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COAL CLOSURE CONSULTATION

The Government has finally issued the long-awaited consultation on how it plans to phase out unabated coal-fired power generation in Great Britain by 2025, in a way that gives certainty to investors and ensures security of supply.

Isn't this a bit late? Aren't coal plants closing anyway?

It's true that the number of operational coal-fired power stations in the UK has dropped from 17 in 2012 to just eight, with none left in Scotland. Coal represents around 15% of Great Britain's total generating capacity but comprised 22% of total electricity generation last year and even less this year, with some days where there was no coal generation at all for the first time in 125 years.

There are a number of reasons for this. The eight remaining coal-fired power stations are on average 47 years old and almost all are beyond their intended design life. They need significant investment before 2020 to meet more stringent air pollution standards under the Industrial Emissions Directive (IED) – more on that below. Also, in the electricity "pecking order" when power stations are called on to ramp up generation to meet demand, renewables rank ahead of fossil fuels; and gas-fired power stations can respond more quickly, leaving coal being called on as a last resort, hence why in the summer months when demand is lower and supply from renewables such as solar is higher, many coal stations shut down.

So why does the Government need to intervene?

The then Energy Secretary Amber Rudd promised in her "energy policy reset" speech, (not entirely) coincidentally just before last year's climate change summit, that Great Britain would phase out coal-fired power stations by 2025. We expected a consultation in spring this year but it finally came out – a year after the original announcement - on 9 November, the day that Donald Trump was elected (again, probably not a coincidence).

The document, Coal Generation in Great Britain: the pathway to a low-carbon future, explores how the Department for Business, Energy and Industrial Strategy (BEIS) could regulate the closure of unabated coal to provide greater market certainty for investors. BEIS are trying to have an orderly transition away from unabated coal generation to lower carbon generation, particularly gas-fired power stations, so that investors are not surprised by sudden closures and have the time to invest in alternatives. In 2016 alone Longannet, Ferrybridge C and Rugeley closed and Fiddler's Ferry and Eggborough were going to, but have put this on hold for now.

Interestingly, BEIS admit that even without these proposed interventions, if the current trends continue (the "central" scenario) then all the remaining coal plants will have closed by 2022 (three years earlier than the 2025 deadline) due to economic factors.

BEIS have also looked at a "high coal" scenario where assumptions are flexed to create more favourable economics for coal plant, but they point out that the assumptions underpinning this do not reflect established Government policy or expectation and are designed only to demonstrate the risks that investors may perceive. Under this scenario the last coal fired power unit would close in 2030, five years after the deadline, so this "potential uncertainty" is what BEIS are using to justify intervention.

What about security of supply: will the lights go out if coal power stations shut?

BEIS seem very bullish in this consultation that the capacity market, particularly given the recent reforms, will bring forward the investment needed to compensate for the closure of unabated coal. Let's hope that they have got their modelling right. They are very clear that "We will only proceed with the proposals in this consultation if we are confident that sufficient capacity will be available to compensate for the coal capacity that will close, such as new gas capacity."

What options are BEIS proposing?

BEIS are consulting on two options. Both involve a backstop after which existing coal stations will not be able to operate unless they significantly reduce their emissions to levels that are consistent with decarbonisation commitments.

Option 1 is to require existing coal power stations to comply with the regime that is in place for new plant. This would mean that, from 2025, the eight existing coal-fired power stations would have to:

- meet an annual Emissions Performance Standard (EPS) of 450g of CO2 per kWh – around half the level of emissions of unabated coal generation;

- demonstrate Carbon Capture and Storage (CCS) abatement technology on at least 300MW of the station's capacity; and

- undertake any necessary modification or action to ensure that the remainder of the plant could be retrofitted with CCS in the future.

Given the Government's withdrawal of support for CCS research, Option 1 is not likely to be popular in our opinion.

Option 2 is to modify the existing EPS regime to apply a concentration-based limit (suggested as the current statutory rate of 450g/kWh) on emissions per unit of generated electricity at any point in time, rather than an annual emissions limit. This would not specifically mandate the retro-fitting of CCS technology if generating units could find other ways of reducing their carbon intensity.

It would mean that co-firing with solid and gaseous biomass at relatively high levels could be used as a way of meeting these emissions limits, and the Government is interested in generators' views of how likely they would be to move to higher levels of co-firing.

However, higher levels of co-firing would push a station up the Renewables Obligation (RO) support bands and mean more RO payments for generators but increased pressure on the Levy Control Framework, so it is not without its problems. Neither option therefore seems ideal.

The consultation also briefly asks whether there should be some sort of constraint on coal power stations in the run up to 2025 but seems undecided as to whether it would make any difference to the rate of closure, and recognises that it might impact on coal generation's ability to participate in the capacity market, with a consequent risk to security of supply.

What are the existing regulations on coal power stations?

There are a number of policies already in place that are designed to reduce Great Britain's reliance on carbon-intensive electricity generation. The two policies that are affecting unabated coal the most are the Carbon Price Support (which is a levy of £18 per tonne of CO2 until 2020/21, making coal less profitable than gas as it emits roughly twice as much CO2 per MW than gas does) and the Industrial Emissions Directive (IED).

The IED sets new emissions limits for key air pollutants and came into effect for coal in January 2016. The majority of GB coal stations took advantage of the Transitional National Plan (TNP) which gives them until 2020 to comply fully (but with decreasing emissions limits each year), or continue operating with higher emissions limits but limited to 1,500 hours a year (a 17% annual load factor). The other option, taken up by Eggborough, is the Limited Life Derogation which limits it to 17,500 hours of operation between 1 January 2016 and 31 December 2023, after which it must close.

This table shows the capacity of each of the eight remaining unabated coal power stations and whether they have a capacity agreement, plus their IED status.

Station, company and location	Installed capacity (MW)	Commissioned	IED Status	2016/17 SBR	2018/19 Capacity Market	2019/20 Capacity Market
Aberthaw B (RWE Npower Plc), Wales	1,586	1971	TNP	No	Yes	Yes
Cottam (EDF Energy), East Midlands	2,008	1969	TNP	No	Yes	No
Drax 1,4,5,6 (Drax Power	1,980	1974-1986	TNP	No	Yes – 2 units	Yes – 2 units

Station, company and location	Installed capacity (MW)	Commissioned	IED Status	2016/17 SBR	2018/19 Capacity Market	2019/20 Capacity Market
Ltd), Yorkshire						
Eggborough (Eggborough Power Ltd), Yorkshire	1,960	1967	Limited Life Derogation	Yes – 2 units	No	No
Fiddler's Ferry (SSE), North West	1,971	1971	TNP	Yes – 1 unit	Yes – 3 out of 4 units	No
Ratcliffe-on-Soar (Uniper), East Midlands	2,000	1968	Meets requirements	No	Yes	Yes
Uskmouth (Simec), Wales	363	1959	TNP	No	No	No
West Burton (EDF Energy), East Midlands	2,012	1967	TNP	No	Yes – 3 out of 4 units	No
Total installed capacity	13.9GW					

Could new coal-fired power stations still be built?

In theory, yes, if they can meet the emissions requirements for new coal power stations (see Option 1 above) but in practice, this will only be economic if the price of coal comes down. Given Donald Trump's victory and his intention to produce more coal in the US, this is looking increasingly unlikely.

When are these proposals likely to take effect?

The consultation is open until 1 February 2017 and the Government intends to bring forward any required legislative changes as soon as the legislative timetable allows, which is unlikely to be before May 2017.

The consultation is vague about when the measures could take effect in 2025 and proposes three different dates:

31 March – to align with the Transmission Entry Capacity year

30 September – to align with the Capacity Market year

31 December – to give plant operators the greatest level of flexibility.

What now?

The consultation asks some quite open questions and it seems that although it was on version 6 by the time it was released, there are still some issues that BEIS need input from the industry on. Coal plant operators, and in particular investors in gas and other low carbon plant that will replace coal, should use this opportunity to shape Government thinking and ensure that the policies that are put in place will be the ones that investors can benefit most from.

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