

## Consultation response:

# Coal generation in Great Britain: The pathway to a low-carbon future

8 February 2017

### EXECUTIVE SUMMARY

We support the use of EPS to remove coal from the UK's generation mix - however, the EPS must be appropriately designed to achieve this outcome. The Government should therefore modify its proposed EPS as follows, to ensure that the UK moves towards the decarbonised electricity sector that it needs to meet its national and international legal obligations:

- the EPS must be applied on a **technology-neutral basis**;
- a **stricter emissions threshold** than the 450g/kWh proposed in the consultation should be imposed, with the power for the Secretary of State to further tighten this requirement in the future; and
- the EPS should be **implemented no later than 2023** - the proposed date of 2025 would be too late to manage the transition from coal to a lower carbon electricity sector.

The EPS must be implemented as part of a **coherent policy framework** that ensures that retiring coal capacity is not replaced by investment in large-scale gas and biomass plants. Converting coal plants to burn biomass is not a sustainable solution – and the Government must appropriately account for emissions from burning biomass, which is not possible under the current carbon accounting framework.

This coherent policy framework must include:

- **extending the Carbon Price Support** at current levels, at least until coal has been permanently removed from the UK's generation mix;
- introducing **the EPS as a requirement for units bidding in the capacity market** (or preventing coal operators from bidding), at least in relation to the T-4 auctions for delivery from 2022-2023; and
- ensuring that there is **no power for the Secretary of State to suspend application of the EPS** from 2025 onwards.

Implementing the EPS in line with these principles should allow the Government to achieve a managed transition away from coal and towards lower carbon energy sources, while providing sufficient certainty to operators and investors and stimulating investment in alternative and innovative technologies. This would benefit the UK's environment, the health of our citizens, and the longer-term sustainability of our economic growth.

## BACKGROUND AND GUIDING PRINCIPLES

1. ClientEarth is a leading non-governmental public interest environmental law organisation based in London, Brussels and Warsaw. Within the UK, our work focuses on securing a just transition to a low-carbon energy sector, reducing the emissions of greenhouse gases and protecting the rights of all to breathe clean air. Ensuring an effective and enduring phase-out of coal as a source of fuel for electricity generation would further each of these goals.
2. We have long advocated the use of emissions performance standards (EPS) to ensure that the UK can meet its domestic and international emissions reductions obligations and its health and climate change goals. During 2009 and 2010, ClientEarth produced a series of legal submissions and consultation responses to the Government's plans for 'capture readiness' and the Framework for the Development of Clean Coal, and made submissions in relation to the introduction of CO<sub>2</sub> emissions standards.<sup>1</sup> At European level, we were involved in securing an amendment to the EU Industrial Emissions Directive clarifying the ability of EU Member States to legally introduce CO<sub>2</sub> EPS for installations covered by the ETS by means other than via EU Integrated Pollution Prevention and Control (IPPC) permits.
3. We therefore welcome the Government's commitment to managing a coal phase-out by the introduction of an EPS (either alone or in conjunction with other requirements such as the implementation of CCS technology). The implementation of a technology-neutral EPS, with a progressively tightened emissions threshold, is essential to ensure that the UK meets its obligations under the Paris Agreement, which the Secretary of State acknowledges to be legally binding, as well as its obligations under other national and international legal instruments, such as the Climate Change Act 2008 and under EU law.
4. However, to ensure that such action is not merely an endnote to the story of economic factors removing coal from the generation mix, it is essential that the Government acts swiftly to cease all subsidies to coal generation and to implement the high environmental standards that are required to protect human health and the environment - and that would preclude the continued operation of the UK's coal power plants. Moreover, these measures must be placed in the context of a coherent policy agenda, seeking to ensure a low carbon future for the UK's energy sector by replacing coal generation capacity with investment in demand management, energy efficiency and renewable generation and storage technologies, rather than new gas plant and biomass conversions that only result in environmental problem shifting.
5. These principles guide our response to the consultation questions below.

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<sup>1</sup> See ClientEarth, *response to Towards Carbon Capture and Storage A Consultation Document published by Department for Business Enterprise & Regulatory Reform (BERR CCR Consultation)*, 11 September 2008; ClientEarth, *response to the DECC consultation on the draft Supplementary Guidance for Section 36 Electricity Act 1989 Consent Applicants for Coal Power Stations*, 29 January 2010; and ClientEarth's submission to the House of Commons Energy and Climate Change Committee, 6 September 2010 ("**CE 2010 submission**"), available at: <http://www.clientearth.org/reports/eps-submission-to-house-of-commons-select-committee-call.pdf>.

## UK'S LEGAL OBLIGATIONS REQUIRE AN END TO COAL (AND OTHER FOSSIL FUELS)

6. The UK (like all sovereign states) is subject to a range of international legal obligations, including a number that relate specifically to environmental and climate objectives. In particular, the most significant agreement relating to greenhouse gas emissions is the Paris Agreement, which builds upon the parties' obligations under the United Nations Framework Convention on Climate Change.<sup>2</sup>
7. We welcome the Secretary of State's acknowledgement in the foreword to the Consultation that the Paris Agreement is legally binding on the UK, and his determination to honour the terms of this Agreement. The 197 states that have signed the Paris Agreement have committed to hold the increase in global temperatures to below 2°C – and to pursue efforts to limit the increase to below 1.5°C – above pre-industrial levels (Article 2(1)(a)).
8. The 2016 report published by the UK's Committee on Climate Change (the CCC) on "UK climate action following the Paris Agreement"<sup>3</sup> indicates that to meet the 1.5°C target, the UK's contribution would need to include a reduction in UK greenhouse gas emissions of 86%-96% by 2050 compared to 1990 levels (with an equivalent reduction of 71%-83% by 2050 to meet the higher 2°C target).<sup>4</sup> The CCC's best assessment indicates that this requires full decarbonisation of the power sector by 2050.<sup>5</sup> Full decarbonisation clearly requires as a starting point the removal of coal from the UK's electricity generation mix, and will ultimately also require the removal of gas, diesel, large-scale biomass and other combustion fuels.
9. The UK has not merely followed the lead of other countries in relation to the climate change agenda; it has long been at the forefront of the global drive to enshrine climate change targets in law. The Climate Change Act 2008 pre-dates the Paris Agreement, and its enactment meant that the UK was the first country to introduce legally binding targets to tackle climate change. It sets legally binding targets to reduce greenhouse gas emissions in the UK by at least 80% by 2050 compared to 1990 levels (Article 1). The carbon budgets, which have been set in accordance with the Act and which provide benchmarks towards achieving the 2050 target, require a reduction of at least 57% by 2030.
10. The CCC's 2016 briefing note "Meeting Carbon Budgets"<sup>6</sup> re-states its previous conclusion that meeting the 57% overall target will require a reduction of 67% in emissions from the UK's electricity generation sector compared to *current* levels. The CCC concludes that this in

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<sup>2</sup> The UK signed the Paris Agreement on 22 April 2016, and ratified it on 16 November 2016. The Agreement entered into force on 4 November 2016, thirty days after the date on which at least 55 states accounting in total for at least an estimated 55% of total global greenhouse gas emissions had ratified the Agreement.

<sup>3</sup> The text of the report is available at: <https://www.theccc.org.uk/wp-content/uploads/2016/10/UK-climate-action-following-the-Paris-Agreement-Committee-on-Climate-Change-October-2016.pdf>.

<sup>4</sup> Ibid. Table 2.3 of page 30.

<sup>5</sup> Ibid. Table 3.1 on page 38.

<sup>6</sup> The CCC's briefing note *Meeting Carbon Budgets – the implications of Brexit for UK climate policy* is available at: <https://www.theccc.org.uk/wp-content/uploads/2016/10/Meeting-Carbon-Budgets-Implications-of-Brexit-for-UK-climate-policy-Committee-on-Climate-Change-October-2016.pdf>.

turn will require the closure of the UK's existing coal plants, as well as significant new investment in renewables and in flexibility (specifically, in interconnection, demand-side response, storage and flexible back-up capacity).

11. The UK is also subject to a range of environmental obligations by way of its ongoing membership of the European Union. The Government's acknowledges in the Consultation that it will continue to apply EU legislation at least until the UK has left the EU. In particular, the Consultation notes the limits on emissions placed on power plants by the Industrial Emissions Directive (the IED). Notably, the IED does not impose any limits on CO<sub>2</sub> emissions – and specifically states that "*this Directive does not prevent Member States from maintaining or introducing more stringent protective measures, for example greenhouse gas emission requirements, provided that such measures are compatible with the Treaties and the Commission has been notified*".<sup>7</sup>
12. This confirms the principle that no provision of EU law prohibits the UK from implementing broader and more stringent restrictions on greenhouse gas emissions – including on CO<sub>2</sub> emissions – than are otherwise provided for in EU law. On the contrary, EU law and policy encourages Member States to significantly reduce greenhouse gas emissions: for example, the EU's 2030 climate and energy framework seeks a reduction in greenhouse gas emissions of 40% by 2030 compared to 1990 levels.<sup>8</sup>
13. It is therefore clear that the UK's national and international legal obligations both permit and require the UK to take immediate and decisive steps to reduce its greenhouse gas emissions levels – and an essential step in this process will be the removal of coal from the UK's generation mix.

## RESPONSE TO QUESTIONS

### Question 1 – putting closure of unabated coal into effect

#### ClientEarth supports the use of EPS to remove coal from the UK's generation mix

14. We support the use of an EPS (whether alone or in conjunction with additional measures) to remove coal from the UK's generation mix. The EPS should be implemented in accordance with the following principles.
  - a. First, implementation of the EPS should aim to remove all coal from the UK's generation mix, not just "unabated" coal. This is due to the various detrimental effects that arise from the on-going combustion of coal that has been abated in the sense of reduced CO<sub>2</sub> emissions, and that should be addressed by implementation and enforcement of appropriate environmental standards and regulation. These effects include, in particular:

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<sup>7</sup> See Recital (10) of the IED,

<sup>8</sup> The Commission's communication *A policy framework for climate and energy in the period from 2020 to 2030* is available at: <http://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:52014DC0015&from=EN>.

- i. The additional detrimental effects of burning coal on human health and the environment. These effects are various, but include in particular the effects of pollutants such as SO<sub>x</sub> and NO<sub>x</sub> on air quality, resulting both in harm to human health (in particular for communities located in the vicinity of the relevant plants) and to the broader ecosystems. These effects are not resolved simply by limiting the amount of CO<sub>2</sub> emitted by coal power plants. They could however be alleviated at least in part by the strict enforcement of IED standards - which has not always been the case in the UK.<sup>9</sup>
  - ii. The harmful “supply-side” consequences that arise from burning coal, arising in particular in the context of mining and transporting the coal prior to combustion. Particular harm occurs in the context of open-cast mining, and in relation to the mining and transport of coal from countries with lower standards in relation to the protection of human health, human rights, and the environment. Moreover, the transport of coal (often from overseas) is resource-intensive. Abatement of CO<sub>2</sub> emissions by coal power plants has no impact on these supply-side consequences.
- b. Second, the EPS should be implemented on a technology-neutral basis. While the EPS as currently envisaged in the Consultation is designed only to catch “unabated” coal plants, the EPS should in fact apply on a technology-neutral basis to ensure policy consistency. It is inconsistent with the stated goal of reducing the carbon intensity of the UK’s generation sector to focus only on one fossil fuel while disregarding other fuels that contribute to achieving many similar negative impacts on the environment and human health.
- c. Third, implementation of the EPS should achieve an emissions reduction greater than that which would otherwise be achieved under existing and projected market conditions.
- i. The EPS should ensure either the modernisation or removal of combustion plants that would not otherwise occur, such as by imposing a strict emissions threshold that cannot be met (absent such modernisation) by combustion plants that are expected to remain in operation beyond the date on which the EPS is implemented.
  - ii. This goal could be achieved in part by implementing the EPS via legislation that provides for the emissions threshold to be progressively tightened. This will ensure that plants not initially constrained by the EPS become constrained in future, while granting operators sufficient opportunity to invest in modernisation (and for investors to invest in alternative technologies). This will help the UK achieve the required decarbonisation of its electricity sector by 2050 (as discussed in paragraph 8 above).
- d. Fourth, the EPS must form part of a broader, coherent policy framework that promotes the replacement of decommissioned coal capacity with low carbon

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<sup>9</sup> See for example the European Court of Justice's decision finding that the UK had failed to apply the correct pollution standards to Aberthaw power plant: Case C-304/15 - *European Commission v UK*.

solutions, including renewable generation capacity, demand-side response, interconnection and storage technologies. This policy framework will be an important part of the Government's imminent Emissions Reduction Plan and must, in line with the Plan as a whole, provide for continued transparency and accountability of progress towards meeting policy goals. Decommissioned coal should not simply be replaced by gas, biomass or diesel – each of which has its own significant impacts on the environment and human health.

15. Implementation of the EPS in accordance with the above principles has the potential to achieve a managed transition away from coal. As currently designed, however, it seems that neither option 1 nor option 2 may achieve this outcome. The Government must therefore adopt certain modifications to the current form of its proposals, so as to remove loopholes and avoid environmental problem shifting. We consider below the form that these modifications could take in relation to each of options 1 and 2.

#### Comments applicable to both options 1 and 2

16. The Government states at paragraph 45 of the Consultation that its proposals seek to "*achieve the desired effect of reducing the carbon intensity of the generation sector*". To ensure that this is achieved, the Government must modify each of options 1 and 2 in the following ways, as further explained in paragraphs 18 to 20 below:
  - a. introduce a technology-neutral EPS (paragraph 18),
  - b. with a lower CO<sub>2</sub> emissions threshold than currently proposed (paragraph 19), and
  - c. this standard should come into force earlier than suggested (paragraph 20).
17. Without these amendments to the Government's proposals, there is a clear risk of sending a signal to investors that the Government welcomes investment in large-scale gas power plants and biomass conversions, rather than in demand management, energy efficiency and renewable generation and storage technologies.
18. **Technology-neutrality** could be achieved simply by removing or amending two of the requirements proposed at paragraph 40 of the Consultation, as follows:
  - a. That the EPS apply only to units that use solid fossil fuels. Given the stated goal of decarbonising the electricity generation sector, there is no objective rationale for focussing only on one category of fuel. To the extent that evidence indicates that other fuels would already comply with the EPS, there is no downside to extending the EPS to such fuels. On the other hand, to the extent that other fuels *do not* comply with the EPS, it is inconsistent with the Government's decarbonisation goals to implement the EPS only in relation to solid fossil fuels. This condition should be removed or broadened to extended to include other greenhouse gas emitting combustion fuels (such as gas, diesel and non-waste biomass).

- b. That the units were commissioned before 1987. This date has been chosen specifically to ensure that the EPS extends only to existing coal power plants. Again, there is no objective rationale for such a restriction, which is inconsistent with the Government's stated intention to decarbonise the electricity generation sector. This restriction on the applicability of the EPS should be removed.

19. **A stricter emissions threshold** than the 450g/kWh proposed in the consultation should be imposed. This will help the UK achieve the required decarbonisation of its electricity sector by 2050 (as discussed in paragraph 8 above). This applies in relation to each of the mass-based and concentration-based EPS considered under options 1 and 2 respectively.

- a. We agree with the statement in paragraph 45 of the Consultation that applying the mass-based EPS to existing coal power plants would be insufficient to ensure closure by 2025 – and agree that if this were to be implemented, it would certainly need to be supported by an obligation to implement CCS. However, as explained below, there are a number of risks and uncertainties regarding the effectiveness of the CCS requirement (as currently envisaged). It is therefore essential to set the emissions threshold under the EPS at the strictest possible level to ensure the lasting removal of coal from the UK's generation mix.
- b. Moreover, as explained above, the EPS should be established on a technology-neutral basis. The CCS requirement will likely apply only in relation to existing coal power plants. To ensure that any investment in new combustion plants is directed towards only the cleanest and most efficient modern technologies, the EPS must be set at a level which will deter or prevent the operation of inefficient combustion plants. We consider that for simplicity and as a starting point, the mass-based EPS under option 1 could be fixed at 350g/kWh, with the legislation implementing the EPS granting the Secretary of State the power to progressively introduce lower emissions thresholds in coming years.
- c. While the proposed concentration-based EPS of 450g/kWh under option 2 should secure the removal of “unabated” coal from the UK's generation mix, the Government's decarbonisation aims require an EPS that discourages investment in all but the cleanest and most efficient modern technologies. ClientEarth has previously argued for an EPS of 350g/kWh to be applied to new combustion plants.<sup>10</sup> Given recent technological progress, the UK's international legal obligations and changes in the economic conditions governing the electricity market – not least BEIS's modelling, which shows that all UK coal plants will have closed by 2022 due to economic factors – now could be the appropriate time to extend an EPS of 350g/kWh to all combustion plant (whether new or existing). As above, the legislation implementing the EPS granting the Secretary of State the power to progressively introduce lower emissions thresholds in coming years.

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<sup>10</sup> See in particular paragraph 8 of the CE 2010 Submission.

20. **The EPS should come into force no later than 2023.** 2025 is extremely unambitious and will likely be too late to materially influence the rate of closure of the UK's coal-fired power plants. BEIS's modelling shows that economic factors will have forced coal plants to shut down by 2022. Consequently, to ensure that the Government's actions achieve a managed transition away from coal, the Government must ensure that coal is removed from the generation mix as soon as possible – and certainly no later than the beginning of 2023. Bringing forward implementation of the EPS (under either of options 1 or 2) to this date should have no material impact on the finances of coal operators under the central scenario modelled by BEIS. It would, however, immeasurably strengthen the Government's ability to effectively manage the transition, and would provide considerably greater certainty for investors in alternative technologies.
21. It should be noted that no coal power plants have successfully bid in the T-4 capacity market auctions for three-year refurbishment contracts, including in the most recent T-4 auction in December 2016.<sup>11</sup> It is clear that operators are preparing themselves for closure in the short-to-medium term, rather than seeking to prolong the life of their ageing plants at a time when they are well aware that they will face increasingly strict performance standards and restrictions on running hours. Bringing forward the EPS implementation date would therefore have no impact on capacity that has already been secured through the capacity market.

#### Comments specific to option 1

22. There are certain risks inherent in pursuing a combined "mass-based EPS plus CCS" approach.
23. As regards the definition of the EPS: regardless of whether the Government agrees that a lower limit of no more than 350g/kWh should be applied, it is clearly not appropriate to apply the assumed 85% baseload load factor which is currently applicable to new power plants under section 57 Energy Act 2013 to existing coal-fired power plants. The existing plants are old and are subject to greater rates of outage and maintenance and consequently can be expected to operate at a lower load factor. For this reason, it would be appropriate to implement the EPS based on a lower assumed baseload load factor.<sup>12</sup>
24. The Consultation envisages an obligation to "demonstrate" CCS technology on at least 300MW of a station's capacity, and seeks views on whether a greater proportion might be appropriate. We presume that the reference to "demonstration" should rightly be read as a requirement for operational CCS technology to be installed, given that CCS technology has now advanced to a stage where this is technically feasible.
25. Retrofitting CCS on existing, ageing coal-fired plants in time to meet entry into force of the EPS would be economically challenging. However, for the purposes of designing the CCS obligation, it must be assumed that this is economically viable. The Government would therefore need to set the CCS requirement at or near to 100% of each unit's capacity –

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<sup>11</sup> Whilst two coal-fired plants operated by EDF – Cottam and West Burton – won three year contracts in the T-4 auction for delivery in 2018/2019, these were subsequently rescinded.

<sup>12</sup> For example, a baseload load factor of 60% could be used, in line with statements made in the UK's submissions to the LCP BREF process regarding the baseload operation of existing plants.



otherwise there is a clear risk that operators may be able to retrofit CCS to a limited number of units or amount of capacity, while continuing to burn unabated coal with no prospect of capture or storage in the remaining units / capacity. Any lesser requirement would be inconsistent with the imperative need to reduce carbon emissions to meet the Government's emissions reductions targets and comply with its international legal obligations.

26. Additionally, we note that option 1 as proposed applies to entire power plants, whereas option 2 would apply to each unit. This distinction is not made consistently throughout the document,<sup>13</sup> and we consider that it should not be made at all. It is clearly appropriate for the concentration-based EPS in option 2 to apply to units, to avoid the risk of “averaging” across an individual plant. Similar considerations apply to the requirements under option 1 – especially if the CCS requirement is set at less than 100% of plant capacity. It would not be appropriate for an operator to be able to run multiple units, unless each unit were to be equipped with CCS technology and individually meet the EPS.
27. It should also be noted that the dual approach taken by option 1 opens up the possibility that a future Government could try to un-pick the transition away from coal by removing the CCS obligation. This would leave only the mass-based EPS, which as noted is insufficient to secure a lasting removal of coal from the UK's generation mix.

#### **Legal mechanisms for implementing either option 1 or option 2**

28. We presume that the Government would seek to enact primary legislation to implement the EPS (and CCS, if applicable) obligations, since neither section 57 of the Energy Act 2013 nor any other legislation of which we are aware appears to provide a sound basis for bringing forward secondary legislation on this topic.<sup>14</sup>
29. This legislation should grant the Secretary of State the power to implement stricter EPS in future, in line with technological and environmental developments. This will allow the Government greater flexibility going forwards to ensure that it is able to meet its emissions and health goals, including as they develop in line with future national targets and international agreements. However, it is of course essential that this legislation does not grant the Secretary of State any power to weaken the EPS as initially implemented: otherwise, operators and investors would be sent very mixed signals and would be unable to rely on 2023 (or 2025, if the proposed date is retained) as a “hard” end date for coal.
30. We note that there is no real risk of successful judicial review of primary legislation – Parliament is sovereign and competent to pass whatever legislation it chooses, and unlike in some other countries the UK courts cannot strike down primary legislation.<sup>15</sup> In our view, it is also the case that the risk of a successful claim for compensation by one or more coal plant

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<sup>13</sup> For example, the first bullet at paragraph 45 refers to application of the mass-based EPS (under option 1) to “existing coal units”.

<sup>14</sup> We also understand that there is no intention to take a permitting approach, for example by way of amendments to the Environmental Permitting Regulations 2013.

<sup>15</sup> The risk of successful judicial review of secondary legislation would also be limited, assuming it was implemented pursuant to an appropriate provision of primary legislation.

operators is extremely limited - and all the more so if, as expected, the implementing legislation is passed a number of years in advance of entry into force.<sup>16</sup>

### Comments on BEIS's impact assessment

31. The impact assessment – much like the main body of the Consultation – places undue emphasis on investment in gas power to replace coal-fired plants following implementation of the EPS. For example, the impact assessment states that the second of the three objectives of intervening is to “*increase revenue certainty for investment in new flexible plants, such as gas*” (making no reference to alternative technologies).
32. While gas clearly has an important role to play in the UK's generation mix, the same is true of renewables (in particular given recent advances in storage technologies and dramatic reductions in the cost of wind and solar). Moreover, investment in demand management, energy efficiency and other innovative technologies should be prioritised. This could decrease the amount of generation capacity required in the UK, thereby mitigating some of the capacity lost as coal-fired power plants come offline. Such technologies should be prioritised consistently and coherently across the full range of the Government's policy tools – including in particular in the context of the capacity market, contracts for difference and other subsidies directed towards the energy sector.
33. In addition, while we welcome the emphasis placed on the UK achieving climate change leadership, the impact assessment gives no detailed consideration as to what would constitute such leadership, and whether the proposals in the Consultation in fact go far enough to achieve this. Given that (1) the proposed EPS would come into force several years after the predicted shut down of coal-fired plants for economic reasons, (2) they would not apply to any plants built since 1987 and (3) the restrictions are not predicted to impact on any plants operating in the year of entry into force, it is hard to see how the Government can justify its claim to be taking a climate change leadership role.

### Question 2 - constraint in years ahead of 2025 closure

#### “Constraint” vs “security of supply”: two sides of the same coin

34. The issues of constraint and security of supply should not be considered separately. The goal must be to secure the closure of all coal-fired power plant by the start of 2023 (and at

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<sup>16</sup> This assessment is in particular supported by the Court of Appeal's February 2016 judgment in [Drax Power Ltd & Anor, R \(on the application of\) v HM Treasury & Ors \[2016\] EWHC 228 \(Admin\)](#). Drax sought judicial review of primary legislation which removed the exemption for renewable source electricity from the Climate Change Levy. It argued that the removal at 24 days notice went against Drax's legitimate expectations that the exemption would not be removed, and that the removal was disproportionate and in breach of Article 1 of Protocol 1 to the European Convention on Human Rights, which protects property rights. The Court held that Drax had no legitimate expectation that it would be given longer notice that the exemption would be removed (it had claimed that 2 years notice was required). As regards proportionality, the Court found that the reform was justified in the public interest, despite the harm it did to Drax's private interests. The claim under Article 1 of Protocol 1 was dismissed for similar reasons.

the very latest, by 2025). This final cut-off date is important to ensure certainty both for existing operators and for investors in alternative / innovative technologies.

35. We can see some merit in providing a degree of flexibility in the run-up to 2025.

- a. As above, our strong recommendation is to implement the EPS from no later than the beginning of 2023. This could be combined with a time-limited security of supply mechanism applicable for the period running to the start of 2025. This possibility is considered further in response to question 3 below.
- b. Alternatively, if the Government does decide to delay implementation of the EPS until the start of 2025, we agree that it would be sensible to impose a constraint in the years prior to 2025. This would have two benefits: first, bringing forward the date from which some of the benefits of full shutdown would be enjoyed; and second, all but removing the possibility of a “cliff-edge” occurring in 2025. This is considered further in the following paragraphs.
- c. Regardless of which date is used for implementation of the EPS, the Government must extend the Carbon Price Support (**CPS**) at current levels beyond 2021 until coal has been successfully removed from the UK’s generation mix.

### Implementing a pre-2025 constraint

36. Assuming the EPS is not implemented until the start of 2025, any pre-2025 constraint could take a number of forms.

37. One relatively straightforward possibility would be to exclude coal-fired power plants from the capacity auctions for delivery in the period commencing 2022/2023 and in subsequent delivery periods – i.e. following their predicted shutdown under normal market conditions in accordance with BEIS’s predictions. This could most simply be achieved by amending the Electricity Capacity Regulations 2014 and / or the Capacity Market Rules to exclude any coal capacity from these auctions. Alternatively, those instruments could be amended to introduce criteria equivalent to the chosen EPS (including the CCS requirement, as applicable) for any plants bidding for contracts in these auctions. Coal could potentially be retained in the T-1 auctions for delivery in 2022/2023, 2023/24 and 2024/25 to help ensure security of supply until 2025, if the Government’s modelling shows that this is necessary.

38. We note that any such changes might require notification to and approval by the European Commission as amendments to the existing capacity market (on the assumption that EU State aid rules will remain applicable to the UK by the relevant date).

- a. State aid rules generally require the Commission to be notified of alterations to existing aid schemes, i.e. to schemes that the Commission has already approved.<sup>17</sup>

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<sup>17</sup> See Articles 1(b) and (c) and Article 2 of *Council Regulation (EU) 2015/1589 of 13 July 2015 laying down detailed rules for the application of Article 108 of the Treaty on the Functioning of the European Union*, available at: [http://eur-lex.europa.eu/legal-content/EN/TXT/?uri=uriserv:OJ.L\\_.2015.248.01.0009.01.ENG](http://eur-lex.europa.eu/legal-content/EN/TXT/?uri=uriserv:OJ.L_.2015.248.01.0009.01.ENG).

Alterations need to be notified if they are substantial (as opposed to being of a purely formal or administrative nature).<sup>18</sup>

- b. The UK has previously notified the Commission of its amendment<sup>19</sup> to the capacity market to introduce a “supplementary auction” for delivery in the years 2017/2018 - this was clearly a substantial amendment. This amendment was approved by the Commission on 5 December 2016.<sup>20</sup>
- c. The amendment required to remove coal from (or introduce the EPS to) the T-4 would likely be considered a substantive amendment requiring notification - the Commission’s original 2014 decision approving the capacity market made specific reference to the fact that it was technology-neutral, and introducing discrimination by technology could alter the assessment and so require re-notification.<sup>21</sup> At the very least, the UK Government would wish to engage in informal discussions with the Commission to determine whether re-notification was required.
- d. The Commission would be expected to approve any such modification to the capacity market. It is generally receptive towards measures taken in pursuit of environmental goals. In addition, it has moved in its Winter Package proposals towards requiring capacity mechanisms to include EPS in relation to new plants. It is therefore clearly sympathetic towards shutting coal. Moreover, consideration and approval of such an amendment by the Commission could help the UK set an important precedent for capacity mechanisms in other EU Member States.
- e. To ensure that approval is received in time for implementation in relation to the T-4 auction for delivery in 2022/2023, notification should be made as soon as possible.

39. It should be recalled that the European Commission has only granted the UK’s capacity market State aid approval for a period of ten years, expiring in 2024. Assuming the continued applicability of State aid law following Brexit, the capacity market will require a fresh approval from the Commission if it is to be extended from 2024 onwards. The capacity market as outlined in this fresh notification should exclude coal at least from future T-4 auctions. Moreover, this re-notification could be brought forward to allow notification of the amendments to exclude coal from the T-4 auctions relating to 2022/2023 onwards to be made at the same time as the extension beyond 2024.<sup>22</sup> This would avoid the need for multiple notifications to the Commission.

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<sup>18</sup> See for example Case T-151/11, *Telefónica de España SA v Commission*, para 62.

<sup>19</sup> The amendments are contained in the Electricity Capacity (Amendment) Regulations 2016, available at: <http://www.legislation.gov.uk/ukdsi/2016/9780111146774>.

<sup>20</sup> The Commission’s approval decision in case SA.44475 – *United Kingdom Supplementary Capacity Auction* is available at: [http://ec.europa.eu/competition/state\\_aid/cases/265707/265707\\_1850846\\_123\\_2.pdf](http://ec.europa.eu/competition/state_aid/cases/265707/265707_1850846_123_2.pdf).

<sup>21</sup> The Commission’s approval decision in case SA.35980 – *United Kingdom electricity market reform – Capacity market* is available at: [http://ec.europa.eu/competition/state\\_aid/cases/253240/253240\\_1579271\\_165\\_2.pdf](http://ec.europa.eu/competition/state_aid/cases/253240/253240_1579271_165_2.pdf). See in particular paragraphs 129 and 145.

<sup>22</sup> The UK Government could also, in principle, choose to re-notify the capacity market to the Commission at an early date, for example to take effect from 2022. This could allow it to achieve two goals in a single notification process: extending the functioning of the capacity market post-2024, and excluding coal from the T-4 auctions from 2022/2023.

## Extending the CPS at current levels

40. In the 2016 autumn statement, the Chancellor of the Exchequer confirmed that the CPS would be frozen at £18 per tonne of CO<sub>2</sub> until 2020.<sup>23</sup> The CPS has made a significant contribution to achieving the current relatively low levels of coal generation. If it were to be allowed to expire whilst coal plants remain in operation, coal would suddenly become significantly more profitable and it would be considerably easier for operators to continue to operate their existing coal plants.<sup>24</sup>
41. The Government must therefore extend the CPS at current levels at least until coal has been permanently removed from the UK's generation mix. This will act as a significant constraint on coal prior to implementation of the EPS, and should considerably reduce the risk of any "cliff-edge" occurring.

## Question 3 - ensuring security of supply

42. We agree with the suggestion in paragraphs 64 and 65 of the Consultation that there should be no security of supply provisions applicable post-2025. Any such provision would undermine any attempt to create certainty for operators and investors in alternative, low carbon energy solutions, with attendant negative impacts on the achievement of climate change and health goals.
43. However, as explained in response to questions 1 and 2 above, the EPS should be implemented no later than the start of 2023. In this instance, it may be appropriate to include time-limited security of supply provisions, in force from 2023-2025.
44. One possible form for such a security of supply provision would be to allow coal plants a derogation from the EPS to the extent that they succeed in winning contracts in the T-1 auctions for delivery in 2022/2023, 2023/2024 and / or 2024/2025.<sup>25</sup> The T-4 auctions for delivery in these years should have procured sufficient alternative capacity to replace the retiring coal plants. This means that the derogation for coal plants in the T-1 auction would allow coal plants to continue functioning beyond 2022 only to the extent that there is a genuine and unforeseen security of supply emergency in the period from 2023-2025. There should be a limit placed on running hours for any coal plants making use of such a derogation, to ensure that they are only relied upon to alleviate security of supply concerns and not to provide baseload generation capacity. There should also be no provision allowing for the extension of this derogation beyond the 2024/2025 delivery period.
45. It should be possible to design this security of supply provision in such a manner that no amendments to the Electricity Capacity Regulations 2014 or Capacity Market Rules are required to implement it: the derogation can instead be contained in the legislation

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<sup>23</sup> See for example: <https://www.carbonbrief.org/autumn-statement-2016-climate-energy-announcements>.

<sup>24</sup> A more detailed explanation of the significance of the CPS is available at: <https://sandbag.org.uk/project/why-does-the-carbon-price-support-matter/>.

<sup>25</sup> This derogation would not be extended to include coal plants winning contracts in the T-4 auction for delivery in these periods, since this would merely encourage investment in modernizing the existing coal plants that are due to be phased out.

implementing the EPS obligation. This should mean that no further State aid notification is required to the Commission, as there will be no substantive amendment to the capacity market (see further the discussion in paragraphs 38-39 above). The amendments are instead to the environmental standards which coal (and other) plants must meet to operate in the UK.

46. Consequently, if the Government wishes to avoid the need to notify the European Commission of amendments to the capacity market, but still remove coal from the generation mix by 2025 while providing both security of supply and a meaningful constraint on coal prior to that date, the optimal approach could be as described in the preceding paragraphs: to implement the EPS (under options 1 or 2, with modifications as proposed above) at the start of 2023, while allowing the derogation described above.

#### Question 4 - wider impacts of coal closure

47. As explained above, it is important that the removal of coal from the UK's generation mix is achieved within the context of a coherent policy framework which encourages investment in low carbon technologies, such as renewable generation and storage, demand side response, energy efficiency and other innovative technologies. In particular, the Government must avoid further incentivising investments in diesel farms, substantial new gas plants (into which the UK would be locked for the long term), and biomass conversions. As acknowledged in paragraph 73 of the Consultation, replacing coal with biomass will not result in a significant reduction of many toxic pollutants - and moreover, flaws in carbon accounting for biomass mean that its use in place of coal will not achieve the Government's decarbonisation objectives. It is essential that the Government starts to appropriately account for carbon emitted from the burning of biomass, which is not achieved under the current carbon accounting framework.<sup>26</sup>

48. As market factors are anyway driving the UK's coal plants towards closure, we agree with the assessment in paragraph 68 of the Consultation that any impacts on jobs and businesses resulting from implementation of the EPS (and CCS, if applicable) obligations would anyway occur in the short to medium term regardless of the Government's intervention. We also agree that there is significant potential for increased employment in relation to renewables and other alternative low carbon technologies.<sup>27</sup>

49. Finally, as we move into the post-Brexit world it is essential that the UK maintains its leadership role in combating climate change and investing in clean technologies. This brings important environmental, reputational and economic benefits, and will place the UK Government in a strong position to lead when discussing environmental and climate change matters with other national leaders and international organisations.

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<sup>26</sup> Further detail on this point is available here: <https://www.nrdc.org/sites/default/files/uk-biomass-replace-coal-clean-energy-ib.pdf>.

<sup>27</sup> This is reflected by the emphasis placed on the job-creating potential of the clean energy industry in the Government's recent Green Paper on "*Building our Industrial Strategy*", available at: [https://www.gov.uk/government/uploads/system/uploads/attachment\\_data/file/586626/building-our-industrial-strategy-green-paper.pdf](https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/586626/building-our-industrial-strategy-green-paper.pdf).