

## Improving air quality

### Environment Food and Rural Affairs, Environmental Audit, Health and Transport Committees

#### Background to CIWEM

1. CIWEM is the leading independent Chartered professional body for water and environmental professionals, promoting excellence within the sector. The Institution provides independent comment on a wide range of issues related to water and environmental management, environmental resilience and sustainable development.

#### Summary

2. CIWEM welcomes the opportunity to respond to the four Committees' inquiry on improving air quality. This response has been formulated with the expertise of our members who work in air quality modelling and management and our Air Quality technical panel. Our response includes previously outlined comments from the Institution's response to the draft air quality plans in June 2017 and the Environment, Food and Rural Affairs Committee inquiry on air quality in 2015.
3. CIWEM considers the government's air quality plan (AQP), now on its third attempt, will not achieve compliance in the shortest time possible. The plan ignores its own technical evidence that identifies *charging* Clean Air Zones as the most effective way to reduce air pollution in towns and cities quickly and fails to propose much needed changes to the vehicle tax regimes or outline details for a targeted diesel scrappage scheme. We hope that there is more progress in these areas in the Autumn Budget.
4. Aside from road transport, we are concerned that the UK is unlikely to meet its target to reduce emissions of ammonia. As well as reducing total UK emissions, measures should be spatially targeted to minimise local releases that will maximise benefits to local ecosystems.
5. CIWEM is a partner in the [Healthy Air Campaign](#), calling for:
  - A comprehensive network of Clean Air Zones (CAZs) across the UK - these must keep the dirtiest vehicles out of the most polluted parts of our towns and cities and champion public transport, walking and cycling.
  - A series of measures to help people switch from the dirtiest vehicles to cleaner forms of transport including tackling the perverse fiscal incentives for diesel cars.
  - A new UK Clean Air Act to ensure and preserve our rights in law to breathe clean air.

#### Response to consultation questions

How effectively do Government policies take into account the health and environmental impacts of poor air quality?

6. CIWEM considers the government's proposed air quality plan is a missed opportunity and will not result in legal limits being met in the shortest time possible. The plans are limited to focussing on achieving compliance with the EU Directive limit values for a single pollutant rather than the wider protection of human and environmental health.

7. Air pollution should be controlled not only to achieve compliance with the Directive, but to aim to protect human health, by being considerably below them. This is particularly important for pollutants such as NO<sub>2</sub> and PM<sub>2.5</sub> for which there are no thresholds. PM<sub>2.5</sub> is the best studied form of air pollution and is linked to a wide range of diseases in several organ systems. The strongest causal associations are seen between PM<sub>2.5</sub> pollution and cardiovascular and pulmonary disease.<sup>i</sup>
8. Defra must recognise that the EU limit values for all pollutants are limits and not 'targets'. There is no minimum concentration below which exposure is considered safe, and every reduction in exposure will be beneficial in terms of health benefits.
9. The 2016 EFRA Committee report<sup>ii</sup> identified that emissions from agriculture have profound impacts on national and local air quality and that agriculture is the major sector in the UK producing ammonia emissions which have impacts upon biodiversity. Air pollution has impacts on the natural environment, however, it is vital to also recognise the role that the natural environment (natural capital) plays in ameliorating air quality impacts on human health.
10. A recent report<sup>iii</sup>, published after the EFRA Committee report, demonstrates the fundamental financial contribution that ecosystems play in removing air pollutants from the atmosphere. This lowers toxic exposure to the human population. This service is currently valued at £1 billion per year.
11. Sections 68, 69 and 70 of the EFRA Committee report, which note that "emissions from agriculture have decreased in recent years" require closer scrutiny. We believe that these statements are not supported or substantiated by official Government statistics published recently in the latest UK National Atmospheric Emissions Inventory (1990-2015)<sup>iv</sup>. It is true that total UK ammonia emissions have declined over the period 1990-2015 by about 10% (326 Kt-294 Kt). It is also true that agricultural ammonia emissions have also reduced over the same period; by c. 20% (294 Kt-237 Kt). However, looking at a trend over this 15-year period is misleading and does not reflect current trends over the last 5 years.
12. Data from the inventories shows that between 2010 and 2015 total UK ammonia emissions have increased by around 4%. The same increase is reported for agricultural ammonia emissions over the same period. This increase in agricultural ammonia emissions has been most pronounced in Wales (around 6% increase) and Northern Ireland (around 10% increase).
13. At a UK level the latest revision of the National Emissions Ceilings Directive (NECD)<sup>v</sup> sets out new emissions ceilings for ammonia that require a reduction of 8% and 16% by 2020 and 2030 respectively, from a 2005 baseline. Unless new measures are put in place quickly, to reduce emissions of agricultural ammonia the UK will fail to meet its 2020 NECD target. Indeed, with increases in total UK ammonia emissions since 2010 the 2015 release (294 Kt) is closer to the 2010 target. If recent increases continue it is likely that even the 2010 target (297 Kt) will be exceeded in 2020.

[Do these plans set out effective and proportionate measures to achieve necessary emissions reductions as quickly as possible?](#)

14. As the main cause of poor air quality in the UK is road transport, there needs to be far greater ambition to get people out of their cars. The move to encourage low emission vehicles, whilst welcome, does not tackle the issue of a growing population and the number of cars on our roads. Low emission vehicles still produce particulate pollution from tyre and road wear which is harmful to health. Increased levels of walking, cycling and public transport are widely accepted as a cost efficient way to achieve extensive multiple benefits to society, and yet the government has not meaningfully taken this on board in its policy decisions with investment being far less than in other leading countries.
15. In its latest AQP the government decided against mandating charging clean air zones (CAZs). These will only be used where local authorities have exhausted all other options. The accompanying technical report published alongside the AQP identifies charging CAZs as by far the most effective measure to reduce emissions. However it says they are effectively only to be considered as a last resort. Local authorities will have to instead prove that there are no other actions it can take that will be "at least as effective at reducing NO<sub>2</sub>" as a charging CAZ. It will also have to demonstrate that charging CAZs will

not have unintended consequences for local residents and businesses and demonstrate value for money in order to be "approved by Government, and thus be considered for appropriate funding support."

16. As neither the draft AQP, the technical report or the CAZ framework, identify any measures which will meet legal limits as quickly or quicker than a charging CAZ, or provide any evidence of the impacts of non-charging CAZs, it seems likely that seeking to identify equally effective alternative measures will be a waste of valuable local authority resources. Charging CAZs should be mandated in all towns and cities identified as requiring this measure by a robust analysis of air quality data. This should be based on a national framework and these local authorities should be given sufficient resources and support from central government to implement and operate them.
17. These targeted measures need to be supported by national policies, which would include the replacement of diesel fiscal incentives with incentives to encourage the take up of cleaner forms of transport, e.g. investment in public transport, rail freight and infrastructure for walking and cycling, as well as fiscal support for cleaner vehicles. Yet much needed changes to the vehicle tax regime and details for a targeted diesel scrappage scheme have been left to later consultation.
18. The 2016 EFRA Committee report highlighted the importance of reducing agricultural emissions. In the UK this sector emitted 81% of total UK ammonia emissions (2015) dominated by livestock<sup>vi</sup>. In a report to Defra<sup>vii</sup> a number of cost beneficial measures ('remedies') to reduce agricultural emissions were outlined in the RAPIDS project. The implementation of emission reductions also provides cost benefits to the sector by retaining and better utilising nitrogen as an essential nutrient.
19. The Committee stated that "the agricultural sector must step up its actions to reduce its contribution to national air pollution" (section 77). The report also asked for the publication of the details of the effectiveness of air pollution measures and to publish supporting data (section 78). We are not aware of the publication of this information. This information is vital to underpin the quantitative implementation programme required to reduce UK ammonia emissions to meet the 2020 NECD ammonia ceiling. As well as reducing total UK emissions, measures should be spatially targeted to minimise local releases that will maximise benefits to local ecosystems.

[Are other nations or cities taking more effective action that the UK can learn from?](#)

20. Many cities around the world have taken steps to ban vehicles from cities, for example Paris, Oslo, Mexico City and Copenhagen. Helsinki has plans to drastically reduce the number of cars on its streets by investing heavily in better public transport, imposing higher parking fees, encouraging bikes and walking and converting inner city ring roads into residential and walking areas. Cycling makes up 19% of trips in Denmark and 27% in the Netherlands where spending on cycling is around £24 per person annually. Outside of London in England just £1.38 per person is spent on both walking and cycling.
21. A number of countries have recognised the impacts of nitrogen/ ammonia impacts on the natural environment, air quality, human health and water quality. For example, in the Netherlands ammonia emissions have been reduced by 65% since 1990<sup>viii</sup>. This has been achieved by modifications and enhancement of agricultural technology<sup>ix</sup>. These major emission reductions have been achieved against a background of sustainable agricultural growth over the same period.

[Is there enough cross-government collaboration to set in place the right fiscal and policy incentives?](#)

22. No. Air quality has been largely left to Defra to tackle but it needs to work more effectively alongside other departments as there is a limit to what it can achieved on its own. Defra should work with the Treasury to consider fiscal drivers on diesel fuels, the Department for Transport's low emission vehicle programmes and BEIS's energy and heat efficiency initiatives. DCLG should also be involved to reduce emissions through the planning system and Building Regulations.

## How can those charged with delivering national plans at local level be best supported and challenged?

23. The UK government and devolved administrations should work with the relevant local authorities to determine the appropriate local arrangements. They should provide a clear and comprehensive national framework to ensure consistency in the approach throughout the UK.
24. The plan does provide some much needed funding (£255m) to help councils tackle emissions from diesel vehicles, but this is unlikely to stretch very far when at least 27 new clean air zones are arguably needed. Once again the onus has been put on local authorities, and this time with extra time pressure. Funding should be allocated strategically to support the AQP, minimising or removing the need for local authorities to spend time and resources in bidding for grants under a competitive bidding system, and should pay for the overhead costs, feasibility studies and monitoring equipment.
25. Charging Clean Air Zones should be complemented by supporting measures to help individuals and businesses make cleaner transport choices. People should not be penalised for driving existing diesel vehicles and should be helped to switch to cleaner forms of transport. A range of policies such as a targeted scrappage scheme and changes to Vehicle Excise Duty need to be introduced.

## References

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