Rialtas na hÉireann
Government of Ireland

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

Contents

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1 Introduction

Air quality is a major concern at a global level and is considered one of the most significant environmental risks to human health. Since the 1990s, medical research has demonstrated links between air pollution and both short- and long-term health impacts, including headache, breathing difficulty, eye irritation, and exacerbation of respiratory conditions and increased levels of strokes, cancer, and respiratory and cardiovascular disease.

The European Environment Agency report, Air Quality in Europe 2020[1] indicates that in 2018, there were 1,300 premature mortalities linked to pollution from fine particulate matter ($PM_{2.5}$) in Ireland. The same report specifies 16,200 Years of Life Lost, showing significantly earlier mortality for those deaths.

Regulation of solid fuel is a recognised means of addressing this. Research indicates that the introduction of the “smoky coal ban” in Dublin in 1990 has resulted in approximately 350 fewer mortalities per year, reducing cardiovascular, cerebrovascular and respiratory mortality in the general population.

Introducing a more extensive regulatory system, to cover a wider range of solid fuels, can improve air quality for the benefit of all. Doing so will also help Ireland to achieve its ambition of moving from meeting the EU limits on emissions to achieving instead the more stringent World Health Organisation (WHO) guidelines.

This public consultation aims to:

- assess the merits of a national approach to regulating solid fuel;
- determine which solid fuels should be regulated;
- consider how these fuels should be regulated; and
- set out an appropriate timeline for implementation of any new regulations.

While the consultation is primarily a call for submissions that will specifically assist in the development of new regulations, it will also be accompanied by wider and less formal public engagement.

[1] https://ec.europa.eu/commission/presscorner/detail/en/ip_20_2168

2 Consultation Overview

The Programme for Government commits to publishing the first ever Clean Air Strategy, including extending the ban on bituminous ("smoky") coal to new towns and, over the term of Government, moving towards a full nationwide ban, so that the environmental and health benefits that have already been brought to our cities and towns can reach every part of our country.

Smoky Coal has been regulated in specific areas, known as Low Smoke Zones (LSZ), since such zones were first introduced in Dublin in the 1990s. This policy measure has been very effective in improving air quality and observed health impacts in these zones. However, the provision of additional data, from our enhanced National Ambient Air Quality Monitoring Programme (AAMP) and Environmental Protection Agency (EPA) funded research projects, indicates the extent to which other solid fuels, such as peat and wet wood, contribute to localised high levels of particulate matter and other pollutants during the heating season.

The 2020 EPA Air Quality Report highlights that the main source of the smaller and more dangerous particulate matter is solid fuel burning for home heating. Poor air quality causes premature deaths, with the European Environment Agency estimating that it caused 1,300 premature deaths in Ireland in 2017. This demonstrates the extent to which the choices we make in heating our homes can impact on our own health and that of our families, and the communities in which we live.

It is clear that we now need to tackle all sources of air pollution arising from the residential sector. This consultation paper is being published in advance of the Clean Air Strategy to seek views in relation to the national application of the regulations currently applied to bituminous ('smoky') coal, as well as informing the development of appropriate regulatory controls for other residential solid fuels.

Focusing on the issue of air pollution caused by the burning of solid fuels for residential heating, including the differing contributions of various fuels to air pollution and how they should be regulated into the future, this consultation signals that further and more comprehensive regulations are to be brought forward in this area in line with the Programme for Government. The consultation is an opportunity for all parties to consider the issues and input to the process at the earliest stage, as well as to consider alternatives as appropriate.

This consultation will inform the development of a comprehensive national regulatory approach to solid fuel burning for home heating.

3 Context

In response to serious ongoing smog problems in Dublin, a ban on the sale, marketing and distribution of bituminous coal (the “smoky coal” ban) was first introduced in September 1990. This was done via the Air Pollution Act, 1987 (Marketing, Sale and Distribution of Fuels) Regulations, 1990 (S.I. No. 123 of 1990).

The ban has proved very successful in reducing air pollution in Dublin, with research indicating it has resulted in up to 350 fewer annual premature mortalities in the capital. Following the success of the ban in Dublin, it was first extended to Cork (1995), and subsequently extended to cover a further 39 urban areas nationwide via the Air Pollution Act, 1987 (Marketing, Sale and Distribution of Fuels) Regulations, 1998, the Air Pollution Act (Marketing, Sale, Distribution and Burning of Specified Fuels) Regulations 2012, and the Air Pollution Act (Marketing, Sale and Distribution of Specified Fuel Regulations 2020 as per Table 1 below:

Table 1: Cities and towns where the low smoke zones apply, and year of introduction

Town	Year of Introduction
Dublin	1990
Cork	1995
Arklow, Drogheda, Dundalk, Limerick, Wexford	1998
Celbridge, Galway, Leixlip, Naas, Waterford	2000
Bray, Kilkenny, Sligo, Tralee	2003
Athlone, Carlow, Clonmel, Ennis	2011
Greystones, Letterkenny, Mullingar, Navan, Newbridge, Portlaoise, Wicklow (and Rathnew)	2013
Maynooth	2015
Ashbourne, Ballina, Carrigtwohill, Castlebar, Cavan, Cobh, Enniscorthy, Killarney, Longford, Mallow, Midleton, Tramore, Tullamore	2020 (1 September)

These areas represent the major cities and towns/conurbations with populations in excess of 10,000, and all extensions of the ban were implemented by means of Statutory Instrument.

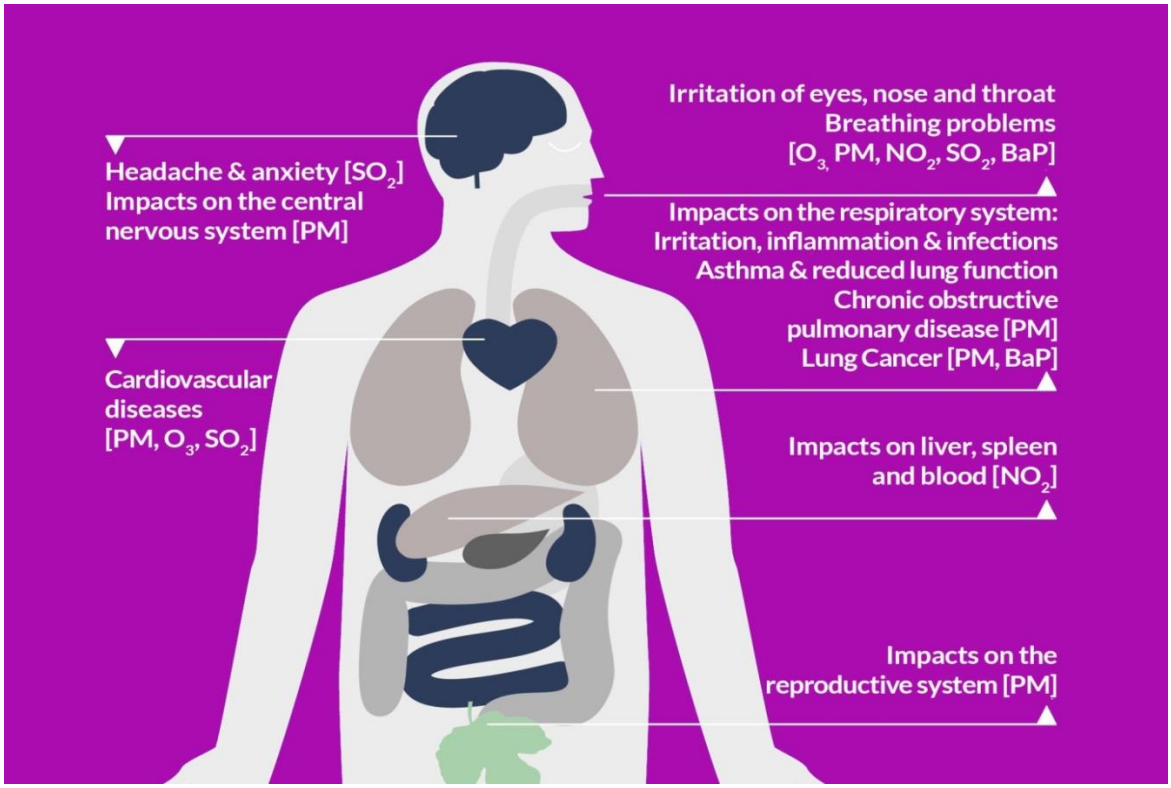
As well as working to meet our stringent, legally binding targets for reducing emissions by 2020 and 2030, the Programme for Government, as indicated, commits Government to move towards a full nationwide ban of smoky coal.

While the initial application of the "smoky coal" ban was in response to the episodes of smog in Dublin in the 1980s and 1990s, subsequent scientific research has examined the health impacts of air pollution, and in particular that of fine particulate matter.

The WHO has recognised air pollution in general, and particulate matter especially, as causing cancer to humans.[2,3] The latest evidence indicates that the health impacts of air polution are more wide ranging (see Figure 1) than was previously understood. While we are all familiar with more visible forms of air pollution, such as smoke from coal fires, new evidence suggests that invisible forms of pollution, such as fine particulate matter (referenced as PM with a number to detail the size of the particle, such as $PM_{2.5}$), are at least as harmful to our health, as more visible forms of air pollution.

Poor air quality is linked to serious health implications, both short-term (acute temporary complaints such as headache, breathing difficulty, or eye irritation) and long-term (chronic ongoing conditions, including asthma, reduced liver function, and cardiovascular disease).

Figure 1: Summary of Health Impacts of Air Pollution – European Environment Agency (2020)



[2] International Agency for Research on Cancer (IARC), 2012, Press Release https://www.iarc.fr/en/media-centre/pr/2012/pdfs/pr213_E.pdf
[3] WHO, 2013, http://www.iarc.fr/en/media-centre/iarcnews/pdf/pr221_E.pdf

Ever expanding research is demonstrating the links between air quality and even wider impacts on human health, such as on cognitive development (Zhang et al., 2018) and mental health (Braithwaite et al., 2019). Recent Irish research has shown the negative health impacts on the Irish public (Carthy et al., 2020; Quintyne et al., 2020).

These negative health impacts come at a cost, both personally and economically. In addition to premature deaths, air pollution causes absence from work, reduced productivity, higher spending on medicines, and increased hospital admissions.

The EPA's most recent annual Air Quality Report, published in September 2020, provides an assessment of air quality in Ireland for 2019. Values for all network sites were below the EU annual limit value with which Ireland is required to comply, but exceeded the stricter WHO guideline values for a number of pollutants at individual sites.

In Ireland, the Air Quality Index for Health (AQIH) provides up-to-date information on the quality of air in the vicinity of a number of locations in Ireland and provides an indicator as to whether or not this might have an affect the health of local citizens. A map is provided on the EPA website[4] which records the current air quality and it is updated every two to five minutes.

Research indicates that the contribution of peat and wood to levels of particulate matter in the air around us can be considerable. It is, therefore, important to consider the potential health benefits to be achieved by extending regulations to other residential solid fuels.

For further reading about the nature, levels and impacts of air pollution visit:

- HSE Air Quality Indices and Health Impacts: https://www.epa.ie/pubs/reports/air/quality/hsereportonairqualityindices.html
- Ambient Air Pollution: Health Impacts (WHO)
- Real Time Monitoring Stations: www.airquality.ie
- Detailed reports, analysis, research and air quality reports at: https://www.epa.ie/air/quality/reports/
- The Sapphire project, that categorised the sources of particulate matter, here

[4] Air Quality Index for Health Map

4 Development of National Regulations

There is an existing legislative framework, established by the Air Pollution Act 1987, to reduce air pollution from residential burning of solid fuels. This has been done through the development of the current regulations which ban the sale, marketing and distribution and burning of specified fuels in LSZs.

The Department of the Environment, Climate and Communications will now develop new regulations that will:

- broaden the regulation of specified fuels in designated areas, to regulations that apply across the entire state;
- increase the range of specified fuels to be regulated (including, but not limited to, green/wet wood and peat/peat products), to ensure that only the cleanest products are available for sale; and
- adapt the regulatory approach based on the most appropriate legislative instruments for each fuel type.

Reponses to this consultation should give consideration to all solid fuels, and proposed models for regulation and enforcement.

It is important that the regulations are based on an appropriate and practical policy approach, which sees the use of the most suitable policy instruments and measures targeted at reducing the use of the most polluting fuels across the country.

Any regulatory approach should also include measures which help consumers convert to less polluting fuels, and support the transition to more energy efficient and less polluting heating systems as set out in the Climate Action Plan.

As stated, the Programme for Government includes a commitment to move towards a full nationwide regulation over the term of this Government. The outcome of this consultation will inform the development of the required regulations. It is envisaged that sufficient timeframes should be given to allow market suppliers and consumers to prepare for, and adapt to, any proposed changes.

5 How to Respond

The Department of the Environment, Climate and Communications (DECC) is committed to public participation on key environmental policy decisions in a clear, open and transparent manner.

5.1 Call for Supporting Evidence

In order to ensure any new regulations are developed using the best available evidence, the Department welcomes any relevant supporting information or data to be included with submissions to the consultation. This can include but is not limited to:

- academic studies;
- information/data on the use of fuels in the sector;
- information/data on the emissions and pollutant profiles of specific fuels; and
- information/data on the market for specific fuels.

5.2 Submission Process

1. Submissions may be made based on the questions set out in the document. It is not necessary to answer all questions. Additional comments outside the questions posed are also welcome.

Large submissions may be made by email to: solidfuels@DECC.gov.ie or in writing to the following address:

Solid Fuel Regulations Consultation
Air Quality Division
Department of the Environment, Climate and Communications
Newtown Road
Wexford
Y35 AP90

2. It will be possible to make shorter submissions to the consultation questions via an online questionnaire at www.gov.ie\cleanair please note there is a text limit for responses of 300 words.

While the consultation is primarily a call for submissions that will specifically assist in the development of new regulations it will also be accompanied by wider and less formal public engagement through our website, social media channels and online town hall events.

5.3 Review Process

All submissions will be reviewed within one month of the end of the consultation period and a summary document will be produced thereafter. Work will begin on the development of the regulations following this.

5.4 Closing Date

The public consultation will close at 5.30pm on Friday 2 April, 2021

5.5 Freedom of Information

Please note that responses to this consultation are subject to the provisions of the Freedom of Information Act 2014 and Access to Information on the Environment Regulations 2007-2014. While confidential or commercially sensitive information should be clearly identified in your submission, parties should also note that any or all responses to the consultation are subject in their entirety to the provisions of the FOI Acts and may be published on the website of DECC.

By responding to the consultation, respondents consent to their name being published online with the submission. The Department will redact personal addresses and personal email addresses prior to publication. Your attention is drawn to the Department's data privacy notice which is available here.

6 Consultation Questions

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

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

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

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

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)

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

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?

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?

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

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

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

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

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

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?

15. What limit should be set as a cut-off point for the sale of wet wood?
    - Bags/nets only;
    - Up to $2m^3$;
    - All wet wood; or
    - Other- please provide reasons or evidence to support your answer.

7 Additional Information

7.1 Costs of Solid Fuels

People have to heat their homes and concern is expressed sometimes about the cost impact of further solid fuel regulation on lower income households who cannot afford to upgrade their heating systems. The Sustainable Energy Authority of Ireland (SEAI) publishes a Domestic Fuels Comparison of Energy Costs report every three months, and the most recent report (Jan 2021) demonstrates that low smoke coal (ovoids) is the most cost-efficient choice of coal in terms of heat delivered per cent, and the second most cost-efficient overall:

Fuel	Cent/kWh
Premium Coal (bag)	6.17
Standard Coal (bag)	5.98
Low Smoke Ovoids (bag)	5.73

7.2 Retrofitting Supports

The Programme for Government and the Climate Action Plan set ambitious targets to retrofit 500,000 homes to a Building Energy Rating of B2 or cost optimal, and to install 400,000 heat pumps in existing buildings.

To assist with the achievement of these targets, €286 million in capital funding is being provided this year by the Government to the SEAI for residential and community retrofit schemes. This is an increase of €140 million on the previous year, and represents a near doubling of investment between 2020 and 2021. Of this amount, €109 million will support free upgrades for lower income households with €112.5 million to be spent on expanding other existing SEAI grant schemes and introducing new initiatives. The Local Authority retrofitting budget has increased from €25 million in 2020 to €65 million for 2021.

SEAI grants encourage homeowners to reduce heat loss through the installation of insulation and ventilation in the first instance, before moving to replace heating systems. This is in line with the fabric first principle and best practice.

Further information on SEAI grants is available at www.seai.ie/grants or by calling 1850 927 000.

8 Glossary of Key Terms

The "Smoky Coal" Ban	Informal term for the regulations which ban the marketing, sale, distribution and burning of specified fuels within specified areas.
Low Smoke Zone (LSZ)	An area within which the regulations apply. There are currently 41 areas covered by the regulations, and these can be viewed at: https://dcenr.maps.arcgis.com/apps/webappviewer/index.html?id=feee728a0ee1427d9a3973a090a9f292
Bituminous Coal (also known as "Smoky Coal")	Coal is classified into four main types, or ranks: anthracite, bituminous, subbituminous, and lignite. The ranking depends on the types and amounts of carbon the coal contains and on the amount of heat energy the coal can produce. The ranks of coal (from most to least carbon content) are as follows: anthracite, bituminous coal, sub-bituminous coal, and lignite.
Gram of Smoke per Hour	This is the amount of smoke emissions that any solid fuel releases during the combustion process.
Particulate Matter (PM)	Particulate matter (PM) is a term used to describe the mixture of solid particles and liquid droplets in the air. These can be either human-made or naturally occurring (e.g. dust, ash and sea-spray). Particulate matter is emitted during the combustion of solid and liquid fuels, such as for power generation, residential heating and in vehicle engines. Particulate matter varies in size. $PM_{2.5}$, have an effective diameter of less than 2.5 micrometres (also known as microns) (µm). PM_{10} is all particles less than 10 µm.
Moisture Content	This is the amount of moisture contained within a sample of solid fuel, given as a percentage of the sample's original (wet) weight. Fuels with high moisture content have a lower heat output which is less efficient for consumers, but can also result in increased air pollutant emissions such as particulate matter.