an incorrect assumption made on the volume of wood burnt. The true volume is much lower than that used to calculate the 38% figure.

Data from the 2019 SIA User Survey showed the volume of wood was less than a third of that assumed in the Clean Air Strategy and closer to 1.85m tonnes. This has recently been backed up by the Kantar study for the UK government which puts the true figure at closer to 1.75m tonnes.

Furthermore, the current emissions factors in the National Atmospheric Emissions Inventory (NAEI) are more than three times the levels permitted for compliance with Ecodesign Regulations.

To learn more watch the SIA's wood burning stoves misconceptions video by clicking here.

Using the right fuel

Modern wood burning stoves are precision engineered to use the right fuel and local residents should be encouraged, regardless of the age of their appliance, to only burn quality, dry wood fuel. This helps to optimise efficiency and minimise emissions.

The Air Quality (Domestic Solid Fuels Standards) (England) Regulations 2020 come into force on 1st May 2021 and will see traditional house coal and wet wood for domestic combustion phased out in England.

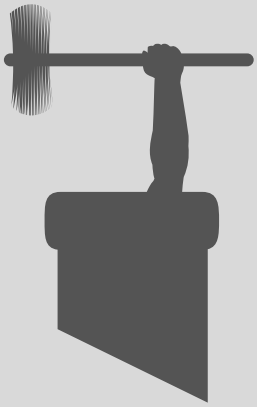
It is vital that stove users are well informed on the importance of using wood fuel with a moisture content below 20%, such as wood certified under the Woodsure Ready to Burn scheme.

Correct installation & maintenance

Just as importance as choosing the right appliance and the right fuel is ensuring that a wood burning stove is correctly installed and well maintained.

Installation should be carried out by an appropriately qualified competent person, e.g. OFTEC or HETAS registration. A good independent local retailer can help guide consumers on the practicalities and considerations for installing a wood burning stove. The SIA has a Retail Group, the members of which all have showroom premises and are fully informed on the latest legislation. A full list of these members can be found by clicking on the image below.

The importance of regular chimney sweeping cannot be be underestimated. Stove users should be encouraged to have their chimney swept at least once a year and this plays a huge role in helping to ensure optimal appliance efficiency and to minimise air pollution.



The SIA has further guidance on its **website** as well as links to a number of sweep associations.

Educating & empowering

By helping to educate residents on the benefits of choosing the right appliance, the correct installation and maintenance and the best fuel for their appliance, local authorities play a key role in helping to empower people to improve air quality in their local area.

The SIA has a wealth of information and resources available to local authorities via its website **www.stoveindustryalliance.com** on how to help the public to burn better.

Check out these helpful videos by clicking on the boxes:

The importance of choosing & using the right fuel

Creating the perfect fire using an SIA Ecodesign Ready stove

Cleaner burning & less emissions with SIA Ecodesign Ready stoves

Get in touch with the SIA

Local authorities are welcome to make use of a range of infographics and resources from the SIA. To request these resources and for further information please contact:

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