



**PUBLIC HEALTH MEDICINE ENVIRONMENT AND HEALTH GROUP (PHMEHG) SUBMISSION:  
CONSULTATION ON THE DEVELOPMENT OF A  
NEW SOLID FUEL REGULATION FOR IRELAND**

---

***Prepared by:***  
*Dr Keith Ian Quintyne*  
*Dr Regina Kiernan*  
*Dr Ina Kelly*  
**AIR QUALITY SUB-GROUP**  
*On behalf of the*  
**PUBLIC HEALTH MEDICINE ENVIRONMENT AND HEALTH GROUP**  
**(PHMEHG)**

---

*Publication date: 23<sup>rd</sup> March 2021*



## Table of Contents

<b>PREAMBLE</b> .....	<b>4</b>
PUBLIC HEALTH MEDICINE ENVIRONMENT AND HEALTH GROUP .....	4
<b>INTRODUCTION</b> .....	<b>5</b>
<b>PHMEHG RESPONSE TO THE CONSULTATION PAPER</b> .....	<b>7</b>
QUESTION 1 .....	7
<i>Are you in favour of a national regulation on solid fuels, and if so, why?</i> .....	7
<i>Recommendation</i> .....	7
QUESTION 2 .....	8
<i>What solid fuels should be subject to regulation and why?</i> .....	8
<i>Recommendation</i> .....	8
QUESTION 3 .....	8
<i>What standards or specifications should/could be applied to each type of solid fuel?</i> .....	8
<i>Recommendation</i> .....	8
QUESTION 4 .....	9
<i>What do you believe are the most appropriate, implementable and enforceable regulatory approaches for each type of solid fuel?</i> .....	9
QUESTION 5 .....	9
<i>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)</i> .....	9
<i>Recommendation</i> .....	9
QUESTION 6 .....	10
<i>What do you think is an appropriate timeframe for the implementation of a national regulation of solid fuel?</i> .....	10
QUESTION 7 .....	10
<i>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?</i> .....	10
QUESTION 8 .....	10
<i>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?</i> .....	10
QUESTION 9 .....	10
<i>Are there particular challenges in terms of the enforcement of regulations applying to solid fuel burning, and how might these be addressed?</i> .....	10
QUESTION 10 .....	10
<i>Do you have any further proposals to reduce air pollution from residential heating?</i> .....	10
<i>Recommendation</i> .....	10
QUESTION 11 .....	11
<i>What performance standards, certification methods or quality schemes should/could be used to reduce air pollution caused by burning solid fuels?</i> .....	11
QUESTION 12 .....	11
<i>Would broadening the application of the 10 gram smoke per hour to all solid fuels to be appropriate? ..</i> 11	11
QUESTION 13 .....	11
<i>Are there any additional or different emission standards which could be applied to the broader range of fuels?</i> .....	11
QUESTION 14 .....	11



*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? ..... 11*

QUESTION 15 ..... 11

*What limit should be set as a cut-off point for the sale of wet wood? ..... 11*

**CONCLUSION ..... 12**



## Preamble

### Public Health Medicine Environment and Health Group

The Public Health Medicine Environment and Health Group (PHMEHG) is recognised as a significant group within the Health Service Executive (HSE) for working to promote the health and well-being of all in the Irish state on matters pertaining to Environment and Health. The PHMEHG works to ensure that the public's health is improved through sustained and determined efforts of its members.

The efforts of the PHMEHG are enhanced by our vision for a healthy Ireland and by engaging with like-minded stakeholders in order to build coalitions of interest that influence public opinion, the media, and governments.

Health is human right, a vital resource for everyday life, and key factor in sustainability. Health equity and inequity do not exist in isolation from the conditions that underpin people's health. The health status of all people is impacted by the social, cultural, political, environmental and economic determinants of health. Specific focus on these determinants is necessary to reduce the unfair and unjust effects of conditions of living that cause poor health and disease. These determinants underpin the strategic direction of the PHMEHG.



## Introduction

PHMEHG welcomes the opportunity to provide input to the Consultation on the Development of a new Solid Fuel Regulation for Ireland (**CDSFRI**). Poor air quality is a major but poorly recognised cause of significant ill health and mortality globally and in Ireland.<sup>1</sup> Major sources in Ireland are domestic burning of fossil fuels, energy generation, and industry and diesel vehicle emissions.<sup>2</sup>

Air pollution is well established as a key health threat in urban environments across the world. In particular, over the past 20 years since the current standards were set in Ireland, a vast body of medical and scientific research has emerged, linking air pollutants with health problems. The literature confirms a causal association between exposure to air pollutants and increased all-cause mortality and incidence of heart disease, stroke, lung cancer, low birth-weight, respiratory problems and type II diabetes.<sup>3,4</sup> This situation in Ireland served as a catalyst for the introduction of the legislation for the ‘smoky coal ban’.<sup>5</sup> This has resulted in progressively and consistently lower pollution levels being recorded in areas designated under this legislation, and importantly has been reflected in improvements in air quality related morbidity and mortality.

Before examining the **CDSFRI** in detail, it is important to briefly recap why there are requirements for air quality standards and what can be achieved through them grounds the main points and recommendations that will result from this consultation.

Air quality standards used to be thought of as defining a level of air quality that was safe – that below the given threshold for pollutants, there would be no health effect. This aligns with the term **NOAEL** standing for *No Observable Adverse Effect Level*, widely used in toxicology. It is still how the public views air quality standards, despite the science now showing this notion to be mostly false, as for many air pollutants, there is no lower threshold of effect. So if there is no safe level, which is the purpose of the standard?

Standards define a maximum level of pollution that is regarded as acceptable to the community or governments, conferring a level of risk of adverse effects that it is prepared to countenance,

---

<sup>1</sup> Quintyne KI, Sheridan A, Kenny P, O’Dwyer M. *Air Quality and Its Association with Cardiovascular and Respiratory Hospital Admissions in Ireland*. Irish Medical Journal. 2020 Jun 11; 113(6):92-.

<sup>2</sup> Environmental Protection Agency (EPA) 2020. *Air Quality in Ireland 2019*. Available URL: <https://www.epa.ie/pubs/reports/air/quality/Air%20Quality%20In%20Ireland%202019.pdf> (Accessed: 23<sup>rd</sup> March 2021)

<sup>3</sup> Willocks LJ, Bhaskar A, Ramsay CN, et al. *Cardiovascular disease and air pollution in Scotland: no association or insufficient data and study design?* BMC public health 2012; 12:227. doi: 10.1186/1471-2458-12-227 [published Online First: 2012/03/24]

<sup>4</sup> Fu M, Kelly JA, Clinch JP. *Residential solid fuel use: modelling the impacts and policy implications of natural resource access, temperature, income, gas infrastructure and government regulation*. Applied geography 2014;52:1-13

<sup>5</sup> Kelly I, Clancy L. *Mortality in a general hospital and urban air pollution*. Irish medical journal 1984; 77(10):322-4. [published Online First: 1984/10/01]



and does this uniformly across the country. Demonstration that some regions exceed the standard gives strong support to regulators to take action to improve air quality, and it gives the non-expert community guidance to demand action if regulators fail to proceed.

Lack of uniformity of standards across Ireland pertaining to solid fuel regulation creates health inequities. A more appropriate approach where air quality has been demonstrated to have common or serious health impacts would be to establish a standard approach across Ireland that will highlight problems in the most polluted parts of the country, regions and communities, to guide efforts for abatement.



## PHMEHG Response to the Consultation Paper

### Question 1

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

The PHMEHG supports introduction of national regulations on solid fuels that are standardised all across the country.

#### Recommendation

The best value action is to reduce air pollution of the six major toxic pollutants as much as possible (at least down to international standards) across all sectors.

The links between air pollution and ill health are well established, with air pollution contributing to approximately 1,300 premature Irish deaths and health costs of €2 billion per year, with loss of 382,000 workdays per year.<sup>2,6</sup>

It is important to note that it is now considered there is no threshold below which air pollutants are safe. As a guide, we would suggest firstly strengthening ambient air quality standards across Ireland, and continue to extend the ambient air quality monitoring network to allow for more accurate determination of ‘hotspots’. The most recent Environmental Protection Agency (EPA) Air Quality report highlighted this issue for areas that are not currently covered by the current ‘smoky coal ban’ legislation, see figure below.<sup>2</sup>

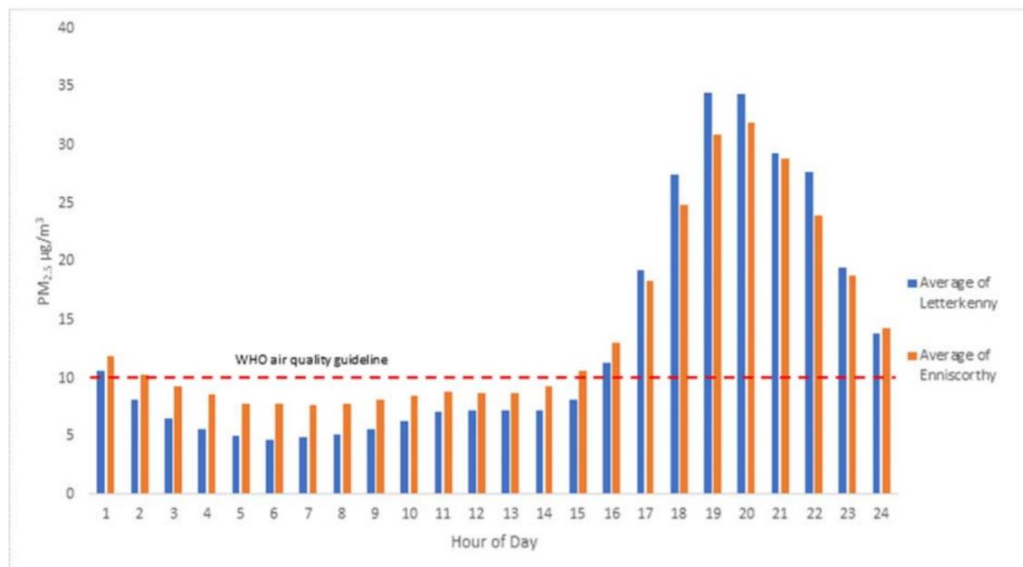


Figure 1: Average concentrations of PM<sub>2.5</sub> by time of day at Letterkenny and Enniscorthy

<sup>6</sup> EnvEcon (2015), *Marginal Damage Valuations for Air Pollutants in Ireland - 2015, Dublin*: EnvEcon Decision Support Series 2015/1



## Question 2

### What solid fuels should be subject to regulation and why?

The PHMEHG supports implementing regulations of solid fuels that have the greatest potential to generate any air pollutants, which in turn will have impact on human health.

#### Recommendation

Timely updating and strengthening of current Irish air quality standards in keeping with current scientific and medical evidence. This would support full implementation of 'smoky coal ban' legislation across Ireland. Additionally, the requirements for regular updating of these standards should be embedded in the legislation. Penalties for breaches need to parallel improvement in standards.

Clearly, the current legislation is not adequately protecting the health of those in the Irish state and revision is long overdue. The medical literature supports the improved outcomes in Ireland with the introduction of the 'smoky coal ban' legislation.<sup>5</sup> This review highlighted reductions in less favourable human health outcomes with regulation of solid fuel use, and was in keeping with reports in the international literature.<sup>3,4</sup>

## Question 3

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

The PHMEHG supports standards or specifications that are based on impact to human health considerations, and not just on economic analysis of the value of health damage compared with predicted abatement costs.

#### Recommendation

In the absence of reliable benefit-cost analysis methodology, the regulatory impact assessment for determining standards or specifications should be focussed on the benefits to health of reducing air pollution levels, not only on the costs associated with doing so.

Standards or specifications are based on human health considerations, and require a judgement about the frequency and severity of adverse health outcomes. This leads to attempts to make decisions about standards or specifications based on the economic analysis of the value of health damage compared with predicted abatement costs. These economic analyses are frequently flawed for the following reasons:

- Concentration response functions are available for only a small range of the health outcomes strongly suspected of being caused by air pollution;





- While a cost for health care expenditure can be derived, the intangible and indirect costs of disease can be many times higher; and
- The costs of abatement will rapidly change as new technologies become available.

For these reasons, the correct place for benefit cost analysis is at the jurisdictional level planning pollution abatement measures, not when setting standards or specifications.

#### Question 4

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

The PHMEHG does not have specific comments to make on this question.

#### Question 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)**

The PHMEHG supports any methods that are compliant with current established/preceding plans that will:

- Protect the population from the harmful health impacts of climate change; and
- Strengthen the preparedness and resilience of communities and health services against extreme weather events, with a focus on the most vulnerable in the community.

#### Recommendation

The PHMEHG recommends implementation of significant and sustainable incentives for all using solid fuels to switch to less polluting production alternatives/techniques.

The PHMEHG recommends that less polluting fuels are made more affordable and easily available for households that suffer from fuel poverty.

In order to achieve substantial reductions in air pollution across all sectors, we would recommend the use of effective and significant incentives for companies to switch to less polluting production techniques, such as a load based licensing system based on a polluter pay model. In this model, a polluter pays a large fee per tonne of each pollutant released, creating a financial incentive for less polluting production. This system adds weight to business cases for updating production methods and pollution control technology, and rewarding cleaner production methods.



### Question 6

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

The PHMEHG has no commentary on this question.

### Question 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?**

The PHMEHG has no commentary on this question.

### Question 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?**

The PHMEHG has no commentary on this question.

### Question 9

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

The PHMEHG has no commentary on this question.

### Question 10

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

The PHMEHG supports additional proposals that will reduce any overall contributions to air pollutants that would result in less favourable human health outcomes.

### Recommendation

The PHMEHG recommend the development and adoption of intersectoral policies that aim to reduce air pollution from all sources, as there is potential to generate important health co-benefits in addition to lowering urban air pollution.

The PHMEHG also recommend the extension of ambient air quality network to include more residential settings, to allow for more granular identification of 'hot spots' of air pollution.



Residential heating has been a major contributor to poor air quality in urban areas. At a minimum, Ireland should advocate for more stringent emissions standards in residential setting. This should be seen as an opportunity to pursue intersectoral policies that ensure the future health of all living in Ireland by facilitating a range of safe and accessible options to reduce reliance on detrimental air polluting sources for residential heating.

### **Question 11**

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

The PHMEHG has no commentary on this question.

### **Question 12**

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

The PHMEHG has no commentary on this question.

### **Question 13**

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

The PHMEHG has no commentary on this question.

### **Question 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?**

The PHMEHG has no commentary on this question.

### **Question 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.

The PHMEHG has no commentary on this question.



## **Conclusion**

PHMEHG strongly support the review of **CDSFRI**. Ireland's standards are currently heterogeneous, and do create health inequities, and urgently need to be rectified.

PHMEHG recommends:

1. The introduction of homogenous solid fuel regulation for Ireland.
2. Towns or regions that host polluting industries should be included in reporting around air pollutant levels. Where there is non-compliance, there should be appropriate sanction to encourage enforcement.
3. Standards should be set according to health benefits, not associated costs.
4. Alternative fuel options should be readily available and not more costly than current solid fuels used.

The PHMEHG appreciates the opportunity to make this submission and the opportunity to contribute to improved air quality and health outcomes for all citizens in the Irish state.

Please do not hesitate to contact us should you require additional information or have any queries in relation to this submission.

**Dr Keith Ian Quintyne**  
**Dr Regina Kiernan**  
**Dr Ina Kelly**