

Response to Defra Consultation on Draft National Air Pollution Control Programme (NAPCP)

14 March 2019

About Energy UK

Energy UK is the trade association for the GB energy industry with a membership of over 100 suppliers, generators, and stakeholders with a business interest in the production and supply of electricity and gas for domestic and business consumers. Our membership covers over 90% of both UK power generation and the energy supply market for UK homes. We represent the diverse nature of the UK's energy industry – from established FTSE 100 companies right through to new, growing suppliers and generators, which now make up over half of our membership.

Our members turn renewable energy sources as well as nuclear, gas and coal into electricity for over 27 million homes and every business in Britain. Over 680,000 people in every corner of the country rely on the sector for their jobs, with many of our members providing long-term employment as well as quality apprenticeships and training for those starting their careers. The energy industry invests over £12.5bn annually, delivers around £84bn in economic activity through its supply chain and interaction with other sectors, and pays £6bn in tax to HM Treasury.

We welcome the opportunity to respond to this consultation and have used it to provide a short summary of sector context below to explain the background behind our responses to the consultation questions. We would also welcome the opportunity to continue to work collaboratively with Defra on a sector roadmap setting out the expected emission reductions over the next decade.

Sector Context

The UK electricity system is in a period of very large transition towards decarbonisation, with electricity generation from renewable and low carbon sources expected to continue to increase throughout the next decade. Thermal combustion plant have a complementary role to play alongside the growth of intermittent renewables by providing reliable and flexible generation when needed, with the vast majority of this generation being provided by gas-fired plant. Although projections of the future evolution of the electricity system vary greatly, it is clear in all scenarios that gas-fired combustion plant will continue to have an important role in ensuring security of supply until 2030 and beyond.

For our sector there are two distinct drivers which determine future NO_x emission reductions: structural changes in the UK electricity generation mix, and industrial emissions controls limiting stack emission concentrations. Structural change drivers are the dominant factor in determining future reductions in annual NO_x emissions. These are driven by the existing decarbonisation policies which are expected to continue to deliver ongoing substantial changes such as the growth of renewables, development of new nuclear and the Government's policy decision to phase-out coal-fired generation by 2025. Additionally, the framework for controlling industrial emissions (Industrial Emissions Directive (IED)/ Medium Combustion Plant Directive (MCPD)) and the associated embedded updating requirements also lead to progressive reductions in emission concentrations, but this has a much smaller influence on annual NO_x emissions than the structural change drivers.

Response to consultation questions

Question 1: Do you agree with the estimates of abatement associated with the policy measures in the NAPCP?

[Don't know]. It is hard to comment meaningfully on the estimates of emission reductions without seeing the underlying assumptions and basis from which they have been derived. This is particularly the case as the "Industry Package" presumably covers a range of sectors and also, within the electricity generation sector, a range of different plant with very different roles. Therefore, we have set out our key perspectives below with respect to appropriate assumptions for our sector.

Question 7: Within the package of measures on industry do you have any concerns about the estimates provided on any of the pollutants below?

Nitrogen Oxides

We note that the NAPCP identifies a gap of 95kt between policy measures already adopted and the 2030 NO_x target, and that the policy measures in the "Industry Package" are identified as having the potential to deliver between 42.7 and 51.7kt of reductions. Further details on the assumptions underlying these estimates of reduction potential are required to be able to properly assess the feasibility of this. We have set out below our perspectives on the assumptions that should be made for our sector.

Energy projections

Noting the sector context of significant structural change and the inherently large uncertainty in the amount of generation required from gas-fired plant, it is important that NO_x reduction assumptions for 2030 fully account for this uncertainty. As an example, the recent announcements in relation to new nuclear developments are a good illustration of this inherent uncertainty and the need to make appropriate assumptions for planning purposes. It is recommended that the upper envelope projected by National Grid is used to complement the BEIS projections, as the scenario approach adopted by National Grid is considered to be much better suited to addressing the deep uncertainty of future developments.

Potential for additional reductions in stack emission concentrations

As emissions standards have only recently been updated across the sector (and are still to be implemented) it should be assumed that no further abatement beyond IED/MCPD requirements is reasonable or achievable across the sector at least not in the foreseeable future.

For plant covered by the IED regime, many are working towards being compliant with the IED when the Transitional National Plan ends in mid-2020. Shortly after that, these plant will then need to further reduce emission concentrations to become compliant with updated Best Available Techniques (BAT) requirements, as the Large Combustion Plant BREF needs to be implemented by August 2021 at the latest. Compliance plans and associated investments will have been based on the Governments position (in England and Wales) of setting limits at the top of the BREF range. The sector is characterised by large investments with long payback times and therefore policy stability and clarity are of paramount importance - further abatement beyond the measures currently being implemented is not justified. This is further supported by the fact that there are no identifiable cost-effective measures which could be implemented. For CCGTs, Selective Catalytic Reduction (SCR) is technically difficult or impossible to retrofit at most plant and is not economically viable – i.e. plant would be forced to close rather than retrofit.

Similarly, for smaller plant covered by the MCPD and UK "Specified Generators" regime, these requirements have only recently been put in place and have been developed taking into account costs, benefits and technical feasibility constraints.

As noted in the Sector Context, the profound structural change measures being progressively implemented throughout the next decade are the predominate source of reductions in annual mass emissions and will deliver far greater reductions than from reductions in stack emissions concentrations.

Finally, we would be happy to undertake further assessments of the emission reduction estimates if further information can be made available on the underlying assumptions.

Question 8: After the publication of this initial NAPCP, UK government and devolved administrations will continue to develop our policy measures and approach. This will be reflected in future iterations of the NAPCP which will be published in due course. Please inform us of any further measures you think the UK Government and Devolved Administrations should take into account to help to achieve the UK ERCs most effectively. Proposals should be evidence based, indicating likely costs and benefits.

For the electricity generation sector there are linkages to other policy areas. We agree that Defra should take account of, and support, other Departments' and Devolved Administrations' policy measures and approaches where these help to achieve the UK Emissions Reduction Commitments. Decarbonised electricity has the potential to enable low emission options in other sectors. The electrification of industrial processes, heat and transportation can reduce the annual mass emissions of air quality pollutants from these sectors and, in addition, their contributions to short-term episodes of poor air quality in the UK's major cities. However, electrification could also lead to an increase in demand/generation from centralised power stations and the additional impact on annual NO_x emissions from these plant arising from electrification would also need to be accounted for in future plans. We would be happy to engage with Defra to demonstrate the benefits that electrification in other sectors could deliver for the UK as a whole.

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