



Department for  
Business, Energy  
& Industrial Strategy

# EARLY PHASE OUT OF UNABATED COAL GENERATION IN GREAT BRITAIN

Response to consultation

June 2021



**OGL**

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# Executive Summary

The government ran a consultation from 14 December 2020 to 26 February 2021 seeking views on bringing forward the deadline for phasing out unabated coal-fired generation in Great Britain to 1 October 2024 (the “Early Coal Closure consultation”).

In total, 16 responses were received from a wide range of stakeholders, including businesses, trade associations, non-governmental organisations and members of the public. A clear majority of respondents supported the principle of bringing forward the phase-out of unabated coal generation.

Following the Early Coal Closure consultation, we can now confirm that:

- The commitment to phase-out unabated coal generation in Great Britain will be brought forward to 1 October 2024.
- The emissions intensity limit will be implemented at a level of 450gCO<sub>2</sub>/kWh on unit-by-unit basis.<sup>1</sup>
- The 300MWth minimum threshold will not be introduced.
- Any coal plant complying with the emissions intensity limit by burning biomass will need to calculate carbon dioxide (CO<sub>2</sub>) emissions on a net basis, in that emissions from other fuels co-fired with solid fossil fuel are to be included in the calculations for emission intensity. The emissions related to the biomass component should be calculated taking into account the whole life cycle of the fuel.
- Emergency powers allowing the Secretary of State to suspend or modify the coal phase-out arrangements will not be introduced.
- The government will designate an ‘Enforcement Authority’ with the power to verify compliance on an ad hoc basis. The government will allow the designated Enforcement Authority to determine an appropriate reporting frequency.

A number of developments since the publication of the Early Coal Closure consultation have fed into the government’s decisions and strengthened the rationale for bringing forward the phase-out date to 2024. These include:

- In line with the advice of the Climate Change Committee (CCC), the government announced that it will enshrine the Sixth Carbon Budget in law, requiring a reduction in UK greenhouse gas emissions of 78% by 2035 relative to 1990.

The CCC’s recommendations highlighted the importance of influencing international partners through formal and informal diplomatic channels, both bilaterally and through multilateral forums, to accelerate decarbonisation and increase climate ambition. This ‘coal phase-out diplomacy’ will be key to the UK’s efforts to lead the global drive to

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<sup>1</sup> We intend to apply the emissions intensity limit as a concentration-based limit on the amount of CO<sub>2</sub> than can be emitted per kWh of electricity produced. More detail on this can be found in section 3 of this document.

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reduce emissions: “Rapidly ending power generation from coal is the single biggest contributor to aligning global trajectories with those expected to deliver on the Paris Agreement, requiring retirements in Asian countries with young coal fleets. The UK can help others learn from its own experience phasing out coal.”<sup>2</sup>

- In March 2021, the four-year-ahead (T-4) Capacity Market auction secured the capacity needed to cope with peaks in demand in 2024/25 at a low cost to consumers. For the first time, coal-fired plant did not participate in the auction or secure any Capacity Agreements. Additionally, unabated coal plant will not be able to participate in any future T-4 auctions due to the introduction of emissions limits to the Capacity Market in 2019. This reinforces our confidence that unabated coal generation will not be needed to ensure security of supply from 1 October 2024.

## Next Steps

The government will determine an appropriate legislative vehicle for enacting the policies described in this Response. We will consult on any legislation brought forward in relation to this. An updated Impact Assessment will be published alongside this legislation.

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<sup>2</sup> The Sixth Carbon Budget: The UK’s path to Net Zero, p.341. Available at: <https://www.theccc.org.uk/publication/sixth-carbon-budget/>

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# 1. Introduction

## 1.1. Background

On 18 September 2017, following a consultation in November 2016 (“the 2016 consultation”), the government confirmed that it would proceed with action to regulate the closure of unabated coal power generation units in Great Britain by 1 October 2025. The Government Response to the consultation (and accompanying Impact Assessment) was published on 5 January 2018 and confirmed the following commitments:

- to legislate for the closure of unabated coal power generation by setting a new emissions intensity limit on coal generation (on a unit-by-unit basis) of 450g of CO<sub>2</sub> per kWh. This is broadly the emissions intensity of an unabated CCGT gas generator and is in line with the existing Emissions Performance Standard (EPS).<sup>3</sup>
- to apply this limit to units burning any solid fossil fuel, irrespective of site boundaries, to prevent plants converting to coal gasification.
- to apply this limit to units with a thermal capacity of over 300MWth to ensure there are no unintended consequences for other forms of generation.
- to require that the net CO<sub>2</sub> emissions from coal units co-firing with biomass be calculated as the sum of the emissions from the coal element of the fuel diet *plus* the net life-cycle CO<sub>2</sub> emissions attributable to the biomass element of the diet.

On 4 February 2020, the Prime Minister announced an intention to bring forward the deadline for phasing out unabated coal generation from 1 October 2025 to 1 October 2024. The government issued a consultation, from 14 December 2020 to 26 February 2021 seeking views on proposals to achieve this objective (the “Early Coal Closure consultation”).

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<sup>3</sup> The EPS is a regulatory backstop to ensure that new fossil fuel-fired electricity generation contributes to electricity security of supply in a manner consistent with the UK’s decarbonisation objectives. The EPS places a notional limit on the CO<sub>2</sub> emissions produced by new fossil-fuel generation plants. The limit, which is set at 450 g/kWh of CO<sub>2</sub>, a level around half that produced by unabated coal, applies at individual plant level and is an absolute limit, so provides no facility for a plant to exceed its annual limit either by way of trading or year to year carry over. The EPS complements the National Planning policy, which requires new coal fired power stations to be equipped with Carbon Capture and Storage.

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## 1.2 Summary of consultation proposals

The Early Coal Closure consultation set out a number of proposed changes to the commitment made as part of the Government Response to the 2016 Consultation.

In summary, the government's proposals were as follows:

### **Phase-out date**

The government proposed that the phase-out of unabated coal generation in Great Britain be brought forward from 1 October 2025 to 1 October 2024.

With respect to this proposal, the government asked the following question:

- *Do you have any comments on the Government's intention to bring forward the ban on unabated coal generation from 1 October 2025 to 1 October 2024?*

### **Emissions intensity limit**

The government proposed that the emissions intensity limit would be applied to relevant "Generating Units" burning any "Solid Fossil Fuel", irrespective of site boundaries. We proposed defining "Solid Fossil Fuel" in line with the Energy Act 2013 as meaning: *(a) coal, (b) lignite, (c) peat, and (d) any substance which (i) is produced directly from crude liquid petroleum, bitumen or any substance mentioned in (a) – (c) for use as a fuel in a Generating Unit, and (ii) when burned, produces a greenhouse gas (within the meaning of section 92 of the Climate Change Act 2008).*

We also proposed defining "Generating Unit" in line with the Emissions Performance Standard as meaning: *any combination of generators, boilers, turbines, or other prime movers that are physically connected as one unit and operated together to produce electricity independently of any other unit.*

We felt these definitions were sufficiently precise to minimise the risk of unintended consequences for other forms of generation. For this reason, we proposed not to introduce the 300MWth threshold put forward in the 2016 Consultation.

With respect to these proposals, the government asked the following questions:

- *Do you have any comments on the proposed emissions intensity limit and its application?*
- *What are your views on whether a 300MWth threshold is necessary to avoid unintended consequences on other forms of generation?*

### **Biomass**

The government proposed that compliance with the emissions intensity limit would be on a net CO<sub>2</sub> basis, in that emissions from other fuels co-fired with solid fossil fuel are to be included in the calculations for emission intensity. The emissions intensity limit would not apply to generating units that convert fully to other fuels. Dedicated biomass or energy crop power stations as well as full-station or unit biomass conversions were not intended to be within the scope of these proposals.

With respect to these proposals, the government asked the following questions:

- *Do you have any views on how net life-cycle CO<sub>2</sub> emissions from biomass should be calculated?*

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- *Are you aware of any coal units which will facilitate co-firing of coal and biomass beyond 1 October 2024, or any other reason which would necessitate the introduction of additional arrangements for monitoring biomass co-firing emissions?*

### **Emergency powers**

The 2016 Government Response proposed to provide the Secretary of State with powers to suspend or amend the phase out arrangements in case there were significant and imminent concerns about security of supply, where there might be a shortfall in electricity generation, or risk of one, and that suspension would wholly or partially mitigate that risk. In section 2.1.4 of the Early Coal Closure consultation, we indicated that, given the increased level of confidence that security of supply would be maintained, we no longer intended to provide the Secretary of State with these emergency powers.

With respect to this proposal, the government asked the following question:

- *Do you have any comments on the government's intention not to legislate to give the Secretary of State the power to suspend/modify the emissions limit in emergency circumstances?*

### **Monitoring**

The government proposed a monitoring and reporting mechanism to reflect the likelihood that only a limited number of generators would be affected by the proposed emissions intensity limit. We proposed to introduce provisions providing a designated "Enforcement Authority" (for each devolved authority) with the power to verify compliance on an ad hoc basis.

With respect to this proposal, the government asked the following questions:

- *Do you agree with our proposal to provide a designated Enforcement Authority with powers to verify compliance on an ad hoc basis?*
- *Do you have any comments regarding monitoring and reporting arrangements that we should take into account?*
- *Do you have a view on which enforcement powers should be introduced?*

## **1.3 Summary of responses to the consultation**

In total, 16 responses were received from a wide range of stakeholders, including businesses, trade associations, non-governmental organisations and members of the public.

A clear majority of respondents supported the principle of bringing forward the phase-out of unabated coal generation. Of these, a majority agreed with the proposal to bring forward the phase-out date to 1 October 2024, while a minority argued that the government should mandate coal phase-out earlier than 1 October 2024. A very small number of respondents disagreed with the shift in the policy, and one did not address the question of bringing forward the phase-out date and instead argued that the government should not mandate the closure of unabated coal generation.

With regards to our proposal of delivering coal phase-out through an emissions intensity limit, a clear majority of the nine respondents agreed with the principle of an emissions intensity limit, but some of these advocated that the limit should be set lower than the proposed 450gCO<sub>2</sub>/kWh to further accelerate decarbonisation. Of the remaining respondents who did



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not explicitly support the introduction of an emissions intensity limit, only one respondent explicitly objected to the proposal on the basis of perceived technical difficulties in implementing and enforcing it. The other respondents did not directly address the question but suggested a minor adjustment to the definition of 'fossil fuel' for the purposes of our proposals.

All respondents who expressed a view with regards to our proposal not to apply a 300MWth threshold were supportive.

With regards to our proposals applying to coal plant looking to comply with the limit by co-firing coal with biomass, all respondents who expressed a view on the whole proposal agreed with it. Two respondents did not express a view on our proposals but recommended that any actions be fully aligned with other government policies. A further four respondents did not comment on the government's proposals specifically, but indicated broader objections to the use of biomass for power generation due to perceived environmental impacts.

Eleven respondents expressed a view on the proposal not to introduce emergency powers to suspend or modify the coal phase-out arrangements, with a majority of those who answered the question supporting the government's proposal. Some of these respondents noted that this will send a strong market signal that unabated coal generation will not continue after 1 October 2024 under any circumstances, increasing the stability of the policy framework. Some of the respondents pointed to the Capacity Market as a suitable mechanism to ensure security of electricity supply, removing the need for emergency measures. Only a very small minority of respondents disagreed with the government's proposal.

Eight respondents expressed a view on our proposals on providing monitoring and enforcement powers to a designated Enforcement Authority, as well as on the proposed monitoring and reporting approach. A majority of these expressed support for our proposal that reporting be carried out on an ad hoc basis in response to requests by the Enforcement Authority; a minority indicated a preference for regular reporting.

This Government Response is divided into seven sections. Each section contains an overview of the responses received and explains the decisions that government has taken and the legislative changes it intends to make.

- Section 2: Decisions related to bringing forward the phase-out of unabated coal generation to 1 October 2024.
- Section 3: Decisions related to the application of the emissions intensity limit.
- Section 4. Decisions related to plant cofiring coal with biomass.
- Section 5: Decisions related to the Secretary of State's powers to suspend the emissions intensity limit in an emergency.
- Section 6: Decisions related to monitoring and reporting arrangements.
- Section 7: Further points raised in the consultation.

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## 2. Bringing forward the phase-out of unabated coal generation to 1 October 2024

### 2.1 Summary of responses

**Consultation Question 1:**

Do you have any comments on the government's intention to bring forward the ban on unabated coal generation from 1 October 2025 to 1 October 2024?

A clear majority of the 16 respondents to Question 1 indicated that they supported the government's intention to bring forward the phase-out date. Of these, two thirds agreed with the government's proposed date of 1 October 2024, although a few argued that the level of ambition was not sufficient and that the phase-out should be brought forward to an earlier date than 1 October 2024. The main reason given for this was to further reduce overall emissions and therefore better align with the UK's ambitions on tackling climate change. The proposed dates for earlier closure ranged between 2021 and 2023.

Several respondents highlighted that any increase in ambition would reinforce the UK's international leadership on climate change issues with specific reference to COP26.

One respondent, who agreed with the government's proposal, expressed a concern that coal-generated electricity from other countries could be imported through interconnectors even after the government has mandated coal closure in Great Britain. This concern is addressed in section 7.

A minority of respondents disagreed with the proposal. Concerns raised by one or more of the respondents in this group include:

- Disagreement with the wider principle of closing coal-fired generation, even though this was not the object of the consultation, on grounds of security of electricity supply.
- The notion that decarbonisation could be best delivered through longer-term market frameworks and that bringing forward the closure date would constitute a shift in policy that could potentially undermine investor confidence.
- The notion that government policy on coal might suggest that unabated gas and biomass plant will be subject to government intervention in future, which could undermine investor confidence in these technologies.

### 2.2 Government response

The government welcomes responses on this issue and notes majority support for bringing forward the phase-out of unabated coal. We can, therefore, confirm our intention to bring forward the commitment to phasing-out of unabated coal generation to 1 October 2024. We

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believe that the transition away from coal should be delivered in a managed way and that setting a 2024 phase-out date achieves the appropriate balance between reducing emissions, bolstering international climate leadership, and protecting security of electricity supply.

### ***Reducing emissions and delivering net zero***

As noted by a number of respondents, moving the phase-out date forward to 1 October 2024 is aligned with our commitment to go further and faster wherever possible in order to deliver net zero emissions by 2050. In its recent advice on the UK's Sixth Carbon Budget, the Committee on Climate Change (CCC) has highlighted that retiring coal power generation will be crucial for aligning global emissions trajectories with commitments made under the Paris Agreement. As highlighted by the Impact Assessment, the carbon emissions savings arising from closing coal-fired generation one year earlier are limited, due to the small amount of coal generation (1.3GW) expected to be operational in 2024. It is however important to note that meeting the requirements of current and future Carbon Budgets will require concerted action to reduce emissions; in this context, early retirement of unabated coal plant will provide a welcome contribution.

### ***Bolstering international leadership***

The government considers that early coal closure will bring significant benefits with regards to consolidating the UK's international leadership in combatting climate change. The UK has launched the Energy Transition campaign to accelerate the global transition from coal power as part of its COP26 presidency. It has also led the world in co-founding the Powering Past Coal Alliance (PPCA) with Canada, working with countries and business across the globe to take action on phasing out unabated coal generation. As highlighted by the CCC, the UK's own experience in retiring coal generation will be important when engaging with international partners on this issue, particularly those in Asia with young coal fleets.<sup>4</sup> In this context, going further and faster in phasing out unabated coal generation will be a vital step in bolstering our climate diplomacy efforts and increasing the UK's credibility as climate leader. This in turn has the potential to reap decarbonisation dividends on a global scale during the year of the UK COP26 presidency.

### ***Protecting security of supply***

The impact assessment published alongside the Early Coal Closure consultation contains our assessment of the implications on security of electricity supply of regulating for the closure of coal by 1 October 2024.<sup>5</sup> In summary, we expect only 1.3GW of de-rated capacity of unabated coal generation to be operating beyond 1 October 2024 in the absence of government intervention. Meanwhile, the Capacity Market has already procured sufficient capacity for the Delivery Year 2024/25 through the T-4 auction which concluded on 10 March 2021.<sup>6</sup> For the first time ever, coal-fired plant did not participate in the auction or secure any Capacity Agreements, nor will they be permitted to participate in any future T-4 auctions or T-1 auctions for the Delivery Years 2024/25 onwards. The Capacity Market has successfully secured all the capacity we need to ensure the lights stay on in 2024/25 without coal generation; security of

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<sup>4</sup> The Sixth Carbon Budget: The UK's path to Net Zero, p.341. Available at: <https://www.theccc.org.uk/publication/sixth-carbon-budget/>

<sup>5</sup> Available at [https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment\\_data/file/943820/early-coal-close-impact-assessment-.pdf.pdf](https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/943820/early-coal-close-impact-assessment-.pdf.pdf).

<sup>6</sup> The auction procured 40.8GW of de-rated capacity against a target of 40.1GW. None of the capacity procured is coal-fired generation.

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electricity supply is therefore not reliant on coal from 2024 onwards. We are confident that the Capacity Market will continue to ensure electricity security beyond 2025.

As part of our analysis, we also considered bringing forward the coal closure date to 2022 and 2023, which some respondents suggested as preferred options. We believe mandating phase-out anywhere between 2021 and 2023 could create risks to security of electricity supply and could impact market confidence in the Capacity Market, as coal fired generators have already secured Capacity Agreements for Delivery Years up to 30 September 2024.

A minority of stakeholders argued that bringing forward coal phase-out would undermine policy stability as it alters the longstanding commitment to phase-out coal generation from 1 October 2025. The government recognises the importance of policy stability. However, it is equally important that policy is able to evolve where appropriate. In the circumstances, the government believes that decarbonisation targets should be reviewed in light of progress towards delivery (in this case the pace of coal plant decommissioning) and that ambition, where possible, should be reflected in more ambitious government policy. That said, the government has sought to provide as much advance visibility as possible. Indeed, it is clear that the government has had a long-standing ambition on coal phase-out, first setting out its commitment in November 2015. Additionally, we announced our intention to bring forward proposals for moving the phase-out date to October 2024 in February 2020 providing over four and a half years' advance visibility.

We believe this measure is in line with the emerging policy framework on net zero, rather than representing a change of direction that could impact on the energy market's confidence on wider policy stability. On the contrary, and as recognised by some respondents, we consider that bringing forward the phase-out date will facilitate investment in lower-carbon energy sources by creating additional revenue opportunity earlier for these technologies.

The government recognises that its policy on coal phase-out might create some conjecture that similar action could be taken in future with respect to unabated gas generation, which may in turn impact investment in this technology. As stated in the Energy White Paper, the government's role is to ensure a market framework which promotes effective competition and delivers an affordable, secure and reliable system, consistent with net zero emissions by 2050. The Energy White Paper also highlights that natural gas has an important role to play in the future as we decarbonise our electricity system.<sup>7</sup> We will continue to need gas-powered electricity generation over the coming years; however, we expect the role it plays in the system will evolve from primarily running at high load factors towards providing capacity to help guarantee security of supply at peak times. As noted earlier in this section, the government recognises the importance of policy stability and will continue to provide as much advance visibility as possible on any changes in policy.

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<sup>7</sup> The Energy White Paper: Powering our Net Zero Future, p.84. Available at: [https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment\\_data/file/945899/201216\\_BEIS\\_EWP\\_Command\\_Paper\\_Accessible.pdf](https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/945899/201216_BEIS_EWP_Command_Paper_Accessible.pdf)

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## 3.1 Emissions intensity limit and its application

### Summary of responses

#### **Consultation question 2:**

Do you have any comments on the proposed emissions intensity limit and its application? If you disagree with the proposal, please provide detailed reasoning.

What are your views on whether a 300MWth threshold is necessary to avoid unintended consequences on other forms of generation?

Nine stakeholders expressed a view in relation to the government's proposal to deliver unabated coal phase-out by applying an emissions intensity limit of 450gCO<sub>2</sub>/kWh on plant burning solid fossil fuels. A clear majority of respondents expressed support for the introduction of a concentration-based emissions intensity limit, through a few argued this should be set lower than 450gCO<sub>2</sub>/kWh in order to further accelerate decarbonisation. A number of points were raised on how the proposed emissions intensity limit should be applied.

There were no objections to our proposal not to introduce the 300MWth threshold originally put forward in the 2016 Consultation: all five respondents who expressed a view agreed with our proposal.

Two respondents suggested a minor technical amendment to the definition of 'solid fossil fuel', with a view to improving clarity.

## 3.2 Government response

### ***Emissions intensity limit***

The government is grateful for the contributions received on this topic. Noting the majority support for our proposals, we can confirm the introduction of a concentration-based emissions intensity limit of 450gCO<sub>2</sub>/kWh.

Only a minority of respondents engaged with the issue of the *level* of the emissions limit – one to explicitly support and two to suggest that the limit should be set at a lower level to phase out technologies other than coal. The policy intent behind the proposals, as set out in the Early Coal Closure consultation, is to ensure that unabated coal plant do not continue to generate beyond 1 October 2024, which is why this measure is designed to apply to units burning solid fossil fuels only. We are confident that an emissions intensity limit set at the level of 450gCO<sub>2</sub>/kWh is sufficient to achieve this intent. The government recognises the need to continue the process of decarbonising our electricity system, and has put in place a range of policies that go beyond the scope of this consultation to deliver this objective.

We are mindful that an annual limit, such as the one introduced under the EPS, would not be sufficient to phase out unabated coal generation, since unabated coal units would theoretically be able to continue operating at low load factors. It is in this context that we have proposed a

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concentration-based emissions limit that would ensure that unabated coal units do not generate after the phase-out date under any circumstances.

As noted in the summary of responses section, a number of technical points were raised relating to the proposed emissions intensity limit.

One respondent advocated that, if implemented, the emissions intensity limit should be applied on a unit-by-unit basis in order to deliver the government's policy intent. Otherwise, a plant could theoretically comply with the limit by operating a combination of both unabated coal units and lower emission units burning a fuel other than coal, if the exhaust gases from these units were vented through a common stack, as the overall emissions as measured at the top of the stack would be an average of the coal and lower carbon units' emissions. The Government Response in 2018 confirmed our intention to apply the emissions intensity limit on a unit-by-unit basis.<sup>8</sup> The government agrees that this is necessary to ensure compliance with the 450gCO<sub>2</sub>/kWh emissions intensity limit. We wish to clarify that it remains our intention that the new limit will apply to individual generating units.

Concerns were also expressed that the implementation of the emissions intensity limit would require second-by-second monitoring of emissions concentrations, requiring significant investment in new monitoring technologies. Our view is that, although a concentration-based emissions limit will be necessary to ensure unabated coal units do not generate after the phase-out date, second-by-second emissions reporting will not be needed to deliver this, and it would be, as the relevant respondent points out, unnecessarily complex. Therefore, to achieve a balanced approach the government intends to introduce a monitoring regime based around reasonable reporting periods to deliver our policy intent that at no point the plant emits more than the stated limit. The reporting intervals will be sufficiently short to prevent emissions averaging, but at the same time avoid creating unnecessary complexity. The government will determine appropriate arrangements in due course.

### ***300MWth threshold***

We were pleased to note that a number of respondents agreed with our position that it will not be necessary to introduce a 300MWth threshold and that no objections were raised. We therefore intend not to introduce a minimum threshold, so that the CO<sub>2</sub> emission limit will apply to all generators burning solid fossil fuels, irrespective of thermal capacity.

### ***Definition of Solid Fossil Fuel***

Two stakeholders suggested that the definition of solid fossil fuel could be further clarified by adding the word 'solid' as follows:

"We propose defining "Solid Fossil Fuel" in line with the Energy Act 2013 as meaning: (a) coal, (b) lignite, (c) peat, and (d) any **solid** substance which (i) is produced directly from crude liquid petroleum, bitumen or any substance mentioned in (a) – (c) for use as a fuel in a Generating Unit, and (ii) when burned, produces a greenhouse gas (within the meaning of section 92 of the Climate Change Act 2008)."

We agree that this minor amendment further reinforces the clarity of this definition, as it could otherwise be interpreted to cover liquid fuels derived from crude petroleum and other

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<sup>8</sup> Available at

[https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment\\_data/file/672137/Government\\_Response\\_to\\_unabated\\_coal\\_consultation\\_and\\_statement\\_of\\_policy.pdf](https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/672137/Government_Response_to_unabated_coal_consultation_and_statement_of_policy.pdf), p.6



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substances. With this modification, the government considers that the definition is sufficiently precise to minimise the risk of unintended consequences on other forms of generation.

## 4. Biomass cofiring

### 4.1 Summary of responses

**Consultation question 3:**

Do you have any views on how net life-cycle CO<sub>2</sub> emissions from biomass should be calculated?

Are you aware of any coal units which will facilitate co-firing of coal and biomass beyond 1 October 2024, or any other reason which would necessitate the introduction of additional arrangements for monitoring biomass co-firing emissions other than those described in the 'monitoring and reporting' paragraph?

Nine respondents expressed a view with regards to the calculation of net life-cycle CO<sub>2</sub> emissions from biomass. A variety of suggestions on the broad parameters to be considered were put forward.

Some respondents indicated broader objections to the use of biomass for power generation due to perceived environmental impacts, even though this was not the object of the consultation, and did not comment on the government's proposals specifically.

Several respondents did not express a view on our proposals but expressed the position that a consultation primarily pertaining to coal should not set precedents on biomass policy. These respondents also recommended that any actions taken in this area should be fully aligned with other government policies relating to biomass.

None of the nine respondents to this question were aware of coal units which intend to co-fire coal and biomass beyond 1 October 2024, nor raised the need for the introducing additional monitoring arrangements.

### 4.2 Government response

Whilst we do not anticipate that any unabated coal plant will fall within the scope of the new arrangements on biomass co-firing (a view confirmed by responses to the consultation), it is important to ensure that appropriate frameworks are in place to provide for the eventuality that this working assumption proves inaccurate. We therefore intend to implement our proposal to require plant co-firing coal with biomass to account for emissions associated with the biomass part of the fuel diet as well as the coal part. Emissions relating to biomass will furthermore need to be calculated on the basis of the whole lifecycle of the pellets, taking into account a number of elements.

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In proposing that emissions resulting from biomass be included in the calculation of the emissions intensity limit on the basis of lifecycle analysis, the government's intention was to ensure that unabated coal plant cannot circumvent the proposed emissions intensity limit through the combustion of coal mixed with unsustainable biomass.

A number of suggestions were provided as to what factors should be taken into consideration when calculating biomass life-cycle emissions. These included biodiversity impacts, removals and emissions of CO<sub>2</sub> associated with growing biomass, and emissions arising from processing and transporting biomass. The need for robust monitoring and verification requirements was also emphasised. The government has carefully considered these recommendations, and notes that they are covered by the requirements established under the Sustainability Criteria of the Renewables Obligation scheme. We therefore intend to introduce arrangements aligned with this existing regime. The government will provide further details on these arrangements in due course.

Our proposals in the Early Coal Consultation in respect of the treatment of biomass co-firing are only intended to apply in the limited circumstances pertaining to the implementation of the government's policy to phase out unabated coal generation. That said, we intend to ensure that any measures taken on this matter fully align with government policy on biomass. We also note that the government intends to publish its new Biomass Strategy in 2022. As part of this strategy, we will set out the results of a review of the amount of sustainable biomass available to the UK, and how this resource could be best utilised across the economy to help deliver our net zero emissions target by 2050. More information can be found in the Energy White Paper.<sup>9</sup>

## 5. Emergency powers

### 5.1 Summary of responses

**Consultation question 4:**

Do you have any comments on the government's intention not to legislate to give the Secretary of State the power to suspend/modify the emissions limit in emergency circumstances?

Eleven respondents expressed a view in relation to this topic, with a majority supporting the government's proposal not to legislate to give the Secretary of State the power to suspend/modify the emissions intensity limit in emergency circumstances. Three of these respondents noted that not introducing these powers will send a strong market signal that unabated coal generation will not continue after 1 October 2024 under any circumstances, increasing the stability of the policy framework. Some of the respondents pointed to the Capacity Market as a suitable mechanism to ensure security of electricity supply, removing the need for emergency measures.

A minority of respondents disagreed with the government's proposals, arguing that putting in place powers to suspend the coal phase-out would be appropriate to enable government to react to a possible shortfall in electricity supply. One suggestion involved giving the Secretary

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<sup>9</sup> The Sixth Carbon Budget: The UK's path to Net Zero, p.53. Available at: <https://www.theccc.org.uk/publication/sixth-carbon-budget/>



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of State the power to suspend the Capacity Market emissions limits for the T-1 auction relative to the Delivery Year 2024/25 and possibly subsequent years.

A number of respondents, both those supportive of and opposed to the government's proposal, recognised that any emergency suspension powers would only be effective if activated before summer 2023, after which date plans for decommissioning of coal plants would be too far advanced to be reversed.

## 5.2 Government response

The government confirms its intention not to introduce emergency powers for the Secretary of State. This is due to our confidence that security of supply can be maintained without coal in the system from 2024, our recognition that the effectiveness of suspensions powers would likely be limited were they to be introduced, and our awareness of the possible positive effects of not introducing such powers.

### ***Security of supply***

The government remains confident that our ability to guarantee security of supply will not be impacted by bringing forward the deadline for coal phase-out to 2024. As set out in the Impact Assessment, the Capacity Market provides us with the necessary tools to guarantee security of supply in a range of circumstances. Our Impact Assessment indicates that mandating coal closure in 2024, rather than 2025, would not introduce a security of supply risk as new or alternative capacity could be brought forward in 2024 through the Capacity Market to offset the early closure of coal. Indeed, the auction held in March 2021 successfully procured sufficient capacity for 2024/25 without any coal taking part in the auction.

### ***Effectiveness***

As noted by several respondents, the introduction of these powers would not necessarily reinforce security of supply, as coal plant well-advanced in the process of decommissioning would potentially be unable to respond even if required. One respondent identified summer 2023 as the likely latest point at which coal could be called upon to continue generating beyond 2024, that is over a year before the coal closure deadline of 1 October 2024. We also note that given that the six-month window in which the proposed powers could be invoked runs from May to October 2024, we would be unlikely to have information about potential capacity or security of supply issues that could not be addressed through the T-1 Capacity Market auction in early 2024. This provides additional reason to question whether introducing emergency powers to suspend coal-phase out arrangements would be an effective mechanism for reinforcing security of supply.

### ***Market confidence***

Finally we note that, as evidenced by some respondents, not introducing a power to suspend the coal phase-out could have the positive effect of increasing the market's confidence in the phase-out of coal, potentially supporting investment in lower carbon technologies.

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## 6. Monitoring and reporting

### 6.1 Summary of responses

**Consultation question 5:**

Do you agree with our proposal to provide a designated Enforcement Authority with powers to verify compliance on an ad hoc basis?

Do you have any comments regarding monitoring and reporting arrangements that we should take into account? Please provide supporting evidence where appropriate.

Do you have a view on which enforcement powers should be introduced?

Eight stakeholders responded to this question, with unanimous support for the government's proposal to designate an 'Enforcement Authority' with powers to verify compliance.

A majority of respondents expressed support for our proposal that reporting be carried out on an ad hoc basis in response to requests by the Enforcement Authority; a minority indicated a preference for regular reporting. One respondent suggested that reporting should be included as part of the environmental reporting requirements already in place for these sites, while another one suggested a system of annual inspections.

No views were expressed on which enforcement powers should be introduced.

### 5.2 Government response

In designing a monitoring and reporting mechanism, it is important to ensure compliance with the emissions intensity limit while minimising the administrative burden on business and any enforcement authorities.

There were three operational coal plants in Great Britain when the Early Coal Closure consultation was issued; since then, one of these ended commercial coal generation in March 2021 and another has announced its intention to close in September 2022. The very small number of plants potentially in scope means that ad-hoc monitoring would be relatively simple to carry out for the Enforcement Authority.

We therefore believe that it would not be proportionate to introduce a complex monitoring scheme at this stage, as it is unlikely to be required, and that given the very small number of plants potentially in scope, if monitoring were to be required a light-touch approach such as the one proposed should strike the right balance between being robust whilst at the same time being flexible. The designated 'Enforcement Authority' (one for each devolved authority as necessary) will have the power to verify compliance on an ad hoc basis by requesting plant operators report relevant data, and will be able to require and verify emissions data and enforce the limit. The government will allow the designated Enforcement Authority to determine and modify as appropriate a reporting frequency that strikes a balance between the robustness of reporting requirements and the administrative burden imposed. We will provide more

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information relating to which body will take on the functions of 'Enforcement Authority', and what enforcement powers this body will have, in due course.

## 7. Further points raised in response to the consultation

### 7.1 Coal plant not exporting electricity to the grid

A stakeholder contacted us to seek clarification on whether our proposals will impact coal generators that do not supply electricity to the grid.

#### **Government Response**

Our intention is that all plant burning coal for electricity generation will be covered by our proposals, regardless of whether or not they supply power to the grid.

### 7.2 Application of limits to interconnectors

One respondent argued that the government should examine the provenance of electricity imported through interconnectors and, if necessary, take measures to ensure that phasing out coal domestically is not offset by importing coal-generated power from other countries.

#### **Government Response**

Great Britain is linked by interconnectors to countries which have a mix of generation technologies and in turn are interconnected with other countries; for this reason, it is not possible to ascertain the precise generation technology of electricity imports. Nonetheless, it should be noted that Great Britain imports electricity from countries that have committed to rapidly decarbonising their energy systems and working to end their use of coal-fired generation. Electricity interconnectors under construction to Norway and Denmark, which are due for completion in 2021 and 2023 respectively, will further connect us to renewables-intensive electricity systems.

Interconnection has been shown to have clear benefits for decarbonisation. As set out in a report we published alongside the Energy White Paper, a higher level of interconnector capacity has the potential to provide transmission-level flexibility which can help integrate low-carbon generation at a regional level, allowing markets to maintain high-levels of generation from intermittent renewables rather than curtailing generation when it is not required to meet domestic demand. This could decrease cumulative emissions in Great Britain by up to 199MtCO<sub>2</sub>e by 2050, as well as reducing total system costs.<sup>10</sup>

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<sup>10</sup> Available at

[https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment\\_data/file/943239/impact-of-interconnectors-on-decarbonisation.pdf](https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/943239/impact-of-interconnectors-on-decarbonisation.pdf)

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## Annex A – list of respondents

Bright Blue	EDF
Energy UK	Greenpeace UK
MCS Charitable Foundation	RWE
Scottish Power	Sustainable Energy Solutions
Thornley and Lumb Partnership	Uniper
United Kingdom Onshore Oil and Gas (UKOOG)	

In addition, one anonymous response and four responses from members of the public were received.

This publication is available from: <https://www.gov.uk/government/consultations/capacity-market-further-technical-amendments>

If you need a version of this document in a more accessible format, please email [enquiries@beis.gov.uk](mailto:enquiries@beis.gov.uk). Please tell us what format you need. It will help us if you say what assistive technology you use.