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UK Coal Phaseout to be introduced with dangerous loopholes and delays

The Government announced in 2015 that it seeks to end coal burning for electricity within a decade, albeit only if “a shift to new gas can be achieved within these timescales”. It has now published its plan on how to achieve this: from October 2025, coal power stations will have to close unless their CO₂ emissions are no higher than 450 kg/MWh at any time. By comparison, CO₂ emissions from power stations that only burn coal are above 900 kg/ MWh.

A coal phaseout is well overdue in the UK, and it is regrettable that the Government seeks to continue subsidising coal power until 2025, when, without subsidies, it might come to an end much sooner.

However, there are two serious concerns about the Government's decision even beyond 2025: firstly, power stations can continue to burn coal indefinitely, as long as they co-fire at least 54% biomass in each unit. This is based on flawed carbon accounting for biomass, using a methodology which ignores carbon emissions from burning biomass as most of those associated with logging and which has been denounced by hundreds of scientists worldwide. Whether companies can afford to co-fire that much biomass with coal remains to be seen. The second serious problem, however, is that the Secretary of State will be given powers to suspend the coal phaseout until such time as significant new gas power capacity has been built. It seems little coincidence that four of the companies operating coal power stations (Drax, RWE, Eggborough Power and SSE) have recently drawn up plans for major new gas power plants/units, ones which they are unlikely to afford without new or much higher subsidies for gas. They will now be in a position to tell the Government that without such subsidies, the coal phaseout cannot go ahead.

The UK needs to urgently stop burning coal, and this needs to be part of a move away from fossil fuels and other high-carbon forms of energy, especially biomass electricity. Making a coal phaseout contingent on an expansion of gas burning will play into the hands of frackers and move us further away from avoiding the worst impacts of climate change.

Finally, a coal phaseout must mean an end to coal mining, yet new destructive coal mines are proposed in the UK and the Government has so far failed to legislate against them.

Introduction

In November 2015, Amber Rudd, then Secretary of State for Energy and Climate Change, announced that the Government intends to become *"one of the first developed countries to deliver on a commitment to take coal off the system"* within one decade¹. Her promise came with one caveat: *"We'll only proceed if we're confident that the shift to new gas can be achieved within these timescales"*.

Now, the Government has finally announced its plans for ending coal burning for electricity in the UK². Rather than drawing up legislation which would outlaw coal power stations, it has decided

to set a maximum CO₂ emissions limit for existing coal power plants – at less than half the CO₂ emissions from coal power stations³, but significantly higher than the current average CO₂ emissions per unit of electricity generation in the UK⁴. This new limit will be introduced from 1st October 2025. Until then, coal power plants can continue to draw subsidies⁵. Those subsidies are in fact delaying a much more rapid coal phaseout which has been under way since 2012.

Worryingly, the Government's decision leaves coal-burning companies with two get-out clauses even beyond 2025:

Firstly, they will be able to keep their power stations open and to keep burning coal provided that the co-fire it with more than 50% biomass.

And secondly, the Secretary of State will be given powers to delay or suspend the emissions cap altogether if "too few" new gas power stations are built. In theory, this power could also be used in the event of any grid supply shortfall, for example caused by a shutdown of nuclear power stations for maintenance or repairs, or because of future shortfalls in electricity imports.



Occupation of Ffos-y-Fran opencast coalmine, 2016. Photo by Reclaim the Power

Unnecessary delays

Coal burning for UK electricity has been in steep decline in recent years: between 2012 and 2016, it fell by 72%. This fall was made possible largely by a tripling of wind and solar power and a reduction in electricity use⁶. In 2017, it declined further⁷.

However, between 2017 and 2021, seven coal power stations have been awarded a total of £453 million in subsidies⁸, paid through a surcharge on electricity bills. Coal power station operators can continue to bid for such subsidies until



Drax Power Station. Photo by Andrew Whale

2025. Those subsidies are artificially keeping coal power

stations open which may otherwise close earlier.

The biomass loophole

A power station burning biomass emits no less CO₂ than one burning coal for every unit of electricity it generates. The Government has decided to ignore those CO₂ emissions on the assumption that trees which are cut down and burned for energy will in future be replaced by new trees. It allows energy companies to essentially account only for the fossil fuel emissions associated with their biomass, e.g. fuel used for shipping⁹. The assumption behind the Government's carbon accounting rules for biomass have been condemned by 800 scientists, who explain: *"Cutting down trees for bioenergy releases carbon that would otherwise stay locked up in forests... Even if forests are allowed to regrow, using wood deliberately harvested for burning will increase carbon in the atmosphere and warming for decades to centuries – as many studies have shown – even when wood replaces coal, oil or natural gas."*

The Government states that the average CO₂ emissions reported by biomass-burning plants in

the UK since 2011 is just 40 g/kWh¹⁰, although Drax, the world's biggest wood burners for electricity, cites a figure three times as high¹¹. ***If the Government's figure is accurate, then plants could stay open and burn 46% coal and 54% biomass indefinitely. They will even be able to attract subsidies in the form of Capacity Market Payments if those offer a better deal than their renewable electricity subsidies for co-firing biomass.***

Just a few days after the coal phaseout decision was published, the Government announced that coal power stations can in future get around £6m in additional

renewable electricity subsidies for co-firing biomass¹². Drax promptly announced that it would convert a fourth of its units to burning wood pellets, albeit at reduced capacity¹³. However, there will be no legal or technical reasons to stop Drax from using the subsidies to co-fire biomass with coal, even beyond 2025, something that would make economic sense given that coal prices are lower than those for wood pellets. Companies will be able to switch between renewable electricity subsidies and Capacity Markets, depending on which are more generous at the time¹⁴.



Forest campaigners in Wilmington, North Carolina. Photo by Dogwood Alliance

Linking the coal phaseout to new gas power stations being built

True to Amber Rudd's words in 2015, the Government's coal phaseout decision confirms that the Secretary of State will have "the power to suspend or amend the arrangements in case there were significant and imminent concerns about security of supply." It claims that those powers are unlikely to be invoked because it is confident that existing coal power station capacity will be replaced by 2025. However, a closer look at the Impact Assessment published together with the consultation

response¹⁵ does not inspire such confidence. This states:

The impacts on coal plant retirements and requirements for new builds under the preferred policy option are given in 3 which shows that around 5.5GW of new build capacity will be needed in 2026.

The statement specifically refers to new fossil fuel power stations, i.e. the "minimum need" has been calculated

taking account of expected new wind power projects (with solar and most onshore wind power now frozen due to subsidy cuts).

This means that unless new fossil fuel power stations are built – ones which would be emitting large quantities of CO₂ for decades to come – the Government can allow coal power stations to keep burning coal and get subsidies for it well beyond 2025.

More subsidies for gas or no end to coal?

The 5.5 GW of new gas power stations which the Government expects to be up and running by 2025 is less ambitious than the 26 GW which George Osborne envisioned back in 2012¹⁶. But it could hardly be reconciled with the aims of the Paris Climate Agreement to keep global warming to within 1.5°C.

In recent years, energy companies have been rushing

to get planning consent for new gas power stations. According to research by Friends of the Earth, 22 GW of new gas capacity was either approved, in planning or in the advanced “pre-planning” stages by May 2015¹⁷. Since then, large new proposals have been published, the largest of them by four of the operators of the remaining coal power stations: Drax: 3.6 GW, RWE: 2.6 GW, Eggborough Power Ltd (owned

by the Czech company EPH): 2.5 GW, and SSE: 2 GW¹⁸.

Yet so far, the dash for gas power station consents has not been accompanied by a dash to invest in such plants. According to the Financial Times, just one new gas power station, with a capacity of 0.88 GW, was built between 2013 and 2017¹⁹, and no major investment or construction decision has been announced since then, with companies complaining that they cannot afford to build such plants.

Clearly, the Government’s half-hearted coal phaseout puts Drax, RWE, Eggborough Power and SSE in a far stronger position to push for higher subsidies for gas, most likely through higher Capacity Market Payments. They will be able to insist that the coal phaseout cannot go ahead without generous fossil fuel subsidies. By bidding for big new gas capacity while keeping coal power units running or at least operational, they seek to ensure that they will be the winners however the Government’s gamble plays off.



Demonstration outside Drax Plc’s Annual General Meeting, 2017

What’s missing?

The Government has announced a phaseout of coal burning for electricity (albeit with worrying loopholes). But a coal phaseout must also mean an end to coal mining – yet the Government has not announced legislation to close down the UK’s opencast coal mines and to stop new coal mines from being opened up. Right now, new coal mines are proposed for example in Dipton, County Durham, and in Whitehaven, Cumbria. Furthermore, the

Government is doing nothing to ensure that companies that

are closing coal mines have to pay for full land reclamation.

Blockade of Ffos-y-Fran opencast coalmine, 2017. Photo by Earth First!



References

1. gov.uk/government/speeches/amber-rudds-speech-on-a-new-direction-for-uk-energy-policy
2. Implementing the end of unabated coal by 2025 – Government response to unabated coal closure consultation, Department for Business, Energy and Industrial Strategy 5th January 2018, gov.uk/government/uploads/system/uploads/attachment_data/file/672137/Government_Response_to_unabated_coal_consultation_and_statement_of_policy.pdf
3. The maximum CO₂ level has been set at 450 g/kWh of electricity. Generating electricity from coal emits around 937 g/kWh (electricinsights.co.uk/Drax_Electric_Insights_Report_2017_Q1.pdf) . Note that this limit would have to be met at any one time – it could not be met by a power station burning more than 46% coal but operating only part of the time. Furthermore, the limit must be met by any one power station unit burning coal. Drax could thus not continue with business as usual and run two or three units on coal while operating the remainder on biomass.
4. The average carbon intensity of the National Grid was 237gCO₂/kWh in 2017: <https://www.carbonbrief.org/uk-low-carbon-generated-more-than-fossil-fuels-in-2017>, although it the methodology for biomass electricity is widely disputed by scientists and, furthermore life-cycle emissions of fossil fuels, including the often significant methane emissions from natural gas are ignored.
5. Several coal power station units have been awarded subsidies under the Capacity Market Auctions, which will remain open to coal until October 2025.
6. biofuelwatch.org.uk/wp-content/uploads/coal-phaseout3.pdf
7. See figures contained in the “coal phaseout” consultation response.
8. About Capacity Market Payments going to coal power generation see sandbag.org.uk/wp-content/uploads/2017/06/Capacity-payments-550g-final-4.pdf
9. Under current rules, no greenhouse gas emissions associated with bioenergy are accounted for in the UK, although companies have to meet a greenhouse gas standard in order to receive subsidies for biomass burning. According to the “coal phaseout” consultation response, generators that co-fire biomass will have to account for “life-cycle emissions” associated with their biomass. The methodology used to calculate those ignores the actual CO₂ emissions from burning biomass as well as virtually all emissions associated with logging. See biofuelwatch.org.uk/wp-content/uploads/Biomass-Sustainability-standards-briefing1.pdf .
10. Contracts for Difference for Renewable Electricity Generation – Consultation on proposed amendments to the scheme, Department for Business, Energy and Industrial Strategy, December 2017, gov.uk/government/uploads/system/uploads/attachment_data/file/668382/Contracts_for_Difference_for_Renewable_Energy_Consultation_on_proposed_Amendments.pdf paragraph 83.
11. Drax states that the average CO₂ emissions figure is 121 g/kWh, which will be based on the Government’s disputed methodology: electricinsights.co.uk/Drax_Electric_Insights_Report_2017_Q1.pdf
12. Government response to consultation on controlling the costs of biomass conversion and co-firing under the Renewables Obligation, Department for Business, Energy and Industrial Strategy, January 2018, gov.uk/government/uploads/system/uploads/attachment_data/file/674228/Government_Response_-_Consultation_on_costs_of_biomass_conversion.pdf . Coal power station units which are not currently receiving renewable electricity subsidies can in future be paid up to 125,000 additional Renewable Obligation Certificates (ROCs). Based on the most recently published price of one ROC (epowerauctions.co.uk/eroclatest.htm, November 2017), this would translate into £6,176,250 per year.
13. drax.com/investors/fourth-biomass-unit-conversion/
14. The only exception is one of Drax’s coal power station units, which receives a Contract for Difference, a new renewable electricity subsidy phased in from 2014. However, all co-firing with biomass in power stations as well

as the conversion of two other Drax units are financed through Renewable Obligation Certificates. See Appendix 4 of ofgem.gov.uk/system/files/docs/2017/03/ro_guidance_for_generators-130317.pdf and Article 16 of the Electricity Capacity Regulations 2014

15.

gov.uk/government/uploads/system/uploads/attachment_data/file/671959/FINAL_updated_unabated_coal_Impact_Assessment_Jan_2018.pdf

16. gov.uk/government/uploads/system/uploads/attachment_data/file/65654/7165-gas-generation-strategy.pdf

17. The return of the dash for gas?, Friends of the Earth, May 2015, friendsoftheearth.uk/sites/default/files/downloads/return-dash-gas-77109.pdf

18. infrastructure.planninginspectorate.gov.uk/projects/register-of-applications/ and ft.com/content/7591f079-d07b-36b0-a961-700246dee65d

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