



DEFRA

Review of the Clean Air Act 1993 in England

CIWEM Response, October 2013

CIWEM welcomes the opportunity to respond to Defra's call for evidence on the Review of the Clean Air Act 1993 (CAA). Our comments reflect the views and experiences of our Air Panel. Members have experience of air quality management in the public sector at local and national levels and in the private sector.

The Chartered Institution of Water and Environmental Management (CIWEM) is the leading professional and qualifying body for those who are responsible for the stewardship of environmental assets. The Institution provides independent comment, within a multi-disciplinary framework, on the wide range of issues related to water and environmental management, environmental resilience and sustainable development.

Summary

1. CIWEM supports a review of the Clean Air Act to make it fit for managing air quality in the coming years.
2. Dark smoke provisions provide a simple and low cost means of controlling the burning of waste.
3. We believe that the impact of introduction of emission limits in England and Wales on major suppliers of appliances is likely to be minimal as suppliers should be aware of standards in London and elsewhere in the EU.
4. CIWEM considers emissions from small and medium sized combustion plant (thermal input less than 20 MW) are inadequately regulated.
5. It is important that new appliances have emissions as low as is reasonable, and we suggest that the emission limits to be used in London are adopted nationwide.
6. CIWEM supports the retention of Smoke Control Areas (SCAs) as they provide control over the burning of domestic coal and wood in urban areas.
7. The Clean Air Act is a useful tool, especially if it can be made fit for purpose and focused on current pollutants and concerns.

Introduction

As the air quality team at Defra are aware, CIWEM believes that we need a new Air Quality Strategyⁱ to provide the framework for the country's air quality policies, and that this should be produced prior to changes to legislation. Notwithstanding this we have provided our comments on the CAA below.

ⁱ Clearing the Air: Priorities for Reducing Air Pollution in the UK, CIWEM, 2013. Available from <http://www.ciwem.org/clearingtheair>

In general we are supportive of the review of the CAA. It is appropriate to assess the efficacy of the legislation in managing current air quality. The origins of the Act go back nearly 60 years, and since then there have been significant changes in the sources and approaches to air quality management. In addition, some of the terminology, such as 'grit' and 'furnace', is archaic and needs to be made more user-friendly.

Whilst the review is part of the Red Tape Challenge it provides an opportunity to update the legislation to make it fit for managing air quality in the coming years. We believe it is important that the elements that work should not only be maintained but also strengthened.

We have focussed our comments on the areas where our members have expertise.

CAA Part 1 (Dark Smoke)

These provisions remain useful for the protection of the amenity of local residents from emissions of dark smoke from chimneys/premises, such as might occur under poor combustion conditions and/or using an inappropriate fuel. It is a means of controlling the inappropriate burning of waste which continues to occur. These provisions provide a simple and low cost means of controlling these activities. We are not aware of another low cost and simple means of measuring dark smoke.

Whilst the Environment Agency carries responsibility for the burning of waste, it is the Local Authorities who tend to be on the front line, particularly in relation to nuisance. The local authority is not the waste management regulator but does have Environmental Health Departments' duties regarding nuisance and has the benefit of staff being based locally. The dark smoke provisions therefore provide a tangible basis for local authorities to make an assessment, a further reason for keeping the provisions in the legislation. We believe that these provisions should be retained to reduce the impacts of incomplete combustion, including black carbon.

The effect of the removal of these provisions would be undesirable emissions of dark smoke from combustion processes.

CAA Part 2 (Smoke, Grit, Dust and Fumes)

Product Standards / Emission Limits

There is an international market for industrial, commercial, domestic and other combustion appliances. There is an increasing use of product standards including limit values for specific pollutants in other EU Member States with the EU Eco-design Regulation partly driving product standards.

In the UK product standards are beginning to be introduced. The Renewable Heat Incentive (RHI) will require minimum emission limits to be achieved for particulate matter (PM). The Greater London Authority's draft Sustainable Design and Construction supplementary planning guidance includes minimum emission standards for combustion plant. Two sets of emission standards for NO_x and PM₁₀ from biomass boilers in the size range 50kW to 20MW (thermal input) apply depending on the air quality in the areaⁱⁱ. CIWEM believes that all new plant should meet emission limits for NO_x and PM irrespective of whether or not there is a financial grant under the RHI.

ⁱⁱ Under Band A the emissions factor is 100g/GJ for NO_x and 20g/GJ for PM. For the RHI the emissions limits are 150 g/GJ for NO_x and for 30 g/GJ particulate matter.

The manufacturers of these appliances should already be aware of the emission limits being adopted in London and elsewhere in the EU, and should be ensuring that their products comply. Therefore, we believe that the burden of the introduction of emission limits in England and Wales on major suppliers of appliances is likely to be minimal, provided the test procedure is broadly in line with those used elsewhere.

The control of visible emissions such as dust and grit does not result in the adequate control of oxides (NO_x) and particulate matter (PM; especially fine and ultrafine particles which appear to be associated with the greatest health impacts). CIWEM believes that there is a need for emission limits for the specific pollutants of concern (NO_x/NO₂ and PM_{2.5}) to fill the void in air quality legislation. We believe emissions from small and medium sized combustion plant (thermal input less than 20 MWⁱⁱⁱ) are inadequately regulated. Given their slow turnover it is important that new appliances have emissions as low as is reasonable, and we suggest that the emission limits to be used in London are adopted nationwide. This has the additional advantage of reducing the number of emission limits.

Our members are aware of the growing number of databanks around the country which require continuous power; often old diesel generation sets are used which are just under the 20MW limit but have large (e.g. >4 µg/m³ annual mean NO₂) impacts on local air quality. We are aware of an existing central London office with large computer requirements installing combustion plant with a thermal input greater than 20MW with the managers unaware that it requires an Environmental Permit. Whilst these plants are not generally under continuous operation they can be operational for significant periods of time with respect to the EU ambient air quality limit values/ air quality objectives. These sources need to be regulated, and the review of the CAA presents a good opportunity.

For new boilers/engines a type approval system is the most appropriate way to regulate. However, for second hand equipment, which is likely to be less efficient with higher emissions of NO_x and PM, it may be necessary to measure emissions once the plant is installed and for there to be periodic in-use emission testing (one per year). Stationary sources of NO_x in major cities make a significant contribution to background NO₂ concentrations, adding to the risk of exceeding of the NO₂ limit value. Furthermore, although the PM₁₀ limit values are generally achieved, the evidence of the health effects of PM_{2.5} and increasingly of ultrafine particles, suggest that further control of emissions is desirable. Any PM emission limit should be specified as a PM_{2.5} emission limit.

Disbenefits from removing the notification requirement? How might these be mitigated?

CIWEM believes that removing the requirement to notify the local authority of the intention to install an appliance would lead to some poorly designed systems that could give rise to a loss of amenity for neighbours, poorly controlled emissions and inappropriately located appliances. Where new plant requires planning consent the planning system could replace the notification system. However, this would leave plant that did not require planning consent, such as replacement plant, uncontrolled.

Chimney Heights Calculation

CIWEM has three comments regarding the Chimney Height calculations:

1. They are quick and easy to undertake using a spreadsheet; less than an hour if all the data is provided. We believe Defra should therefore provide a standard spreadsheet so that new local authority staff need not spend time developing their own.

ⁱⁱⁱ The threshold for plant burning waste is 3 WM (thermal input)

2. The technical guidance D1 should be reviewed to ensure that it is up to date and robust for use in complex urban environments, as medium size combustion plant is increasingly being used in cities. D1 is currently out of print and should be made more easily available rather than just through the British Library.
3. The Chimney Height Memorandum does not specifically include NO_x which is the main emission of concern in Local Air Quality Management. Instead it is designed to ensure adequate dispersal of SO₂ and other pollutants produced in normal combustion.

CAA Part III (Creation of Smoke Control Areas)

CIWEM supports the retention of Smoke Control Areas (SCAs) as they provide control over the burning of domestic coal and wood in urban areas. There is some evidence that wood burning, including waste wood extracted from skips, is increasing. Today this is often 'lifestyle' burning, additional to central heating. However, energy costs are predicted to increase significantly, and it is likely that domestic waste wood burning will increase with an associated increase in PM emissions.

We also support the idea of a centralised geographical information system for SCAs to reduce burdens on local authorities. Once established the burden on local authorities would decline as they will be able to refer people to a centralised resources website. We are aware of at least one local authority looking into publicising its SCA, increasing enforcement and considering declaring new SCAs to address wood burning. The CAA is a useful tool, especially if it can be made fit for purpose and focused on current pollutants and concerns.