

Welcome to a special edition HETAS Technical Bulletin, in conjunction with Woodsure and its **Ready to Burn** dry wood fuel scheme. With challenging press and media questioning what actual environmental effects burning logs & wood briquettes have we felt it right to bring together information of how the solid fuel & wood-burning sector along with modern stove manufacturers are reducing environmental impact, helping our industry to be part of the solution not part of the problem.

This publication will help give ways to explain the issues to those who have concerns and to show how we in our industry, installers, chimney sweeps, servicing businesses, manufacturers & retailers work together to reduce environmental impact. This bulletin documents evidence of our joint efforts which has resulted in highly publicised support from Defra. The ultimate message is for consumers to burn clean dry fuel in modern clean burning appliances but for those who are not buying new stoves or replacing old ones, the dry clean wood fuel message alone will have clear environmental benefits.

- Bruce Allen, CEO

If you have comments we would be pleased to hear from you: hello@hetas.co.uk





SH	Difficulties of enforcing Clean Air legislation An industry view of the subject compared to the public perception PAGE 5		
	Benefits of dry wood over wet wood and where to find "Ready to Burn" fuel		
国 上 フ	An Industry View educate the public on good practise PAGE 7	Smoke control areas, fuels & appliances information to give to consumers PAGE 14	HETAS & Woodsure industry support what we do to aid the solid fuel industry PAGE 16
	Benefits of Ecodesign appliances HETAS & Woodsure making a seamless move to EcoDesign regulations PAGE 19		
Ŭ	Appliance & property considerations what needs to be considered when buying a new appliance? PAGE		

# Air Quality in the UK – How Solid Fuel, Wood & Biomass can be Part of the Solution



Bruce Allen, CEO of HETAS and Chairman of Woodsure on work undertaken by Defra, Woodsure & HETAS to highlight and combat air pollution in cities.

# The Issues.

Recent press attention has highlighted growing evidence of very small particulate emissions caused by burning fuels like diesel, coal, biomass and log wood-fuel — but also from tyre wear and brake dust. These particles known as PM2.5 & PM10's are tiny air born particles of 2.5 to 10 microns in size and they can cause damage to health as they are small enough to be breathed in to the lungs.

Defra has looked at much research and data on air quality and concluded that:

"Tackling air pollution is a priority for this Government. Clean air is one of the most basic requirements of a healthy environment for us all to live, work, and bring up families".

# Improving Consumer Understanding

Use of open fires & wood-burning stoves has risen in popularity in recent years. There has been an increase in the number of queries or complaints from residents about smoke (particulates).

This increase is an indicator that we are seeing more emissions from wood/ biomass burning and a subsequent increase in air pollution in built up areas. Domestic wood & coal burning are said to be the single largest contributors to harmful PM emissions in some cities. comprising over 30% in London at one point in 2015. It is believed that the part attributed to home appliances is made up mainly from poor fuel on open fires & old stoves. This compares to emissions from industrial combustion (17%) and road transport (13%). Tinu particles in smoke can cause a range of health impacts such as breathing problems and exacerbating asthma as well as contributing to other health conditions.

Get a pollution forecast for your area at: https://uk-air.defra.gov.uk

Local Authorities are the regulators for domestic biomass under the Clean Air Act 1993 and play a vital role in helping to improve air quality in their local areas by ensuring that residents are informed about legislative requirements and the environmental and health impacts associated with poor burning practices. Defra calls on their assistance in raising awareness.

Defra has issued a guide: "We all breathe the same air" which is available for consumers. This has been produced in association with chimney sweeps and provides clear advice on the procedures to follow when lighting a stove to minimise smoke emissions.

This guide can be found at: https://goo.gl/7N7eYz

Government will be developing a Clean Air Strategy which will be published for consultation in 2018 setting out how we will work towards our international commitments as well as continuing to deliver air quality improvements in the UK

# What action has Defra already taken?

As part of Defra's commitment to improving the UK's air quality and cutting harmful emissions they have been working with industry sectors on a proactive strategy to help reduce emissions.



This strategy already includes:



The launch of Woodsure's 'Ready to Burn' brand by wood fuel suppliers, promoting the

sale & use of good quality dry wood, which has lower emissions than wet wood. Ready to Burn is mentioned in Defra guidance (pictured): www.woodsure.co.uk/gov-guidance The stove industry launch last year of the Ecodesign Ready brand which enables consumers to identify which stoves are tested to the high emissions standards of the Ecodesign Directive due to be introduced in 2022.

Work to improve consumer information e.g. development of information leaflets and consumer advice at point of sale.

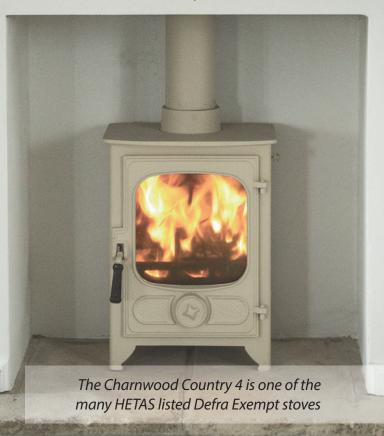
Working on a series of informative animations based on the information in the practical guide.

# Andustry Industry View

For many in our sector, it's hard to imagine that solid fuel appliances could possibly be responsible for large enough quantities of particulates to cause problems – but scientists can see from chemicals in the atmosphere that at some times of the year and on some days like cold Sunday afternoons, the combustion of wood can become a real problem in some of our cities.

Many will straight away proclaim that most of our major cities are smoke control areas so how could they be polluted like this? Surely only authorised smokeless mineral fuels or wood burnt in appropriate Defra exempted appliances is allowed?! This would surely limit particulate emissions greatly. It is true that sticking to the rules would make a massive positive difference.

Unfortunately use of poor fuels, open fires and old stoves causes much of this unwanted pollution (along with bonfires and other fires used to burn waste – often illegally). continued...





# ... "An Industry View" continued

Over the years we have repeatedly discussed enforcement of the Clean Air requirements and despite much effort we are forced to conclude that the legislation is incredibly challenging to enforce in its current format.

Whilst some Local Authorities have taken action, enforcement is not common. Government will look at future legislation but at this time we have to push for other remedies. For this reason, the particulate emissions issue becomes one that our industry can affect greatly and where we must rely heavily on educating users to buy the right fuel and burn it properly; wherever possible in newer, clean burning appliances.

The rest of the document gives more detail so that you can understand the issues in more depth and can present the right arguments ensuring that our industry is part of the solution not part of the problem.

CUSTOMERS

ADVICE TC

# BENEFITS OF DRY WOOD OVER WET WOOD:

It may sound obvious that wood fuel should be dry before you attempt to burn it, but it is not normally obvious when wood fuel is actually **ready to burn**.

A living tree or recently felled tree can contain over 60% moisture dependant on the tree species. If the tree is cut into fire wood and sold to a customer it may look perfectly good to place straight on to the fire. But a 1kg freshly cut log could contain around 500–600ml of water i.e. around one pint of water.

With that knowledge it's obvious that trying to burn a wet log is not sensible. Before you can benefit from the energy released from a log the fire has to evaporate and boil off a pint of water, so instead of benefiting from the full amount of available heat energy into the room, much of the energy is being used

to drive off the moisture turning it to steam.

BRIQUETTES ARE A GREAT OPTION FOR DRY, READY TO BURN FUEL WITH AN AVERAGE 10% - 12% MOISTURE CONTENT

Following this logic it may be assumed the drier the wood the better, and wood with zero moisture would be best? But this logic doesn't apply especially in wood burning stoves. A small amount of moisture is beneficial and the standard that appliance manufacturers work to allows for wood fuel between 12% - 20% moisture content (on a wet basis). This small amount of moisture moderates the combustion process and liberates the right amount of heat energy to the room in accordance with the appliance design. Wood that is too dry can burn quickly and ferociously dragging in large volumes of excess air which cool flue gases and can increase particulate emissions.

Within the specified parameters not only will you get more useful heat from Ready to Burn wood fuel, but you will also benefit in other ways. Ready to Burn wood reduces maintenance needs and keeps chimney liners in better condition (as long as there are no long periods of slumbering).

### ... "Benefits of Dry Wood Over Wet Wood" continued...

When faced with 2 similar sized bags of wood fuel where one is cheaper, heavier, unseasoned wood, psychologically the cheaper heavier bag may appear better value. But you will get more useful heat from the lighter, drier "Ready to Burn" wood, and produce a cleaner burn with less smoke and emissions. Ready to Burn wood fuel is likely to give you more value for money and more heat output for the same volume of wood.





# How can I find Ready to Burn fuel?

Look for the **Ready to Burn** logo. Or if you are unsure and in the absence of a moisture meter look for radial cracks and loose bark. Knock two logs together, if you hear a dull thud it's likely the wood is still too moist.

www.readytoburn.org



# Technical Information supporting use of drier wood

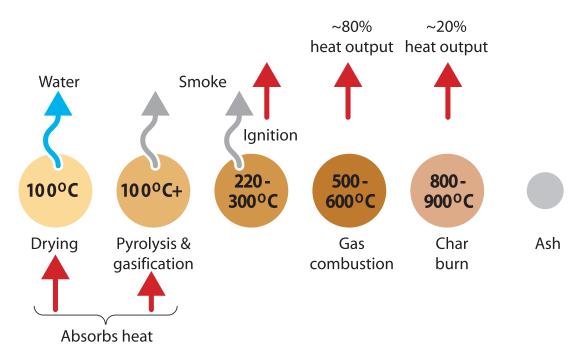


Andrew Hopton, Director of Woodsure and HETAS consultant explains the science behind wood burning.

# What is the ideal moisture for my wood fuel?

There are a number of values that are often quoted for the ideal moisture content of wood fuel, and figures of less than 25% and less than 20% moisture are probably the most common values stated. There has been a great deal of recent scientific work done on the combustion of dry and wet wood so we are better informed than ever.

# When wood is burnt it goes through the following process:



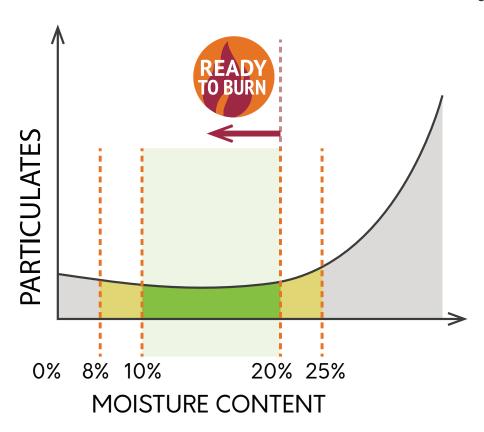
When an established fire is reloaded with logs the existing embers will first need to evaporate and boil off any moisture in the newly loaded logs. The assumption that 'drier the better' would tend to support this first stage of the combustion process, but a small amount of moisture provides a controlled burn rate at this stage in the combustion process.

### "Technical Information Supporting Use of Drier Wood" cont...

Wood burning stoves are designed to meet established manufacturing standards to release the maximum heat efficiency from the fuel, and the appliance standard for stoves defines test fuel at a moisture value of 16%±4%. This amount of moisture in the wood fuel moderates the combustion process and liberates the designed amount of heat energy to the room.

With the established stove testing standards and other information that we have managed to collect from various pieces of testing results and academic research, we have established that the 10% to 20% moisture range for wood fuel burnt in wood burning stoves is likely to be the optimum range to get the most useful heat, with minimal emissions.

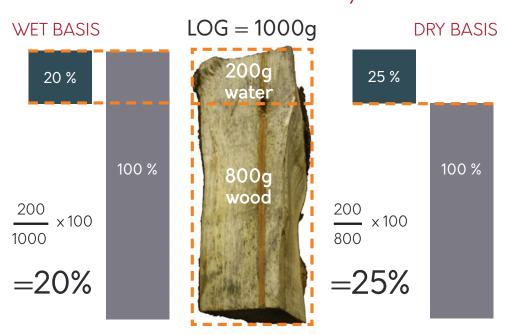
Woodsure and HETAS have agreed from research that the benefit of drier logs starts at about 25% moisture content. The **Ready to Burn** scheme sets an upper limit of 20% to ensure that the real benefits can be realised. It is also understood that briquettes (and pellets) will have a moisture content from 8% – 12% and generally burn very cleanly. Very low moisture fuel can lead to an initial rapid burn and problems with the amount of oxygen available, so it is not necessary to strive for absolute dryness. But any appliance burning log wood fuel will benefit when the wood fuel is dried to between 8% to 25% in place of wet or freshly cut logs or waste wood. The research we have seen can be summarised in the following graph:



# Moisture Readings

Moisture content is measured in 2 ways, Wet basis is the normally accepted value used for wood fuel and used by Woodsure, but please be aware that some moisture meters have duel use for construction and may be reading on a dry basis.

# MOISTURE CONTENT - WET / DRY BASIS



# Heat Energy

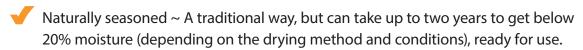
The potential energy that can be released from burning wood is typically known as calorific value (CV). Most wood species have a similar calorific value of about 4kWh per Kg for **Ready to Burn** fuel. The actual heat released in combustion relates to the efficiency of the stove and the quality of the fuel used. Modern stoves can now achieve 80% efficiency if the wood fuel is **Ready to Burn**. If the fuel is 'wet' with a high moisture level (>20%) a lot of heat energy will be used to drive off the excess moisture before you appreciate the useful heat energy to the room from the wood.

Burning wet fuel on open fires can provide little or no heat benefit to a room, can tar up a chimney and create smoke and high emission levels.

In all cases burning dry wood fuel on any appliance is better than burning wet wood. Modern efficient stoves will provide the most benefit.

# Naturally seasoned or kiln dried wood

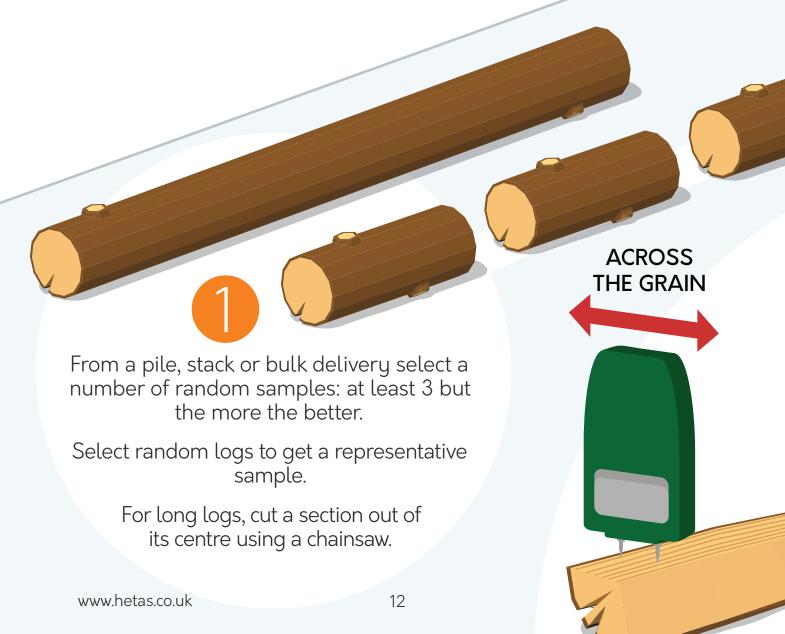
# There are two usual ways of drying wood fuel:



Kiln dried ~ Forced dried using heat, changing unseasoned wood to Ready to Burn in a matter of days; significantly shortening the drying process.

Naturally seasoned is where wood fuel is cut to length, split & allowed to dry naturally. Logs are stored in well ventilated, covered stores. From freshly felled to **Ready to Burn**, naturally seasoned wood can take up to 2 years to dry sufficiently although experienced experts can accelerate this with well managed stores & methods.

To kiln dry requires a large oven where prepared wood fuel is dried at a high temperature over a number of days until a moisture content of typically <20% is achieved.





Take the samples and split the log down the centre

with an axe.

Measure the moisture content by pressing the meter's pins into the centre of the log, across the grain.

Record a number of measurements along the centre of each split log. Measure moisture content in this way for at least 6 readings from the sample then calculate the average:

**SUM OF ALL READINGS** 

AVERAGE =

NUMBER OF READINGS TAKEN

Record this as the timber's average moisture content.

# Controls

- \* If your pin meter has variable settings make sure they are correct eg. species of timber, ambient temperature and moisture content on a wet basis (some pin meters are suitable for construction materials and measure moisture on a dry basis (see page 11 above).
- \* Measure moisture in the centre of the cut surface as soon as possible: the moisture content can quickly change.
- \* Make sure you take a representative sample from throughout the load, choosing logs from the middle of the pile as well as the surface.
- \* Make sure the pin meter is in good condition and the battery is not low.

www.hetas.co.uk 13 © HETAS 2018

# Smoke control areas, fuels and appliances

Brian Bailey, Senior Product Evaluation Officer at HETAS on government Smoke Control regulations.



The great London smog (1952) is estimated to have directly caused the deaths of some 4,000 people and indirectly led to the deaths of a further 8,000 people in the ensuing months. The Government responded by introducing The Clean Air Act in 1956. The act enforced a number of measures to reduce air pollution. In particular it empowered local authorities to establish Smoke Control Areas in certain towns and cities. This restricted the use of fuels for heating households so that only smokeless (authorised) fuels were permitted such as cleaner solid fuels, electricity & gas. These measures proved very effective at reducing smoke pollution and gases such as Sulphur Dioxide.

The focus of the legislation is the emission of smoke from chimneys and includes domestic premises as well as commercial and industrial facilities. If a chimney emits "dark smoke" this is an offence and whoever owns the chimney is guilty of the offence. There are of course ways to comply with the requirements; for householders this means either burning only authorised smokeless fuels or using an exempted appliance with one of the fuels that particular appliance is exempted for use with. There is a Statutory Instrument listing the appliances with the fuels that each is exempted for use with.

If you are in a smoke control area look for stoves that have the Defra exempt logo in The HETAS Guide to Approved Solid Fuel, Wood and Biomass Products & Services. Search for a solid fuel appliance or product at hetas.co.uk

Look out for the Defra exempt logo in The HETAS Guide





So in the case of a domestic home owner accused of emitting dark smoke; if you could prove that this was inadvertently emitted whilst burning a smokeless fuel (an authorised fuel) or that you were burning a fuel that was not an authorised fuel but on an exempted appliance designed to burn the specified fuel then you should not be found guilty of the offence.

The Government Department for Environment, Food and Rural Affairs (Defra) maintains a list of all Authorised Fuels and Exempted Appliances. Only those fuels or those appliances that are listed are legally entitled to be classed as such. View the list at: https://www.gov.uk/smoke-control-area-rules

Most generic wood based fuels including natural wood logs, wood chips and compressed wood pellets are not authorised fuels. In order to burn these fuels in a designated smoke control area the appliance on which it is burned must be an exempt appliance listed on the Defra website and the exemption must be for burning the specific fuel type. The appliance manufacturer's instructions will also provide further details about the specifications of the fuel to be burned and this will almost always include details about its required moisture content.

For the burning of authorised fuels it is necessary that the appliance on which it is burned is designed to burn the fuel however this appliance does not need to be listed by Defra and can be a generic designed appliance recommended by the manufacturer for burning the generic fuel type, often described as smokeless fuel. In such cases it is the fuel itself that must be listed by Defra to ensure that it is an authorised fuel.

As we move towards the next decade, there are some uncertainties including Brexit and future test methods accepted by individual nations. There is new European legislation coming in 2020 (for boilers) and 2022 (for stoves). This is the Ecodesign legislation. We are not yet sure which rules will apply in the UK although it seems sensible that to some extent they fit in with the EU Regulations to avoid unnecessary barriers to trade.

# HETAS & Woodsure Supporting Industry

Calvin May, Technical Standards Manager on the difficulties of enforcing the Clean Air legislation.

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Air quality continues to be of the highest importance to the solid fuel and biomass industry. One of HETAS's objectives is "to improve the quality, efficiency and safety of appliances, fuels, associated equipment and installation & maintenance services". Both HETAS and Woodsure have been working closely with Defra (Department Environment, Food and Rural Affairs), in support of the governments clean air strategy to reduce overall emissions and significantly improve air quality through the use approved dry wood fuels, promotion of highly efficient clean burning appliances and a consumer focus on applicable guidance to correctly operate the appliance to achieve maximum efficiency and cleanliness in operation. HETAS and Woodsure make great efforts to communicate with Government and other stakeholders making them aware that our industry is operating in innovative ways that contribute to improved air quality. We have strong working relationships at both government department level and with a wide range of stakeholders. Through these relationships we are able to engage in discussions about future legislation and to influence it in positive ways. HETAS and Woodsure attend a wide number of industry technical groups, and are involved in advising and consultations about air quality issues. We are able to call on our understanding of our sector to ensure the industry is seen as part of the solution, and not part of the problem as some press releases claim.



As with all service industries, there are many very technical areas of work that go in to various stages of the supply chain. Innovation is present through the setting of manufacturing standards right through to appliance design, manufacture, installation and fuel production. Each part of the jig-saw contributing something to what are now highly engineered and effective pieces of heating equipment. In order to demonstrate that appliances, fuels and other heating equipment complies with laws and regulations the standards are the basis of measurement.

This is one of the areas where HETAS plays a pivotal role in the development and updating of the standards. HETAS currently chairs the BSI national UK mirror committee RHE/28, whose main responsibilities include development of applicable appliance, installation, fuel and associated equipment standards and codes of practice, thus ensuring any future requirements are clear, robust and realistic, whilst at the same time promoting a safe and efficient environment for installers, retailers, manufacturers and most importantly the consumer.

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The mirror committee is supported by a number of sub-committees and stakeholder groups, who use the opportunity to share a wide level of technical expertise, experience and knowledge, and use this to drive discussions and action in areas of identified issue and resolution. Fuel quality, appliance test methodology, air quality and installation best practices are to name but a few of the consultations currently taking place, working in close partnership with industry recognised organisations such as Woodsure, Kiwa Gastec, BSRIA as well as manufacturer associations such as the SIA, HWA and the BFCMA.

Along with these industry stakeholder groups, HETAS leads the HETAS
Technical Committee, an open technical forum where matters of importance are discussed with actions and resolutions to problems being proposed. This includes research projects and some testing work which explore and provide evidence to back-up any suggested amendments or improvements on safety within

national legislation and the Building Regulations, as well as development of alternative installation practice approaches that can be used in the absence of any other standards e.g. for new and innovative products not yet covered by statutory guidelines.

HETAS has been heavily involved in the development of new installation standards for solid fuel appliances in the form of a revision to BS8303, as well as implemented alternative guidance for installation of dedicated external air supply appliances, which include risk assessment and commissioning processes to ensure the installation is safe and compliant.

There are still a wide variety of technical projects under consideration and development, however all these activities play a key role in ensuring the future of the solid fuel industry puts safety and efficiency first, and plays its part in supporting government air quality initiatives as well as continued promotion of quality fuels, appliances and services.

# The Benefits of Ecodesign Appliances

Calvin May, Technical Standards Manager, points out the many benefits of opting for a greener appliance.

With the impending Ecodesign Regulations coming in to force in Europe in January 2020 for independent boilers and January 2022 for room-heater stoves, it is important for installers, retailers, specifiers and consumers to understand what the changes will mean and how the relevant sectors can support renewable, decarbonisation and clean air strategies and targets. The overall aim is to promote more energy efficient appliances and use of quality wood fuels to lower emissions and improve air quality.



HETAS and Woodsure have been working with industry, Defra and other Government departments to support a pragmatic but effective transition to the new Ecodesign regulations. Initiatives like the Eco-Design Ready appliances, Eco-design Compliant

and Defra Exempt appliances are all great weapons in fighting against pollution from emissions. We all want to breathe clean air and we all want to offer customers an option to burn solid fuels, wood, biomass cleanly and efficiently into the future. This means we must aim to reduce the emissions of particulate matter (PM) i.e. organic gaseous compounds (OGC), carbon monoxide (CO), nitrogen oxides (NOx) (and for some fuels sulphur). Older stoves and open fires are the worst polluters.

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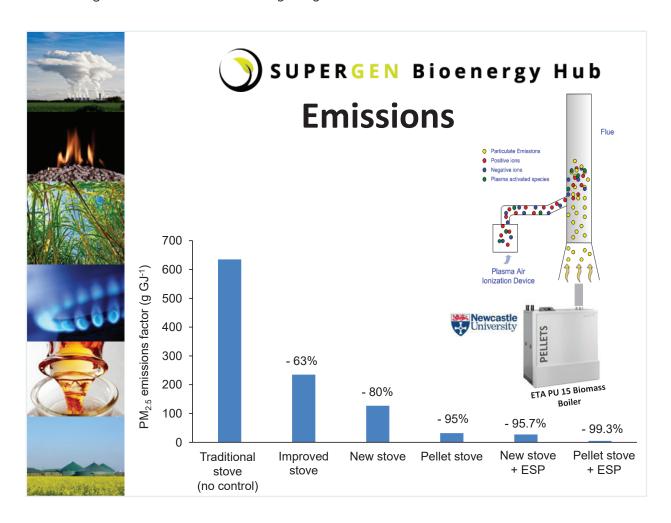




The Defra exempt icon in the HETAS Guide (top left) The SIA run an EcoDesign Ready scheme. Search for an SIA EcoDesign Ready product at: hetas.co.uk (top right) For the very best future mitigation of effects from solid fuel emissions we should discuss new cleaner appliances with consumers and hope to persuade them to modernise and have a hand in protecting the environment.

HETAS and Woodsure are working with Defra, the Forestry Commission and others to find ways to reduce environmental impact. We are also grateful for information shared with us by Scientists at Manchester, Newcastle and Leeds Universities where they are researching wood burning as part of the Supergen project.

The Supergen research project at Manchester, Newcastle and Leeds Universities found that more modern appliances burning the right fuels reduce particulate emissions drastically as shown in the following diagram:



This is part of the evidence that shows this industry can be part of the air quality solution rather than part of the problem. Open fires and old, uncontrolled stoves are much less effective than newer clean burning stoves; not only in terms of particulate emissions but also in cost effective and efficient use of fuel.

# Appliance and property considerations

Calvin May, Technical Standards Manager, explains the key points to think about when buying your appliance.

Typically older properties built before the 1960s used open fires fuelled by mineral fuels. These may have been the primary heat source for the dwelling and therefore in very regular use. The most efficient open fired appliances achieved around 50% gross efficiency but most were less efficient at around 35%.

In comparison, a modern closed room-heater which meets Ecodesign efficiency requirements can achieve a gross efficiency as high as 80%. This ultimately means an increase in the heat passed to the room where the appliance is installed. This increases consumer comfort & reduces running costs for the fuel being burnt.

The Supergen findings show very clearly that old appliances emit larger volumes of particulates and new cleanburn appliances much fewer. When we introduce the issue of poor fuel the evidence is equally as compelling.



The Vogue Small T Eco; an SIA EcoDesign Ready woodburner - image courtesy of Stovax

There has been laboratory testing of particulate emissions from an open fire burning wet wood and then dry wood. Tests revealed that burning wet wood produces four to five times the weight of particulates than burning dry wood in a similar open fire. So even in the oldest and most inefficient appliances burning the right fuel can make a huge difference reducing particulate emissions and reducing environmental impact.

Modern appliances are highly engineered, clean, efficient and effective heating appliances. Engineers and designers have been very successful in increasing efficiency and reducing emissions. There are significant improvements over appliances from on the market as little as 5–10 years ago. ...continued on next page

Ecodesign legislation will bring about mandatory requirements to design and test products against maximum limits for OGC's and NOx values. Maximum levels of CO emitted will also decrease dramatically, with more stringent limits in place. Figures recently published show that newly designed appliances can produce 90% less emissions than those appliances sold on the market over 20 years ago e.g. in comparison with open fires burning poor fuels.



The Skye 5 Store Stand SIA Ecodesign Ready appliance. Courtesy of Charnwood

Many HETAS approved stoves are already verified as being "Ecodesign Ready" through a Stove Industry Alliance initiative, which means they already meet some of the fundamental requirements of the Ecodesign legislation. Those manufacturers are already choosing to produce products that meet emission and efficiency requirements 5 years before they are enforceable. As we move towards the implementation of Ecodesign legislation the HETAS listing of appliances in the Guide and on the web site will allow manufacturers to demonstrate full compliance with the legislation. The industry is therefore making great strides in ensuring boilers and room-heater stoves support current and future government clean air strategy and objectives.

As well as success with room-heater stoves, a large number of independent biomass boilers sold on the UK market today have already been verified as meeting these Ecodesign emission and efficiency limits more than two years early. HETAS has been working closely with the independent boiler sector to introduce a new HETAS Ecodesign compliance scheme, which promotes those appliances as meeting Ecodesign, as well as other legislation such as the UK Building Regulations, CPR and Energy Labelling regulations. Those appliances on the register will have listed against them a new certification mark to allow consumers, designers and specifiers to make a more informed choice about the product being used, knowing that the product is in compliance with all national legislation before purchase.

In order to protect the reputation of our sector it is important for installers, retailers, manufacturers and other relevant bodies to promote the use of appliances that meet Ecodesign requirements early.

Further information can be found on the HETAS website at:

www.hetas.co.uk or by speaking to HETAS helpline on 01684 278194

# Consumers' Questions & Answers

### Q. Will stoves be banned?

A. Despite some sensationalism in newspapers there is no suggestion that stoves will be banned

# Q. Will I have to change my old stove for a new one?

A. There are no plans to require anyone to do so. If your appliance is an old open fire or an old stove it is very much worth considering a change as a new one will be much more efficient and cleaner to use with dry Ready to Burn fuel.

# Q. Can I burn clean dry wood in a smoke control area?

A. Only in a Defra exempted appliance which lists wood logs as an allowed fuel.

# Q. Can I burn waste wood like old fence posts etc?

A. Never burn waste woods with chemicals, paints or treatments – this waste is always more polluting and can contain more hazardous emissions than clean dry wood fuel.

### Q. Can I still use coal & mineral fuels?

A. Yes in some cases. In a smoke control area you must burn an authorised smokeless fuel. Outside smoke control areas, whilst the guidance is less strict, it is always better to burn clean dry wood or smokeless fuels. This way you protect your appliance and chimney, get better efficiency and heat, and protect the environment more.

# Q. How do I get both the best appliance & greatly reduce environmental impact?

A. The best choice is always burning clean dry wood-fuel in a modern appliance. You get best value from your fuel and reduce environmental impact.

# Q. Is seasoned wood as good as kiln dried?

A. Yes very much so. The key is to use Ready to Burn wood which always have a moisture content of up to 20% moisture.

## Q. Are heat-logs & briquettes OK?

A. Yes, again very much so. Look for the Ready to Burn logo and the heat-logs will be clean & dry; Ready to Burn.

# Q. What about burning other forms of compacted fuels?

A. We strongly recommend checking if they are made from clean dry wood to be sure about what you are burning. Some of these compressed fuels contain contaminates and waste that cause damage to appliances & flues and increase polluting emissions.

# Q. Are modern appliances that much better than old ones?

A. Yes very much so. A modern clean burn appliance burning Ready to Burn wood fuel can be seen to reduce particulate emissions by 80% compared to old appliances burning wet wood.

# Q. Do I need to get my stove serviced?

A. Yes, it is important to get chimneys swept and appliances serviced. HETAS operate a list of service companies which are searchable at <a href="https://www.hetas.co.uk.">www.hetas.co.uk.</a>
There is an approved chimney sweep scheme operated in partnership with the Association of Professional and Independent Chimney Sweeps (APICS), The Guild of Master Chimney Sweeps (GoMCS) and the National Association of Chimney Sweeps (NACS).



# READY to BURN Special Edition

# Technical Bulletin #9

March 2018





### **HETAS Limited**

Severn House, Unit 5, Newtown Trading Estate, Green Lane, Tewkesbury GL20 8HD

01684 278170 info@hetas.co.uk www.hetas.co.uk

### **Woodsure Limited**

Severn House, Unit 5, Newtown Trading Estate, Green Lane, Tewkesbury GL20 8HD

> 01684 278188 info@woodsure.co.uk www.woodsure.co.uk