



Biofuelwatch

November 2018

Written Representation opposing the application for consent to the 'Drax Re-power Project'

Outline summary

- Drax Repower proposal is not sustainable development due to lock-in of huge additional and cumulative GHG emissions
- Drax seeks to minimise these gas emissions by comparing with false counterfactuals of continued coal burning.
- Drax Repower proposal should be judged (according to EN1) against current government projections of need. It is surplus to projected need.
- Drax Repower proposal can only be sustainable development if it incorporates effective CCS. However although it is 'CCS ready', there is no evidence that the proposed development will in fact benefit from this technology. CCS is extremely unlikely to be affordable or technically feasible.

Planning Scope

1. The National Planning Policy Framework states, '7. *The purpose of the planning system is to contribute to the achievement of **sustainable development**. At a very high level, the objective of sustainable development can be summarised as meeting the needs of the present without compromising the ability of future generations to meet their own needs.*'
2. The Proposal does not satisfy the conditions of Sustainable Development. Due to the very high additional and cumulative emissions from this development it will '*compromising the ability of future generations to meet their own needs.*' See the IPCC's recent 1.5 degree report¹ which shows the need for global CO2 emissions to halve by 2030 and reach net zero by mid-century. As the proposed generation capacity is surplus to the government's predicted need it is not necessary to '*meeting the needs of the present*'.
3. NPPF 148 states: '*The planning system should support the transition to a low carbon future in a changing climate.. contribute to **radical reductions** in greenhouse gas emissions...and support renewable and low carbon energy,*' The Proposal fails the first two conditions and make very spurious claims to the last one (see below)

¹ http://report.ipcc.ch/sr15/pdf/sr15_spm_final.pdf



4. The Applicant contended that climate change and the need for the development 'could not' be principal issues and 'were not the within the remit of this examination', citing Planning Act 2008 s 104 and National Policy Statement EN1 1.7.1, 3.1.1-3.1.3 and 5.2.2.
5. According to Planning Act s 104 the Panel must judge according to NPSs **except when to do so 104 (4) 'would lead to the United Kingdom being in breach of any of its international obligations.'** And under s 104(7) if the Panel **'is satisfied that the adverse impact of the proposed development would outweigh its benefits.'** We argue below that increased climate emissions amount to an 'adverse impact' clearly outweighing the proposed development's benefits and would lead to the UK failing to meet its obligations under the Paris Agreement.
6. In relation to the **'need for the development'** EN1 3.1.4, 3.2.3 and 3.3.18 states that the Secretary of State must *'give substantial weight to considerations of need'* (3.2.3). EN1 3.2.3 states: *The weight which is attributed to considerations of need in any given case should be proportionate to the anticipated extent of a project's actual contribution to satisfying the need for a particular type of infrastructure.'* The footnote states: *'Models are regularly updated and the outputs will inevitably fluctuate as new information becomes available.'*
7. And EN1 3.3.18 states *'in order to get a sense of the possible scale of future demand to 2025, one possible starting point is provided by the most recent Updated Energy and Emissions Projections (UEP) which DECC published in June 2010. It is worth noting that models are regularly updated and the outputs will inevitably fluctuate as new information becomes available.'* It specifically refers to the next year's EUP implying that the 'need' should be as defined by latest government projections and modelling, not just in the NPS.
8. We would point out that EN1 3.1.1 *The UK needs all the types of energy infrastructure* does not mean we need *more* of all types of energy.

Climate Change impacts of the development

9. The Applicant's own ES admits that its gas plans will *"represent a significant net increase in greenhouse gas emissions and have therefore negative climate impacts."*
10. This will result in gas emissions of 287,568,000 tCO₂e and an emissions factor of 380g p kWh contrasting with a current grid intensity figure of 292g p kWh² which BEIS estimates³ will have fallen below 50 gCO₂/kWh by 2038. As such the

² <http://electricityinfo.org/real-time-british-electricity-supply/>

³

https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/671187/Updated_energy_and_emissions_projections_2017.pdf



development represents a bad investment of government subsidies locking us in to high-carbon electricity.

11. EN1 2.2.22 states *'To meet emissions targets, the electricity being consumed will need to be almost exclusively from low carbon sources.'* Drax Repower is not low-carbon electricity.
12. EN1 3.3.16 warns: *'A failure to decarbonise and diversify our energy sources now could result in the UK becoming locked into a system of high carbon generation, which would make it very difficult and expensive to meet our 2050 carbon reduction target. We cannot afford for this to happen.'* Permitting this development will cause exactly this 'lock-in'.

Misrepresenting carbon emissions from the development

13. In Drax's 'response to Relevant Representations (doc 8.5.1) they state: *'Gas is more efficient and results in lower CO2 emissions per MW of electricity generated than other fossil fuels, such as coal and oil and, as such, the Proposed Scheme would result in much lower carbon dioxide emissions per unit of electricity than the existing coal-fired units.'* This they argue would *'provide a significant positive effect on climate compared with the baseline/do nothing scenario.'*
14. In the Applicant's ES they predicted gas emissions from units X and Y will be 16% lower compared to predicted coal emissions from units 5 and 6 burning coal 'abated' down to 450g CO2e p kWh. Point 11 in the Inquiry's 'principal issues' also used this comparison when looking at scenarios where only one gas unit was build, the other continuing to burn coal.
15. These are false comparisons for several reasons:
 - a. The emissions are higher than the current, and constantly reducing, grid average so would increase average emissions. Drax states grid average as 407 g p kWh when in fact UK average grid intensity was 292 g p kWh in 2017.
 - b. The counterfactual is incorrect showing only a small increase in emissions from the gas repowering. It is in fact very unlikely that Drax would be able to continue to run its coal units 5 and 6 after 2025 whether abated or not. (for the reasons at c, d and e below.) So the total **287,568,000 tCO2e should be seen as a very great increase in emissions against a counterfactual of zero emissions** from those units being closed.



- c. It is highly unlikely that Drax will be able to afford to abate its coal emissions from 881g p kWh⁴ down to 450g p kWh either by burning biomass or by using Carbon Capture and Storage.
 - d. Co-firing biomass to achieve the Emissions Performance Standard 450g ceiling would necessitate burning about 50% biomass⁵. Biomass is currently \$185 p tonne⁶ against coal at a \$78 p tonne⁷. No renewable energy subsidies are available for this. In its Response to RRs document 8.5.1 para 5.5 and passim they say 'has reduced its CO2 emissions through conversion of coal units to biomass.' In addition it should be noted that biomass, though falsely designated 'zero-carbon' is in fact a high-carbon fuel emitting at least as much CO2 as coal⁸. Drax burned 6.7m tonnes of wood pellets in 2017 which emitted 11,766,000 tonnes of CO2, for which it received £729 m whilst making a loss. So no actual carbon intensity reduction over coal would be achieved by burning the biomass. Government has recently tightened efficiency and carbon intensity rules for biomass⁹ which effectively ends new subsidies for imported wood pellets upon which Drax is dependent.
 - e. CCS is not likely to be achievable, technically or economically. It also demands significant extra energy to run the CCS which adds to fuel costs. See the Biofuelwatch report¹⁰ on Bioenergy with CCS which includes a review of existing CCS and prospects for scaling.
16. To be economically viable, the development would require government investment in the form of subsidies. The development - if built and operated - would lock-in high-carbon generation until 2047. This would ensure we miss the carbon reduction trajectory required to meet 1.5 or even 2 degree targets. The recent '1.5 degree report' from the IPCC made it clear that we have a dozen years to have drastically reduced emissions.

⁴ <https://www.drax.com/wp-content/uploads/2018/03/Drax-Group-plc-2017-annual-report.pdf> 6.17m t CO2 from 7TWh of coal generation = 881,428.6 t CO2/TWh = 881g p kWh

⁵ <https://www.biofuelwatch.org.uk/2018/uk-coal-phaseout-briefing/>

⁶ <https://www.eia.gov/biofuels/biomass/> Highlights for July 2018 accessed 07/11/2018

⁷ <https://markets.businessinsider.com/commodities/coal-price> accessed 07/11/2018

⁸ Scientific reports <https://www.biofuelwatch.org.uk/biomass-resources/resources-on-biomass/>

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https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/736640/Consultation_document.pdf

¹⁰ <https://www.biofuelwatch.org.uk/2016/beccs-report-hbf/>



Need for the development

17. The latest Updated Energy and Emissions Projections¹¹ predict a need for only 6GW of gas capacity in its central Reference Scenario (in conditions of High Fossil Fuel prices 10GW is the predicted need). There is already 15 GW of gas capacity with planning permission. This development, adding 3.6 GW to that (over 18GW in total therefore), is surplus to need.
18. In my oral representation at the OFH on 4 October I referred to 2 independent reports that showed that there was no need for a 'dash for gas' to enable the coal phase-out as had originally been predicted. These are the **Coal to Clean** report by WWF and Sandbag¹² and the VIVID Economics report **Money to Burn**¹³. Coal to Clean shows that we do not need to increase our portfolio of gas power stations. Money to Burn shows that we don't need extra large-scale gas or biomass to balance the grid or supply future demand.

'Delivering secure energy'

19. EN1 2.2.25 states that "*The UK faces two main security of supply challenges during our transition to a low carbon economy: • increasing reliance on imports of oil and gas as North Sea reserves decline in a world where energy demand is rising and oil and gas production and supply is increasingly politicised;*"
20. Increasing demand for gas, increasingly imported from Russia via the Ukraine - especially at a time of year when the UK's currently gas based heating system puts a strain on existing gas supply margins - does not deliver on the government's policy aim of 'delivering secure energy' (EN1 2.2.3). Any increase in demand for gas will increase justification and demand for fracked gas. There is good evidence that leakage of methane (84-47 times worse than CO₂ over 20 years¹⁴) from extraction of fractured (and conventional) gas removes any benefit from burning it instead of other fossil fuels¹⁵.

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<https://www.gov.uk/government/collections/energy-and-emissions-projections#updated-energy-and-emissions-projections>

¹²<https://sandbag.org.uk/wp-content/uploads/2018/05/Coal-To-Clean-May-2018.pdf>

¹³<https://www.nrdc.org/sites/default/files/money-to-burn-ii-uk-biomass-ib.pdf>

¹⁴<https://www.epa.gov/ghgemissions/understanding-global-warming-potentials>

¹⁵ A bridge to nowhere: methane emissions and the greenhouse gas footprint of natural gas

http://www.eeb.cornell.edu/howarth/publications/Howarth_2014_ESE_methane_emissions.pdf and

https://www.eeb.cornell.edu/howarth/publications/f_EECT-61539-perspectives-on-air-emissions-of-methane-and-climatic-warmin_100815_27470.pdf