

Solid Fuel Regulations Consultation  
Air Quality Division  
Department of the Environment, Climate and Communications  
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2 April 2021

**Submission on Consultation on the Development of a new Solid Fuel Regulation for Ireland**

Dear Sir/Madam,

On behalf of the Irish Bioenergy Association and the Wood Fuel Quality Assurance scheme members please find our response below to your consultation on solid fuel regulation. In compiling our response, we have engaged with our WFQA and IrBEA members. Our response, as the industry representative body in this sector, is reflective of the views of the broader wood fuel industry.

Our submission response focuses on measures to regulate firewood for sale and ensure wood and biomass fuels are supplied in line with recognised standards. Over the past number of years, we have approached the department on this matter and are delighted to take the opportunity to present our proposals and views through this consultation process. We appreciate that this is a complex area, and we remain at the department's disposal for any queries or assistance it may need.

We note that this consultation is based on the use of solid fuels at residential level. Solid fuels are also used in commercial and industrial settings for large scale decarbonized heat. Technology deployment at non-residential scale ensures that air emissions from solid fuels in these facilities are not an air quality concern.

In our response we have indicated further measures that can be taken in the coming decade to further protect air quality while also addressing the significant challenge of reducing carbon emissions. Biomass and woodfuels offer a unique opportunity for Ireland to achieve its carbon emission objectives while at the same time stimulating local economies and rural employment. These measures are described in brief in this document but can be further presented and elaborated in due course.

Yours Sincerely,


IrBEA Technical Executive / WFQA Auditor

## Response to Consultation Questions

1. Are you in favour of a national regulation on solid fuels, and if so, why?

Yes, regulation of solid fuels has many benefits.

- Protects human health through the regulation of solid fuels which will result in increased use of quality fuels and a reduction in emissions during combustion.
- Ensures quality products are presented for sale, allowing for better efficiency and value for money, and protection of appliances from damage caused using low-quality fuels.
- Can promote the use of low greenhouse gas (GHG) fuels such as woodfuel when sourced according to the sustainability criteria in the RED II Directive.
- Will contribute to the development of a regulated market for solid fuels providing assurance to consumers.

2. What solid fuels should be subject to regulation and why?

All solid fuels should be regulated. In terms of our area of expertise and interest (wood and biomass fuels) we argue that biomass fuels should be regulated in line with EN ISO 17225 -:2014: Solid biofuels — Fuel specifications and classes Parts 1-7. The standard sets quality requirements that have been agreed by national standards authorities across many jurisdictions. Critical to this consultation is the moisture content of woodfuels.

3. What standards or specifications should/could be applied to each type of solid fuel?

We recommend that standard EN ISO 17225, Parts 1 to 7 be legislated as the recognised standard for biomass fuels in Ireland through either SI 128 2016 under the Air Pollution Act or another mechanism as deemed appropriate. EN ISO 17225 builds on the original EN standard through the ISO process and is now used globally. Ireland is an active member of ISO Technical Committee 238 Solid biofuels, which oversees the drafting and updating of EN ISO 17225. The standard is updated on 5-year cycle, using new information and science.

Table 1 provides a brief outline of the individual parts of EN ISO 17225.

Reference	Title	Brief description
EN ISO 17225 – 1	General Requirements	This section also details methods to classify un-graded biomass fuels not covered by other parts
EN ISO 17225 – 2	Graded wood pellets	
EN ISO 17225 – 3	Graded wood briquettes	
EN ISO 17225 – 4	Graded wood chips	
EN ISO 17225 – 5	Graded Firewood	
EN ISO 17225 – 6	Graded non woody pellets	
EN ISO 17225 – 7	Graded non woody briquettes	

A number of quality assurance schemes use the EN ISO 17225 suite of standards for certification purposes, such as EN Plus and GoodChips in Europe. In Ireland, the Wood Fuel Quality Assurance scheme (WFQA) has been existence for over 10 years and certifies woodfuel producers and suppliers based on EN ISO 17225. For further information please see [www.wfqa.org](http://www.wfqa.org).

4. What do you believe are the most appropriate, implementable and enforceable regulatory approaches for each type of solid fuel?

We believe that moisture content is the single most important element of wood and biomass fuels in relation to emissions from combustion. As pointed out, WFQA currently operates a woodfuel quality scheme. It is implemented through structured visits to members' premises and the collection and laboratory testing of fuels according to a suite EN ISO sampling and testing standards (separate to EN ISO 17225, but also part of the ISO TC 238 process). Members of the scheme also conduct their own tests and these are provided to WFQA for inspection. Building the skills, knowledge, and expertise to carry out the tests is an important part of the role of the WFQA. The scheme is independently audited, which is necessary to provide consumer assurance. The WFQA certifies firewood, wood pellets, wood briquettes, woodchip, and other biomass (solid) fuels. EN Plus is another recognised quality assurance mark for wood pellets, based on EN ISO 17225-2. The scheme was originally set up for Europe but is now de facto the standard used for wood pellets worldwide.

We suggest the following issues be considered in relation to regulatory implementation.

1. Standards to be used and timeframe for implementation (placing on the markets)

Fuel	Standard	Current Quality Assurance Schemes operating in Ireland	Date of implementation (placing on the market)
Firewood	ISO 17225-5 M25 (Moisture content below 25%)	WFQA	1 <sup>st</sup> Sept 2022
Firewood	ISO 17225-5 M20 (Moisture content below 20%)	WFQA	1 <sup>st</sup> Jan 2024*
Wood Pellets	ISO 17225-2	WFQA, EN Plus	1 <sup>st</sup> Jan 2022
Wood Chip	ISO 17225-4	WFQA	1 <sup>st</sup> Jan 2024
Wood Briquettes	ISO 17225-3	WFQA	1 <sup>st</sup> Jan 2022
All other biomass fuels	ISO 17225-1	WFQA	1 <sup>st</sup> Jan 2024

\*Moving to 20% moisture content will require additional investment by producers. Grant aid for drying and related infrastructure would assist in the transition.

2. Placing on the market

Woodfuels placed on the market be required to be certified to the recognised standard. This requirement should be enforceable on all fuel suppliers, wholesalers and retailers. All fuel offered for sale must be accompanied by relevant certification and registration number information, though clear labelling, and including marked certification compliance to the relevant part of EN ISO 17225.

Woodfuels for residential use are in the great majority of cases firewood, wood pellets or wood briquettes. A very small number of residences, in rural areas, use woodchip.

3. Operation

SI 128 2016 Air Pollution Act (Marketing, Sale, Distribution and Burning of Specified Fuels (Amendment 2016)) may offer an existing legislative instrument to implement the proposal, by extending the fuels covered to firewood and other woodfuels, while referencing EN ISO 17225.

Using this model, the EPA would maintain a register of approved suppliers, similar to the current registers of Coal Bagging Operators & Solid Fuel Suppliers. Suppliers who conform with the SI

would be required to label their product accordingly, quoting their registration number. WFQA already operates a similar labelling system, requiring the WFQA logo to be displayed on all bags of complaint fuel.

#### 4. Enforcement

We recommend that enforcement of the quality of residential solid fuel regulations be the responsibility of Local Authorities. Spot checks for the presence of complaint labelling on woodfuel offered for sale could be undertaken at relatively low cost at retail locations such as supermarkets and filling stations. Woodfuel is also sold directly to consumers by suppliers. Regulatory compliance in those cases could be through market surveillance and a public awareness campaign on the benefits of using certified fuel conforming with the regulations, also including information on the benefits of using ecodesign stoves, correctly installed and maintained. Sampling where required would be carried out according to a protocol similar to EN ISO 18135:2017 (Solid Biofuels – Sampling) and sent for laboratory analysis. We note that biomass boilers operating under the SEAI Support Scheme for Renewable Heat (SSRH) are required to purchase fuel that are certified and comply with a recognised standard.

5. How can a transition to less polluting fuels and more efficient heating systems be supported? (Building upon the measures already set out in the Climate Action Plan)

An integrated approach to reducing particulate matter, nitrogen oxides (NOx) and carbon monoxide (CO) from woodfuel combustion can be built around four key areas.

1. **Fuel quality.** Ensure all woodfuel is of the correct quality; and principally that moisture content is legislated for when woodfuels are placed on the market.
2. **Appliance.** Over time, transition home appliances to more efficient, cleaner burn appliances certified to ecodesign requirements. Appliances that go beyond ecodesign are now coming to market and are likely to set the standard over the coming decade, with higher efficiencies and very low emissions. We would strongly advocate that a grant-aid scheme to incentivise the replacement of open fires with biomass ecodesign appliances be put in place.
3. **Operation.** Provide information to consumers through a number of media about the proper operation of stoves and appliances. For example, correct lighting and refuelling can dramatically reduce emissions from firewood combustion.
4. **Maintenance.** Encourage annual maintenance of appliances and flues to secure efficient, low emission combustion.

In addition to efficient and clean combustion, sustainably sourced and certified woodfuel dramatically reduces emissions of greenhouse gases compared to fossil fuels. Displacement of fossil fuel by woodfuel and other bioenergy provides real and measurable reductions in fluxes of greenhouse gases from geological reservoirs. The challenge is to ensure displacement comes through high efficiency and low pollution fuels. IrBEA believes that regulation of woodfuels, use of suitable appliances and the other measures outlined will enable a fully complementary approach to address both health and the decarbonisation of heat.

The state can encourage the above measures through the following:

- a. continued implementation of increases in carbon tax, while taking fuel poverty into consideration
- b. capital supports and possible tax incentives to transition the fuel appliance fleet to ecodesign over the coming decade
- c. incentives to directly encourage use of quality fuels
- d. capital supports for woodfuel producers for buildings and infrastructure to assist in producing firewood at 20% or below moisture content.

6. What do you think is an appropriate timeframe for the implementation of a national regulation of solid fuel?

As regards woodfuels we suggest the following timeframe. The schedule is mainly to enable producers the time to invest in facilities and build wood stock levels to produce firewood to 20% or lower moisture content. A number of WFQA members already place firewood on the market at 20% moisture content or less. An information campaign to inform the market that regulation of woodfuel is being introduced will be necessary to alert producers and consumers in good time. The WFQA is willing to assist the department with the roll out of any information campaigns in this area.

#### Suggested Timeline of Implementation Pathway for Regulation

Details	Start	Finish	2019	2020	2021	2022	2023	2024
IrBEA launches policy proposal on behalf of industry for Regulation on the moisture content of wood fuels	14-Oct-19	14-Oct-19	█					
IrBEA consultation with DECC/EPA & Industry	14-Oct-19	01-Feb-21	█	█	█			
Announcement by DECC of their intention to introduce Regulation	01-May-21	N/A			█	█	█	
Drafting and Enacting of legislative framework via Statutory Instrument (SI) outlining timetables for implementation	01-May-21	31-Dec-21			█	█	█	
Preparation of Firewood Suppliers for introduction of 25% moisture limit.	01-May-21	01-Sep-22			█	█	█	
Introduction of 25% moisture limit for firewood	01-Sep-22	01-Sep-22				█	█	
Preparation of Firewood Suppliers for introduction of 20% moisture limit.	01-Sep-22	01-Jan-24				█	█	
Introduction of 20% moisture limit for firewood	01-Jan-24	01-Jan-24						█
Introduction of ISO 17225-2 requirement for pellets	01-Jan-22	01-Jan-22			█			
Introduction of ISO 17225-3 requirement for briquettes	01-Jan-22	01-Jan-22			█			
Introduction of ISO 17225 parts 1 to 7 for all biomass fuels	01-Jan-24	01-Jan-24						█

All WFQA Wood pellet suppliers are to the best of our awareness all compliant with EN ISO 17225-2

7. What timeframe should be applied to the inclusion of new solid fuels into legislation to allow for the necessary transition, including the phase out of existing stocks?

We propose a timeframe as outlined above. This will allow for the industry and retailers to run down existing stocks and to upgrade production to meet the standards.

8. Should suppliers and retailers be given a transition period to use up existing stocks of solid fuels not meeting emission standards and, if so, how long?

We have detailed appropriate timeframes in questions 4, 6 and 7 that allow for suppliers and retailers to transition effectively. Transition for firewood at a moisture content of 20% or less can be achieved by 1<sup>st</sup> January 2024.

9. Are there particular challenges in terms of the enforcement of regulations applying to solid fuel burning, and how might these be best addressed?

Enforcement should be the responsibility of the local authorities and EPA.  
The proposal from IrBEA is for the banning of the sale of wet firewood (above 25% wet weight basis). Moisture content testing should be carried out as described under EN ISO 18134-2.

IrBEA/WFQA will be happy to assist and contribute to a public education and awareness campaign to ensure the public understand the requirements.

10. Do you have any further proposals to reduce air pollution from residential heating?

- Raise the awareness of homeowners in terms of fuel selection and correct operation of appliances.
- Encourage annual maintenance of appliances and flue (e.g., chimney cleaning).
- Run information campaigns around the benefits of replacing open fires and older stoves with ecodesign appliances.
- Provide financial incentives for the replacement of older stove and boiler appliances with biomass appliances.

11. What performance standards, certification methods or quality schemes should/could be used to reduce air pollution caused by burning solid fuels?

As outlined in the response to question 4: for biomass fuels we would support the use of EN ISO 17225 Parts 1-7 and quality assurance schemes such as the WFQA and EN Plus.

12. Would broadening the application of the 10-gram smoke per hour to all solid fuels be appropriate?

We have reviewed relevant legislation including SI 128 (2016) where emission limits are set in grams per hour. In our view there could be problems with implementation, as it does not stipulate other influencing factors such as the quantity of fuel burned. Some residences could burn very small quantities of highly polluting fuels and still comply with the regulation. We would suggest that the proposed limit be set against a parameter such as energy input of fuel. For example, setting the 10g/hr limit against a rated 5 kWh of fuel heat input in an EcoDesign stove for that actual fuel type. Overall, we feel this proposal needs further discussion and elaboration. We would refer the department to the EcoDesign standard (EU) 2015/1185 for further reference. We are happy engage with the department to discuss this in greater detail.



13. Are there any additional or different emission standards which could be applied to the broader range of fuels?

As in our response to question 11, our view is that an emission limit value (ELV) approach as taken in the ecodesign regulations is the best way to proceed, rather than regulating outputs on a per hour basis which would be difficult to enforce. Generally, care must be taken in determining emissions from solid fuels. Woodfuels combust differently than fossil fuels. For example, using primary air is vital for proper combustion of fossil fuels, however using too much primary air when burning woodfuels encourages emissions of organic aerosols and volatile organic carbons, therefore well-designed wood stoves will only use primary air at start-up, after which introduction of secondary air is essential to ensure clean combustion. These and other design features are part of modern woodfuel combustion appliances.

We are aware that a number of research projects that have been completed have no consideration for primary and secondary air and for the significant differences in how wood fuels combust compared to fossil fuels. The department should recognise these significant differences when assessing various research work that has been completed.

Note on Ecodesign appliances and fuel types

Fossil fuels need high amounts of primary air, and need a grate to separate high amounts of ash from the unburned fuels. Wood fuels need low amounts of primary air, and do not need a grate to separate out ash from unburned fuel – due to the very low volume of ash produced by clean burning. Therefore ecodesign stoves are diverging considerably in design to accommodate either fuel. Fossil fuels are unlikely to burn at all in a wood burning stove due to the lack of a grate, hence fuelling with the wrong fuel is unlikely to happen. Hence any support for wood burning ecodesign stoves will ensure that only the correct fuel can be used. A fossil fuel ecodesign stove will, due to the grate and high amounts of primary air available, be able to burn any combustible material, but not cleanly.

14. Is it appropriate to use moisture content as a standard for the application of regulations to wood and, if so, at what limit should the moisture content be set?

Yes, for firewood primarily but other woodfuels, notably woodchip also have moisture content requirements (which vary according to end use). For firewood, our recommendation is for an initial 25% (on a wet basis as outlined in EN ISO 17225), and then at 20% from the 1 January 2024 (see our earlier submissions appended here).

We consider that adherence to all ISO 17225 standards is achievable by 1 January 2024 for all woodfuels.

15. What limit should be set as a cut-off point for the sale of wet wood?

- Bags/nets only;
- Up to 2m<sup>3</sup>;
- All wet wood; or
- Other- please provide reasons or evidence to support your answer.

All firewood placed on the market should conform to ISO 17225 A1 standard as detailed above. We consider that any relaxation of requirements is likely to result in poor quality fuels being used resulting in increased levels of emissions. We support the supply of quality fuels to domestic consumers, resulting in lowered emissions and value for money. Having lesser quality fuels on the market would also impede full and effective enforcement of the regulation.

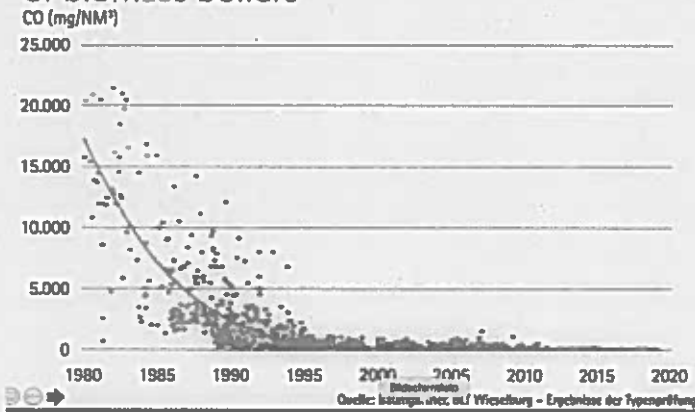
### Other matters

In terms of responsibility for ensuring product placed on the market is compliant, we would suggest that the person placing the fuel on the market is responsible for ensuring same. This would require:

- a. Baggers supplying retailers to ensure product is compliant when bagged and labelled as such.
- b. Retailers must only sell product that is correctly marked as certified with a recognised label and licence/certificate number.
- c. Those selling loose product to the end user must ensure all product is compliant and accompanied by certification documentation.

We note SI 128 (2016) setting the terminology "low smoke biomass product" to mean a range of fossil fuel/biomass blended products, where the biomass content could be as low as 30% and the fossil fuel content could be as high as 70%. We consider the term to be misleading and propose that the term be replaced with one more reflective of its fossil fuel content.

### Technology development: emissions of biomass boilers



We attach this graph of emissions tested from biomass boilers from 1980 to the present day. As can be seen as technology improved the emissions from biomass combustion have dramatically and steadily improved

We thank the department for the opportunity to respond to this consultation and would welcome the opportunity to further engage in the issues outlined.