



Department for
Business, Energy
& Industrial Strategy

Carbon Capture Usage and Storage: Amendments to Contracts for Difference Regulations

A consultation on three proposed amendments to the CfD regulations to facilitate Power CCUS

Closing date: 8th September 2021



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General information

Why we are consulting

The purpose of this consultation is to seek views on the proposed amendments to the Contracts for Difference (CfD) regulations that will facilitate the award of the [Dispatchable Power Agreement \(DPA\)](#) for Power Carbon Capture and Storage.

Consultation details

Issued: 21st July 2021

Respond by: 8th September 2021

Enquiries to:

Carbon Capture Usage and Storage Policy Team
Department for Business, Energy and Industrial Strategy
3rd Floor
1 Victoria Street
London
SW1H 0ET

Email to: powerccusconsultation@beis.gov.uk

Consultation reference: Carbon Capture, Usage and Storage - Amendments to Contracts for Difference Regulations Consultation

Audiences:

The Government anticipates that this consultation will be of interest to any stakeholder with an interest in the development of CCS policy. This may include:

- Consumer groups
- Devolved and local governments
- Investors and developers involved in potential CCS projects
- The industrial and energy sectors more widely
- NGOs and other organisations with an interest in climate and energy
- Electricity traders and suppliers
- Businesses operating in the bioenergy sector

However, any organisation or individual is welcome to respond.

Territorial extent:

This consultation applies to England, Scotland, Wales and Northern Ireland.

How to respond

Your response will be most useful if it is framed in direct response to the questions posed, and with evidence in support wherever possible. Further comments and wider evidence are also welcome. When responding, please state whether you are responding as an individual or representing the views of an organisation.

We encourage respondents to make use of the online e-consultation wherever possible when submitting responses as this is the Government's preferred method of receiving responses. However, responses in writing or via email will also be accepted. Should you wish to submit your main response via the e-consultation platform and provide supporting information via hard copy or email, please be clear that this is part of the same consultation response.

Respond online at: beisgovuk.citizenspace.com/clean-electricity/ccus-amendments-to-cfd-regs

or

Email to: powerccusconsultation@beis.gov.uk

Write to:

Carbon Capture Usage and Storage Policy Team Department for Business, Energy and Industrial Strategy
3rd Floor
1 Victoria Street
London
SW1H 0ET

When responding, please state whether you are responding as an individual or representing the views of an organisation.

Confidentiality and data protection

Information you provide in response to this consultation, including personal information, may be disclosed in accordance with UK legislation (the Freedom of Information Act 2000, the Data Protection Act 2018 and the Environmental Information Regulations 2004).

If you want the information that you provide to be treated as confidential please tell us, but be aware that we cannot guarantee confidentiality in all circumstances. An automatic confidentiality disclaimer generated by your IT system will not be regarded by us as a confidentiality request.

We will process your personal data in accordance with all applicable data protection laws. See our [privacy policy](#).

We will summarise all responses and publish this summary on [GOV.UK](#). The summary will include a list of names or organisations that responded, but not people's personal names, addresses or other contact details.

Quality assurance

This consultation has been carried out in accordance with the government's [consultation principles](#).

If you have any complaints about the way this consultation has been conducted, please email: beis.bru@beis.gov.uk.

Introduction

In its Sixth Carbon Budget, the Climate Change Committee re-emphasises the crucial roles CCS will play in reducing emissions from industrial processes, combustion, electricity generation and hydrogen production.

In November 2020, the Prime Minister's Ten Point Plan set out our ambition to have a CCS sector with an operational capability of capturing 10 MtCO₂ per year by 2030. To achieve this, the government has committed to investing up to £1 billion to support the establishment of CCS in four industrial clusters, creating several 'SuperPlaces'. The intention of this is to bring together clean industry, power, hydrogen, and transport in areas such as the North East, the Humber, the North West, Scotland, and Wales. For Power CCS, the Department of Business, Energy and Industrial Strategy (BEIS) will both encourage private sector investment, and use consumer subsidies, to support construction of at least one Power CCS plant to be operational by 2030.

The [Energy White Paper 2020](#) set out the government's view of how to achieve a low cost, low carbon electricity system. Whilst we cannot predict today exactly what the generating mix will look like in 2050, we can be confident that renewables will play a key role. However, in order to decarbonise whilst maintaining security of supply and keeping costs low, we will need to balance renewable variability against demand. To do this we will need system flexibility, energy storage and non-weather dependent, low carbon power generation. We consider that thermal power with CCS is one technology which can provide this at scale.

Decarbonising the power sector has led the UK's efforts to reduce greenhouse gas emissions. In 1990, electricity generation accounted for 25% of UK emissions. In 2018, it was only 15%. Thirty years ago, fossil fuels provided nearly 80% of electricity supply. Today, the country gets over half of its power from low carbon technologies¹.

Therefore, CCS will be essential to meeting the UK's 2050 net zero target, playing a vital role in levelling up the economy, supporting the low-carbon economic transformation of our industrial regions, creating new high value jobs.

The Dispatchable Power Agreement ("DPA"), which is the contract currently being designed for the Power CCS² business model, is bespoke and based on the standard terms of the Contracts for Difference used in allocation rounds, subject to specific adjustments to ensure that the mechanism meets the requirements of Power CCS. The DPA will be a key tool used to encourage low carbon electricity generation by bringing forward investment in Power CCS

¹ BEIS (2020) Carbon Capture, Usage and Storage: An update on business models for Carbon Capture, Usage and Storage, accessible https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/946561/ccus-business-models-commercial-update.pdf

² All BEIS CCUS business model updates, accessible <https://www.gov.uk/government/publications/carbon-capture-usage-and-storage-ccus-business-models>

projects and incentivising those facilities to operate in a manner which benefits the UK energy market.

It is intended that the Secretary of State will use the powers in section 10 of the Energy Act 2013 to direct the LCCC to offer initial DPA contracts with generators who are identified through the cluster sequencing process as explained in the May 2021 cluster sequencing guidance³. The Department is considering its approach for allocating contracts on a longer-term basis.

Purpose of this Consultation

The purpose of this consultation is for BEIS to gather views on three proposed amendments to the Contracts for Difference (Definition of Eligible Generator) Regulations 2014 and Contracts for Difference (Allocation) Regulations 2014, that will facilitate the use of a Dispatchable Power Agreement for Power CCS by BEIS.

The first proposed amendment, to enable retrofit CCS projects to be eligible under the Contracts for Difference (Definition of Eligible Generator) Regulations 2014, was originally consulted on in 2015⁴. Given policy developments in the how CCS projects will be supported (articulated in the December 2020 and May 2021 publications on Power CCS business models⁵), we are re-consulting on this amendment, as well as two associated amendments.

The second proposed amendment is to amend certain wording in the Contracts for Difference (Allocation) Regulations 2014 to ensure there is flexibility to use DPA terminology, whilst maintaining the integrity of the payment terminology for all other CfD contracts.

Thirdly, this consultation seeks to gather views on the definition of a complete CCS system (as defined in the Contracts for Difference (Definition of an Eligible Generator) Regulations 2014) with regards to non-pipeline transport of CO₂, with a view to considering the forms of CO₂ transport likely to be used and to ensuring their inclusion in the definition.

The Proposals

To enable Power CCS to play a valuable, mid-merit role in our generation mix we are developing the Dispatchable Power Agreement (DPA), a business model based on the standard terms of the Contracts for Difference used in the allocation rounds.

³Guidance on the cluster sequencing process, accessible https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/986007/ccus-cluster-sequencing-phase-1-guidance-for-submissions.pdf

⁴ Consultation on changes to the CfD Contract & CfD Regulations, accessible https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/410469/Group_3_consultation_MASTER.pdf

⁵ All BEIS CCUS business model updates, accessible <https://www.gov.uk/government/publications/carbon-capture-usage-and-storage-ccus-business-models>

Contracts for Difference (CfD)

The CfDs are a mechanism for bringing forward investment in low carbon generation. They provide long-term price stabilisation to low carbon electricity generation projects, allowing investment to come forward at a lower cost of capital and therefore at a lower cost to consumers. CfDs incentivise investment in renewable energy by providing developers of projects with high upfront costs and long lifetimes with direct protection from volatile wholesale prices, while protecting consumers from paying increased support costs when electricity prices are high. CfDs are intended to provide efficient long-term support for low carbon generation.

A CfD is a private law contract between a low carbon electricity generator and the Low Carbon Contracts Company (LCCC), a government-owned counterparty body.⁶ A CfD holder is paid a flat (indexed) rate for the electricity they produce; the difference between the 'strike price', a price for electricity reflecting the cost of investing in a particular low carbon technology, and the 'reference price', a measure of the average market price for electricity in the GB market. A CfD provides greater price stability to electricity generators by reducing their exposure to volatile wholesale prices, whilst protecting consumers from paying for higher support costs when electricity prices are high. In this way, CfDs are intended to provide efficient long-term support for low carbon generation⁷.

The payments made to generators are calculated and paid out by the LCCC. The cost of CfDs are met by consumers via the supplier obligation (a levy on electricity suppliers).

Although the proposed DPA would be implemented using the CfD regulations, there are to be several key differences between the DPA and other CfDs awarded, including the types of projects that are intended to be eligible and the payment mechanism.

CfD Allocation Round 4

The amendments to the Contracts for Difference regulations being proposed in this consultation will have no impact on the next CfD Allocation Round 4 (AR4) planned to open in December⁸ of this year.

Power CCS technologies will not be eligible to compete in AR4. The technologies that will be eligible to compete were confirmed in the November 2020 government response to the

⁶ Consultation on changes to the CFD Contract & CFD Regulations, accessible https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/410469/Group_3_consultation_MASTER.pdf

⁷ BEIS 2020 Contracts for Difference, accessible <https://www.gov.uk/government/publications/contracts-for-difference/contract-for-difference>

⁸ Allocation Round 4 news press, accessible <https://www.cfdallocationround.uk/news/allocation-round-4-open-december-2021>

consultation 'CfD for low carbon electricity generation: consultation on proposed amendments to the scheme'⁹.

Eligible Generator

The policy intent is that DPAs should be available to Power CCS projects and accommodate both newbuild and retrofit generators, provided the generator is connected to a complete CCS system.

Currently, under the terms of the existing Contracts for Difference (Definition of an Eligible Generator) Regulations 2014, a generator must intend to either establish an eligible generating station or alter an eligible generating station to increase its capacity by 5MW or more to be an eligible generator.

The proposed legislative amendments will ensure that both new build and retrofitted generating stations, which are connected to a full CCS system, are eligible to be awarded a DPA.

Payment Mechanisms

The DPA payment mechanism is intended to incentivise the availability of low carbon power generation capacity, provide investor confidence, and incentivise a Power CCS plant to respond to the energy market and only dispatch energy when zero carbon generators, such as wind, solar and nuclear power, are not producing enough power to meet demand.

What is in the DPA Payment Mechanism?

The CfDs awarded previously involved a difference payment between the wholesale electricity price and an agreed strike price. Following responses to our consultation on CCS business models in 2019, the DPA will have a different payment mechanism to other CfDs.

The proposed DPA will consist of two payments: an availability payment for low carbon generation capacity and a variable payment to adjust the position of the Power CCS plant in the merit order relative to an unabated reference plant. The combination of these payments will incentivise availability and enable a plant to operate flexibly, dispatching low carbon electricity to meet the energy market's needs.

The main portion of payment is expected to be in the form of an availability payment, which will be linked to performance requirements for the generator. It is intended to provide investors with certainty through a stable regular payment based on the availability of low carbon generation

⁹ BEIS 2020 Contracts for Difference for Low Carbon Electricity Generation: Consultation on proposed amendments to this scheme, accessible https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/885248/cfd-ar4-proposed-amendments-consultation.pdf

capacity. The availability payment rate on which the availability payment is based will be set through either a negotiated or competitive allocation process.

The variable payment will be calculated by considering the cost differential between the Power CCS plant as agreed in the DPA and a theoretical unabated reference plant. The aim of this calculation is to isolate the impact of installing particular CCS technology used in the Power CCS plant from other differences between the Power CCS plant and an equivalent unabated plant (for example, an unabated CCGT) and would include a gas cost differential, carbon cost differential, the T&S volumetric fees and other extra variable costs¹⁰.

What is the proposed change?

In the Contracts for Difference (Allocation) Regulations 2014 there is a presumption that a strike price and a reference price shall be present in all CfDs. The proposed legislative amendments would ensure that references to a “strike price” and a “reference price” are retained, however by amending the language to state that a “strike price” and “reference price” may be included but does not presume their inclusion, there will not be a requirement for these specific terms to be used in a DPA and the alternative payment mechanism can be used.

This consultation seeks views on the Government’s proposal to amend the wording and terminology of the Contracts for Difference (Allocation) Regulations 2014 where necessary to allow for the use of an alternative form of payment within the DPA.

Transport Options for CO₂

The eligibility criteria for CCUS projects (for Phase 2) were published in the [Phase 1 Launch](#) document in May 2021. The criteria reference the essential eligibility requirements for projects regarding their location, technology type, capacity, capture rate, financial viability, and project delivery viability. The criteria also states that Power CCS projects must ‘have access to a CO₂ transport solution and a CO₂ storage site’ to be considered eligible and progress onto the evaluation and negotiations stage of the [CCUS Cluster Sequencing Process](#).

We recognise that generators may need to use a non-pipeline transport solution, including rail, road, and/ or shipping, to transport their CO₂ to a suitable storage site. This could be required for various future scenarios, for example, projects which are not located directly within a CCUS cluster¹¹ and cannot connect to the CCUS cluster’s¹² CO₂ pipeline.

¹⁰ Further information available in BEIS (2020) Carbon Capture, Usage and Storage: An update on business models for Carbon Capture, Usage and Storage, accessible https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/946561/ccus-business-models-commercial-update.pdf

¹¹ Definition of a cluster in guidance, accessible https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/986007/ccus-cluster-sequencing-phase-1-guidance-for-submissions.pdf

¹² Definition of a cluster in guidance, accessible https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/986007/ccus-cluster-sequencing-phase-1-guidance-for-submissions.pdf

The Contracts for Difference (Definition of Eligible Generator) Regulations 2014 refer to a generator being eligible if it is 'connected to a complete CCS system'. The proposed legislative amendments will ensure that the definition of an "eligible generating station", which includes "a generating station connected to a complete CCS system" is broadly inclusive of all forms of non-pipeline transport for CO₂.

The definition of a "complete CCS system" is set out in section 2 of the Contracts for Difference (Definition of Eligible Generator) Regulations 2014:

"complete CCS system" means a system of plant and facilities for—

- (a) capturing some or all of the carbon dioxide (or any substance consisting primarily of carbon dioxide) that is produced by, or in connection with, the generation of electricity by a generating station;*
- (b) transporting the carbon dioxide (or substance) captured; and*
- (c) disposing of it by way of permanent storage;*

The Schedule (limb (d)) specifies that an "eligible generating station" includes: "a generating station connected to a complete CCS system".

Consultation questions

1. **Do you have any comments on the proposed amendment to the definition of an eligible generator to specify that retrofit Carbon Capture and Storage (CCS) projects, involving the connection of an existing power station to a complete CCS system, are eligible generators?**
2. **Do you have any comments on the proposed amendment to the Contract for Difference (Allocation) Regulations 2014, which will allow the DPA payment terminology to be used?**
3. **Do you consider that the current definition of an “eligible generating station” (as defined in the Contracts for Difference (Definition of Eligible Generator) Regulations 2014 and set out in the Transport Options for CO₂ section of this consultation) allows for the potential forms of non-pipeline transport as could be used in operations of a relevant generating station?**
 - 3.1 **If not, please specify why not?**
 - 3.2 **Should any particular form(s) of non-pipeline transport be expressly included or excluded from the definition of a complete CCS system?**
4. **Any other general comments?**

Glossary

Acronym	Definition
CfD	A contract for difference as defined in the Energy Act 2013 and referred to as a “CfD”, or as awarded in under the allocation rounds, for example as under allocation round 3.
Generator	The relevant generating station
Power CCS	Power Carbon Capture and Storage

Next steps

We will use the responses to this consultation to inform our development of the amendments proposed.

This consultation is available from: www.gov.uk/government/consultations/carbon-capture-usage-and-storage-amendments-to-contracts-for-difference-regulations

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