Department for
Business, Energy
& Industrial Strategy

Carbon Capture, Usage and Storage

Industrial Carbon Capture business model summary and consultation

Closing date: 10th June 2022

April 2022

Any enquiries regarding this publication should be sent to us at:
ICCbusinessmodels@beis.gov.uk

Introduction

The summary set out in this document outlines the key design aspects of the Industrial Carbon Capture (ICC) business model developed following our initial consultation on possible new business models for carbon capture usage and storage (CCUS) held in July 2019[1].

We subsequently developed the ICC business model design, articulated in updates released between December 2020 and November 2021 following engagement with CCUS expert groups, industry and relevant regulators. The proposed business model summarised in this document incorporates a number of additional positions developed subsequent to the 2021 updates, which are included in a business model update published alongside this consultation. Alongside this document we have also published for consultation the draft ICC Contract. These documents should be read in conjunction with the earlier December 2020, May 2021, October 2021, November 2021 business model updates[2] and indicative Grant Funding Agreement Head of Terms.[3]

We are now seeking views from stakeholders on the proposed form of the draft ICC business model support package prior to the negotiation / due diligence phase of the Track-1 Phase-2 of the Cluster Sequencing for Carbon Capture Usage and Storage Deployment process.[4]

This consultation is being published alongside a related consultation and draft contract on the Dispatchable Power Agreement (DPA), which is the business model for power CCUS.

A number of the proposed ICC contractual provisions have been outlined in the previous business model updates and, where relevant, references to those updates and the additional information and policy rationale they provide have been included. In addition, there are new provisions included in the draft ICC Contract that were not included in the October draft Heads of Terms or articulated in the earlier ICC Business Model updates and rationale for these has been provided in the accompanying update published alongside this consultation.

This consultation sets out questions relating to the government's proposals for the business model for ICC and the potential impacts on the waste hierarchy as a result of the support provided by a Waste ICC Contract

The proposals, as set out in the document and accompanying update published alongside this consultation, in whatever form they are expressed, are indicative only and do not constitute an offer by government and do not create a basis for any form of expectation or reliance. They remain subject to further development by the government, and approval by Ministers, in response to this consultation and in consultation with relevant regulators and the devolved administrations, as well as the development and Parliamentary approval of any necessary

[1] https://www.gov.uk/government/consultations/carbon-capture-usage-and-storage-ccus-business-models
[2] https://www.gov.uk/government/publications/carbon-capture-usage-and-storage-ccus-business-models
[3] https://www.gov.uk/government/publications/design-of-the-carbon-capture-and-storage-ccs-infrastructure-fund
[4] https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/1043088/ccus-cluster-sequencing-phase-2-guidance.pdf

legislation, and completion of necessary contractual documentation. We reserve the right to review and amend all provisions within the document, for any reason and in particular to ensure that proposals provide value for money (VfM) and are consistent with the current subsidy control regime.

Contents

General information

Why we are consulting

This consultation sets out the proposed business model and associated draft ICC Contract developed since publication of the initial ICC business model update[5] in December 2020 which set out the principles of the model design along with provisional Heads of Terms[6].

The proposed ICC business model and ICC Contract follows on from the consultation in 2019 on possible new business models for carbon capture usage and storage and the government response to that consultation[7] which set out the following key principles to guide the CCUS business model designs:

- Decarbonisation – our policies should incentivise efficient capture, utilisation and storage of CO_2 where production is necessary but should not incentivise production of CO_2 or result in perverse outcomes.
- Sustainable financing – our policies should instil confidence among investors and attract new domestic and international entrants to the market in a sustainable manner and have the potential to be subsidy free.
- Economy – our policies should create value to the UK economy and support high-value jobs.
- Cost reductions – our policies should harness opportunities to drive down cost through innovation, learning by doing and competition as appropriate.
- Market and flexibility – our policies should be market based and minimise distortions in existing markets. They should be compatible with existing market frameworks but retain the flexibility to respond to market conditions and public needs as markets and the economy evolve.
- Value for money – our policies should be cost-efficient, providing value for money for taxpayers and consumers, and provide a risk-adjusted fair return to investors whilst recognising the first of a kind nature of the sector that with industry, we need to develop.
- Fair and reflective costs – the cost of deploying CCUS should be reflective and fair, and not undermine UK industrial competitiveness

[5] https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/946561/ccus-business-models-commercial-update.pdf
[6] https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/946595/ccus-business-models-annex-e-icc-heads-of-terms.pdf
[7] https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/909706/CCUS-government-response-business-models.pdf

We now set out in this consultation the proposed business model and draft ICC Contract upon which we invite views. This consultation also seeks views on how the business model adapted for waste management CCS projects can minimise potential impacts on the waste hierarchy.

Please note that we are seeking views on this draft ICC Contract from stakeholders from the waste management sector, as well as from all other relevant stakeholders. We have set out our intention to publish a variation of the ICC Contract for CCS projects in the waste management sector (known as the "Waste ICC Contract") in the section below on ICC business model variations for CCS projects in the waste management sector. The Waste ICC Contract will be an adaptation of the 'generic' ICC Contract and we expect many of the provisions in the 'generic' draft ICC Contract to be retained in the Waste ICC Contract. Further information on the adaptations we are considering for the Waste ICC Contract are set out in the ICC business model update published alongside this document. We are also seeking views on potential impacts on the waste hierarchy as a result of the support provided by a Waste ICC Contract and these questions are also included in this document.

We will consider the responses received to determine whether any issues identified necessitate further development to ensure business model design meets policy aims. External advisors may assist with the analysis of responses.

Consultation details

Issued: Tuesday 12 April

Respond by: Friday 10 June 23:59

Enquiries to:

Industrial Carbon Capture Business Models Policy Team
Department for Business, Energy and Industrial Strategy
2nd Floor Spur
1 Victoria Street
London
SW1H 0ET

Email: ICCbusinessmodels@beis.gov.uk

Consultation reference: Consultation on the industrial carbon capture business model.

Audiences:

We are seeking views from stakeholders with an interest in the development of the industrial carbon capture business model. This includes (but is not limited to) companies in the industrial sector, waste sector, project developers, financial investors, trade associations and NGOs.

Should you wish to be involved in any future stakeholder events in connection with the ICC Business Model please contact us via email at ICCbusinessmodels@beis.gov.uk.

Territorial extent:

The scope of this consultation is UK-wide. Our preferred approach is for the business model to be funded and delivered on a UK-wide basis to support decarbonisation across the UK. We will continue to work with the devolved administrations as we develop and finalise the business model.

How to respond

Respond online at: https://beisgovuk.citizenspace.com/clean-electricity/ccus-industrial-carbon-capture-business-model/

Email to: ICCbusinessmodels@beis.gov.uk

Write to:

Industrial Carbon Capture Business Models Policy Team
Department for Business, Energy and Industrial Strategy
2nd Floor Spur
1 Victoria Street
London
SW1H 0ET

A response form is available on the GOV.UK consultation page:

https://beisgovuk.citizenspace.com/clean-electricity/ccus-industrial-carbon-capture-business-model/

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

Your response will be most useful if it is framed in direct response to the questions posed, though further comments and evidence are also welcome.

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.

Disclaimer

This document sets out further details on the government's current proposals on the potential business model for industrial facilities with carbon capture usage and storage (CCUS). The proposals, as set out in the document and accompanying updates published alongside this document, in whatever form they are expressed, are indicative only and do not constitute an offer by government and do not create a basis for any form of expectation or reliance.

The proposals, and accompanying updates published alongside this document, are not final and are subject to further development by the government, and approval by Ministers, in consultation with relevant regulators and the devolved administrations, as well as the development and Parliamentary approval of any necessary legislation, and completion of necessary contractual documentation. We reserve the right to review and amend all provisions within the document and accompanying updates published alongside this document, for any reason and in particular to ensure that proposals provide value for money (VfM) and are consistent with the subsidy control regime.

This document takes into account engagement that has taken place throughout 2021 including since the publication of the last Industrial Carbon Capture (ICC) Business Model update in November 2021. This includes engagement with the ICC Expert Group, Waste CCS Expert Group, project developers, and other interested parties.

BEIS will continue such engagement as it works to refine its proposals, including engagement with the devolved administrations, to ensure that the proposed policies take account of devolved responsibilities and policies across the UK.

The proposed terms in this consultation and the associated draft ICC Contract (including the ICC Agreement and the ICC Standard Terms and Conditions) will be reviewed in light of this consultation but also remain subject to further development by the government in consultation with relevant regulators and the developed administrations as well as subject to Parliamentary approval of any necessary legislative amendments and to ensure consistency with subsidy control principles. The proposals, as set out in the consultation document, do not constitute an offer by government and do not create a basis for any form of expectation or reliance.

The draft ICC Contract does not constitute definitive drafting of the ICC Contract's terms. A number of the provisions and terms which require particular consideration and development have been square bracketed (with footnotes) in the ICC Contract. BEIS reserves the right to review and amend these square bracketed provisions, and all other provisions set out in the ICC Contract.

The draft ICC Contract does not indicate any willingness or agreement on the part of BEIS to enter into, or arrange entry into, the ICC Contract. The ICC Contract does not constitute an offer and is not capable of acceptance.

Business Model Summary

Introduction

What is the ICC business model

The Industrial Carbon Capture (ICC) business model has been designed to incentivise the deployment of carbon capture technology by industrial users who often have no viable alternative to achieve deep decarbonisation. The ICC business model comprises a capital grant (for initial projects) which will be funded by the £1 billion CCS Infrastructure Fund (CIF), and/or ongoing revenue support which will be funded by the Industrial Decarbonisation and Hydrogen Revenue Support (IDHRS) scheme.

Phase-2 Allocation

The ICC business model has been developed as part of the wider CCUS Cluster Sequencing process, and projects were able to make submissions for business model support in Phase-2[8] of this process. The application window for Phase-2 closed on 21 January 2022.

Projects that are selected following successful evaluation in Phase-2 of the CCUS Cluster Sequencing Process will be invited to participate in the due diligence and negotiations stage, and may ultimately receive business model support subject to final government compliance checks and terms set out in section 7.9 of the Cluster sequencing Phase-2 guidance.[9]

Negotiations

We set out in the Phase-2 guidance[10] document that after the evaluation of submissions and shortlisting, in line with government business case approvals processes, government envisages that there will be a period of negotiation/due diligence in the CCUS Cluster Sequencing process, when shortlisted projects will engage with the Department on a variety of technical and commercial issues.

We anticipate that the project-specific terms included in the ICC Agreement will be subject to discussion in this phase.

Purpose

The purpose of this document is two-fold:

- The summary set out in this document outlines the key design aspects of the ICC business model including commercial framework, risk allocation, Contract conditions,

[8] Guidance on the cluster sequencing process: https://www.gov.uk/government/publications/cluster-sequencing-for-carbon-capture-usage-and-storage-ccus-deployment-phase-2
[9] See link at footnote 8.
[10] See link at footnote 8.

business model adaptations and the pre-award process for allocating business model support. It should be read in conjunction with the December 2020, May, October and November 2021 business model updates.

- to seek views and feedback from stakeholders through consultation on the proposed business model to support and deploy CCS-specific decarbonisation of industry in the UK. The questions for consultation are described in section 24.

With this consultation we are seeking views from stakeholders on the proposed structure and content of the ICC business model and the accompanying draft contract. This consultation seeks to assess the extent to which the model is deliverable, investable and supports effective decarbonisation. The fundamental principles of the ICC intervention were consulted on in the 2019 Business Models consultation.[11] The government response to this consultation set out the following aims for the ICC model:

> *We aim to develop a model that will incentivise deployment of early projects, whilst having the flexibility to evolve for later phases of deployment and being capable of supporting a range of projects across different industrial sectors. As CCUS costs come down and the carbon price increases, we expect to reduce the level of government support provided to new projects through the business model, achieving a sustainable and cost-effective mechanism. Our long-term vision is subsidy-free decarbonisation.*

We are seeking feedback to inform the final ICC Contract which is planned to be published to align with negotiations commencing. The final ICC Terms and Conditions will represent a generic contract applicable to all projects (with the exception of Waste CCS projects) where project-specific information and negotiated items will be set out in the ICC Agreement.

We are also seeking feedback on the proposed adaptations to the generic ICC Contract for the waste management sector and the extent to which any potential risks of impacting the waste hierarchy can be addressed and mitigated (see section 20).

This document is being published alongside an update on the Dispatchable Power Agreement (DPA), which is the business model for power CCUS, and an update on the ICC business model and the draft ICC Contract.

Definitions

Definitions for terminology used in throughout this publication can be found in the draft ICC Contract update published alongside this consultation unless otherwise defined in this document.

11 https://www.gov.uk/government/consultations/carbon-capture-usage-and-storage-ccus-business-models

1. ICC Business Model Offer for Initial ICC Projects

Industrial Carbon Capture (ICC) business model support outlined in this document is reflective of the current immaturity of the market in the UK and therefore this model is for initial ICC projects awarded support via the ongoing Cluster Sequencing Process.

The support package projects are expected to receive through ICC business model support include:

- An element of capital co-funding through the CCS Infrastructure Fund (CIF), for initial projects and where relevant.
- An Industrial Carbon Capture Contract to provide ongoing revenue support funded via the Industrial Decarbonisation and Hydrogen Revenue Support (IDHRS) scheme.[12]

It is expected that the Low Carbon Contract Company Ltd. will be the ICC Contract Counterparty for the ICC Contracts, subject to successful completion of administrative and legislative arrangements.

Variations to the ICC business model are set out for Capture-as-a-Service (CaaS), Carbon Capture Usage/Storage Hybrid projects, Combined Heat and Power (CHP) and Waste Management projects in sections 16-19.

2. Capital Grant

Capital grants will be available for initial ICC projects that have applied through Phase-2 of the Cluster Sequencing Process for CCUS deployment.

Our intention is to offer capital grants on a “last spend” approach, where industry is set the challenge of raising as much private sector capital as possible, and then indicating what remaining funding gap would need to be filled in order for the project to be fully financed.

The range of capital grant funding offered will be up to but not including 50% of total capital costs, and all capital grant funding will be subject to affordability, value for money and subsidy control considerations. It is proposed that financing information provided by applicants in Phase-2, will be used to inform negotiations, during which any capital grant funding will be agreed. The level of capital grant funding offered to projects will also take into consideration the overall costs to taxpayers (considering both CIF and ongoing revenue support).

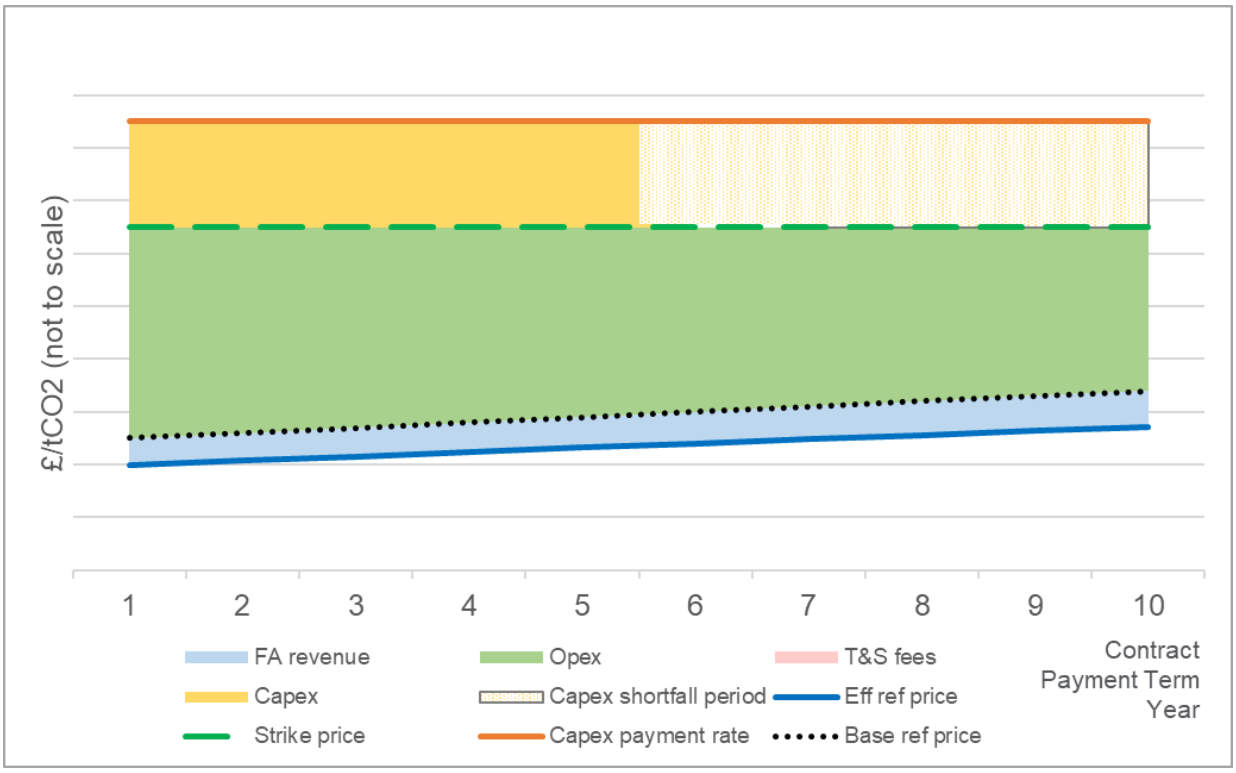
An indicative Heads of Terms for the CCUS Infrastructure Fund (CIF) Grant Funding Agreement was published in November 2021.[13]

[12] The IDHRS scheme was established through the Net Zero Strategy in October 2021 to fund the Industrial Carbon Capture and Hydrogen Business Models. https://www.gov.uk/government/publications/net-zero-strategy
[13] CCUS Grant Funding Agreement for Industrial Carbon Capture Indicative Head of Terms: https://www.gov.uk/government/publications/design-of-the-carbon-capture-and-storage-ccs-infrastructure-fund

3. Capex and opex payments

The capex payment rate and strike price for ICC Contracts will be, for initial projects, negotiated bilaterally and should be based on, and reflective of, expected costs of carbon capture for the project, including a rate of return.

Figure 1: Graph showing the ICC Contract payment components



Capex payment rate

The capex payment rate will apply from the start of operations to the point at which capex has been repaid (subject to an annual capex payment limit) or the end of year 10, whichever occurs sooner. The capex payment is a fixed £ amount per tonne of CO_2 captured.

If the capex payment (which also includes a fixed quantum reflecting an agreed rate of return on capital investment over 5 years) has not been paid fully in the first 5 years due to lower than expected CO_2 capture quantities, the capex payment rate will continue to apply for up to a further 5 years or until enough CO_2 has been captured for capex and the fixed quantum of return to be fully paid, whichever occurs sooner.

Strike price

The strike price, which is used to calculate opex payments, will apply for the duration of the Contract. The opex payment is a difference payment (per tonne of CO_2 captured) made between the strike price and the reference price (see section 5). The strike will be adjusted for inflation based on changes in the Consumer Price Index.

One year after the start of operations there will be a reopener on some of the elements of the opex payment. These elements will be agreed during negotiations and the Emitter will need to evidence any changes in cost during operations, if this evidence isn't submitted within required time period this may lead to suspension of payments. This evidence is used to determine what changes, if any, are to be made to the strike price, subject to a materiality threshold and maximum change cap. The threshold and cap will be set in advance of negotiations.

Settlement and Billing

A settlement unit of one day (from 0:00 up to but not including 0:00 of the following day) is the minimum period used to calculate payments that are to be made to or from the Emitter under the ICC Contract. A billing period, which is the frequency with which payments to/from the Emitter are made, will include the amount which is calculated for every settlement unit in a calendar month.

Capacity Limits

During any Opex Payment Year, opex payments related to the Metered CO_2 Output to T&S will be capped when the total Metered CO_2 Output to T&S reaches or exceeds 110% equivalent of the Maximum Annual CO_2 Capture Quantity. This figure will be the greatest mass quantity of CO_2 that the Emitter is expected to capture in any of Opex Payment Years 1 to 15, based on the design capacity and projected availability of the Capture Plant. The Maximum Annual CO_2 Capture Quantity will be set on a project-by-project basis and will be agreed during negotiations.

4. T&S Fees

T&S fees will be funded via the ICC business model for the duration of the ICC Contract. They will be treated as a pass-through, i.e. the ICC Contract will pay the Emitter to pay the T&SCo, and will be kept separate from the strike price. T&S fees will be capped by reference to maximum values of capacity, output to T&S, and size of connection which will be agreed on a project-by-project basis as part of negotiations[14].

The payment of the T&S fee to the Emitter during the first 10 years of the ICC Contract will not be affected by the relative values of the strike price and the base reference price (see section 8 on Asymmetric Payments for further details).

Please see the Transport and Storage January 2022 business model update for further information on T&S tariff arrangements[15].

[14] These caps will be subject to change as T&S fee policy develops.
[15] Transport and storage business model: January 2022 update
https://www.gov.uk/government/publications/carbon-capture-usage-and-storage-ccus-business-models

5. Reference Price

There will be one reference price trajectory for all ICC projects – the base reference price – and it will be published prior to the commencement of the first negotiations.

The starting point of the reference price will reflect the market carbon price under UK carbon pricing policy (UK Emissions Trading Scheme, UK ETS) over a sufficient period prior to Contract negotiation.

The reference price will follow an equally-stepped upward trajectory based on historical growth in carbon prices over the last several years. This will apply for the first 10 years of the Contract Payment Term for initial ICC projects.

In the extension period, the reference price will be a market carbon price, with our preference being a monthly-averaged price for each calendar month in the extension period.

6. Free Allowance Treatment

For initial Contracts only, we have proposed the following Free Allowance (FA) treatment within the ICC Contract and are continuing to consider implementation and interaction with the UK ETS.

The industrial Emitter will forfeit a number of FAs (received annually under the UK ETS) in proportion to the expected annual capture factor, which is defined as the captured and stored amount of emissions minus emissions generated from powering the capture plant divided by emissions from process streams normally fed to the capture plant.

The Emitter will receive price assurance for these forfeited FAs; the Emitter will be compensated at the value of the reference price for that year, i.e. on a £ per tonne forfeited FA basis.

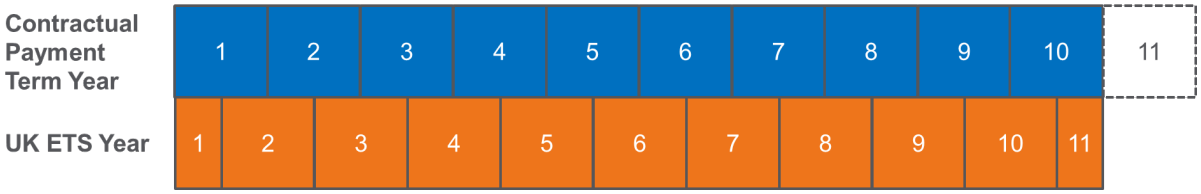
The Emitter will also receive volume assurance on a minimum number of ‘protected’ FAs eligible for compensation. This will apply if an Emitter’s UK ETS allocation is reduced as a result of new laws and new policies introduced[16] after Contract signature. These protected FAs will follow a trajectory where protection is 100% for Contract Payment Term Year 1, decreasing linearly to 50% for Contract Payment Term Year 10. However, UK ETS laws and policies relating to FAs to which the government is committed[17] at contract signature will continue to affect the number of FAs eligible for compensation.

Forfeiture of FAs will occur near to the start of each calendar year (we are considering how this will be applied in the first Contract Payment Term Year) using an expected annual capture

[16] This will be defined further in due course.
[17] This will be defined further in due course.

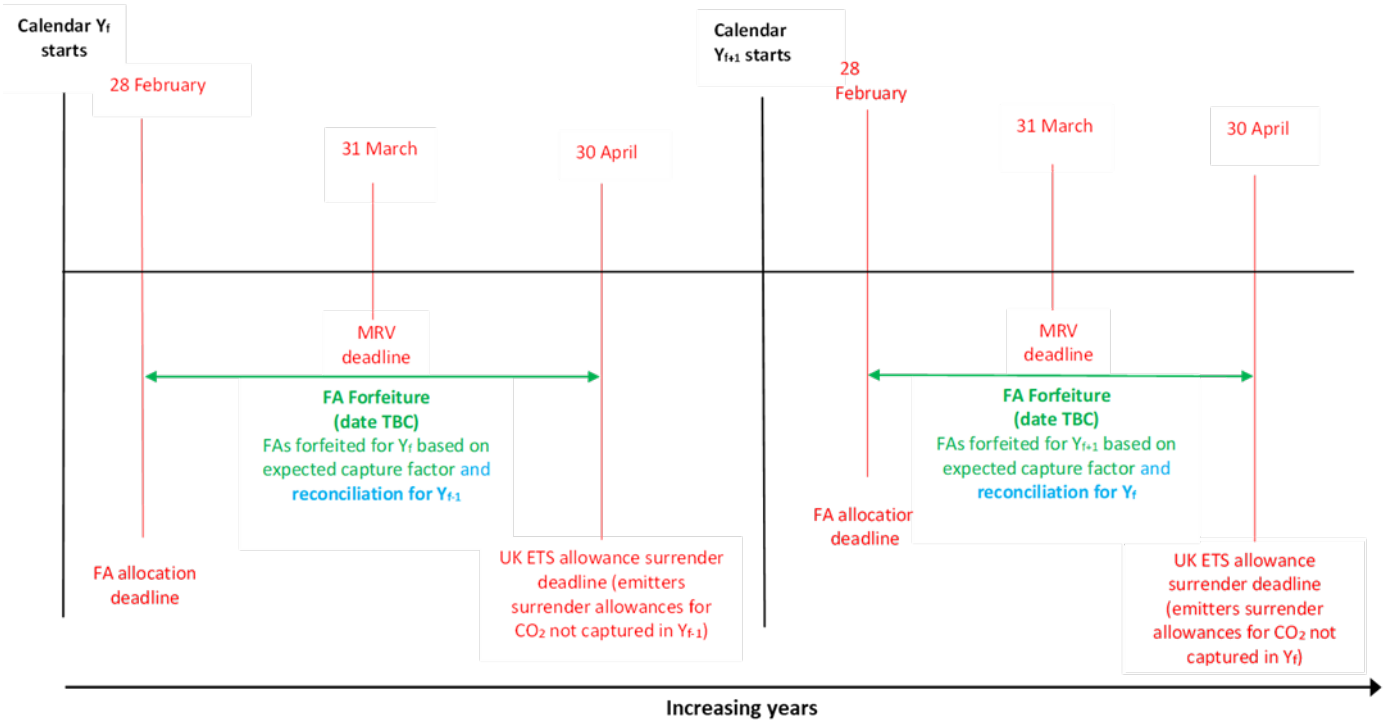
factor. A comparison of Contract Payment Term Years and calendar years (or UK ETS Years) is shown in Figure 2.

Figure 2: Comparison of Contractual Payment Term Years and UK ETS (calendar) Years



The expected annual capture factor may differ from the actual annual capture factor, which can only be determined after the end of each year, and therefore a reconciliation process will occur after the end of each calendar year (and before the deadline under the UK ETS for surrendering allowances). The timing of this process is shown in Figure 3. If the actual annual capture factor turned out to be higher than the expected annual capture factor, the Emitter will be obliged to forfeit more FAs and will receive further compensation for these; if the actual annual capture factor turned out to be less than the expected annual capture factor, the ICC Contract Counterparty will return the required number of FAs to the Counterparty and the Emitter must return the associated compensation previously received.

Figure 3: Timeline for the forfeiture and reconciliation of FAs



The forfeiture and volume protection of FAs for these initial projects will apply for the first 10 years of each Contract but not for the extension period.

7. Payment for Capture of Biogenic CO_2, or 'Negative Emissions'

The ICC business model will make payments for all CO_2 captured and stored in the T&S network, whether it derives from biogenic or fossil fuels. We are considering the use of the same reference price and strike price to make payments for captured biogenic CO_2 and captured fossil CO_2. Biogenic CO_2 that is captured and permanently stored can be described as 'CO_2 removal' or 'negative emissions', which the Net Zero Strategy stated as being essential to compensate for residual emissions arising from sectors most difficult to decarbonise.

There is potential for these negative emissions to be monetised via international carbon markets. This may create an opportunity to help stimulate negative emissions markets and reduce support costs. However, there is still ongoing work across HMG to consider the implications of Article 6 with respect to credit sales and international accounting following COP26, which is being considered in the context of wider development of incentive frameworks for GGRs and negative emissions. The UK Government is also exploring the role of the UK ETS as a potential long-term market for GGRs, and has published a call for evidence with the Devolved Administrations as part of the consultation[18] published in March 2022 on the UK ETS.

Given the ongoing development of the wider policy landscape on negative emissions in the UK and the need to ensure a coherent approach to how any negative emissions sales would be claimed/accounted for, the sale of any 'negative emissions' associated with the biogenic CO_2 captured will initially be prohibited under the ICC Contract. This provision will be reviewed following an appropriate trigger defined in the Contract. If, as a result of the review, it is decided that the sale of negative emissions or the creation of carbon market units associated with negative emissions is to be allowed, an appropriate deduction will be made from the subsidy calculation to reduce the risk of over-subsidy. We are also considering the interaction of the model for 'generic' ICC Contracts with any future business model that explicitly incentivises negative emissions including the capture and storage of biogenic emissions.

8. Asymmetric Payments

For the first 10 years of initial ICC Contracts, opex payments will be asymmetric:

- If the strike price is higher than the base reference price, the ICC Contract Counterparty pays the Emitter the difference;
- If the strike price is lower than the base reference price, no payments in relation to the strike price are made between the ICC Contract Counterparty and the Emitter.

[18] UK Emissions Trading Scheme (UK ETS) Consultation: https://www.gov.uk/government/consultations/developing-the-uk-emissions-trading-scheme-uk-ets

Capex payments, free allowance forfeiture and compensation, and T&S fees continue to be paid from the ICC Contract Counterparty to the Emitter as normal.

Symmetric payments will come into force during the extension period (see section 10 on Contract Extension).

9. Carbon Intensity Reporting

Emitters will be required to report their carbon intensity annually to the ICC Contract Counterparty. The purpose of such reporting would be to provide assurance that the Emitter has not created excess CO_2 for the purpose of receiving additional subsidies pursuant to the ICC Contract.

As a minimum, we would expect the report to include:

- A monthly breakdown of the figures contributing to the carbon intensity of their product(s) or service(s) for the last year, a historical comparison of annual carbon intensity covering at least the last 5 years, and any necessary qualitative data to provide narrative around variances between years and for fluctuations.
- A comparison against their original design basis, including heat and material balances, so that the actual plant performance can be compared against what was forecast/designed for.
- If the Emitter has fuel switched within the last year, they should provide analysis and rationale around this decision, showing they have not done this for purpose of receiving additional subsidies under to the ICC Contract.
- Certification of the information contained in the report by any director and a technical director (or equivalent).

The declaration by the director must include a certification that the project has not created excess CO_2 for the purpose of receiving additional subsidies through the business model, and that all of the information submitted is true, complete, accurate and not misleading to the best of their knowledge and belief.

Excess CO_2 creation will be defined as a material increase in CO_2 created relative to unit of product produced, materials treated or services provided which arises out of the Emitter operating and/or maintaining the Industrial Installation in a way which is inconsistent with the reasonable and prudent standard having regard to the way a similar industrial facility would have been operated had it not had the benefit of an ICC Contract; the Emitter operating and/or maintaining the Industrial Installation in a way which is designed to or a main purpose of which is to increase CO_2 produced to maximise the ICC Contract payments; and/or the Emitter's breach of the Capture Plant Metering Obligation as outlined in the ICC Contract. This could include, but is not limited to, behaviours such as directing CO_2 to the capture plant that is unrelated to the industrial process, burning more fuel than reasonably needed to conduct the industrial process and directing the resulting excess CO_2 to the capture plant, using a more

carbon intensive fuel/feedstock for no other purpose than to increase CO_2 directed to the capture plant.

We would expect the report to cover the period 1 January to 31 December for each calendar year of the ICC Contract (or the Start Date to 31 December in the first year of the Contract) and must be submitted before 31 March of the following calendar year. We also expect that the report would be reviewed and certified by an independent external auditor in advance of being submitted to the ICC Contract Counterparty.

The ICC Contract Counterparty will have the right to (i) request further information from the Emitter in relation to the report and (ii) require that an independent auditor attend the relevant site to collect further information in relation to the report (and in such circumstances the Emitter will be expected to provide such access and cooperate fully with the auditor).

The ICC Contract Counterparty will have the right (but not obligation) to terminate the ICC Contract if it considers that the Emitter has provided a misleading declaration and/or data in their report. The ICC Contract Counterparty will also have the right (but not obligation) to terminate the Contract if it considers that the data provided in the reports shows that the Emitter has been creating excess CO_2 for the purpose of receiving additional subsidies under the business model.

If a report is not submitted, the ICC Contract Counterparty will send a non-compliance notice to the Emitter, who will then have 1 month from receipt of the notice to rectify the situation through the submission of a valid report. If a valid report is not received by the ICC Contract Counterparty by this time, payments under the ICC Contract may be suspended. When the Emitter submits a valid report it will receive the suspended payments back without the interest.

10. Contract Extension

Extension Conditions

The Contract will be comprised of a 10-year contractual payment term with the option for a one-year extension, up to a total of 5 additional years.

The Emitter would have to achieve certain performance conditions during prior years of the ICC Contract to trigger the extension. These are:

- Average CO_2 Capture Rate over the last 5 available Contract Payment Term Years (e.g. years 5 to 9 inclusive for an extension into year 11) is greater than or equal to the higher of i) 85% or ii) 5 percentage points less than the CO_2 capture rate achieved during OCPs.
- Average quantity of CO_2 captured over the last 5 available Contract Payment Term Years (e.g. years 5 to 9 inclusive for an extension into year 11) is at least 90% of the CO_2 Capture Volume Estimate for the relevant period. This volume may be actual or, for

example in circumstances of Force Majeure, cross-chain events or Change in Law, an appropriate “deemed” capture volume.

In addition to the performance conditions described above, the following market condition would need to be satisfied to trigger the extension: the average[19] market carbon price (e.g. UK ETS carbon price) should be less than the subsidy rate (which is the sum of the strike price and T&S fees, converted to a £ per tonne of CO_2 basis) over a one-year period. This one-year period will be two Contract Payment Term Years before the extension year in question, subject to the Emitter requesting an extension, e.g. the defined period of time is Contract Payment Term Year 9 for an extension to Contract Payment Term Year 11. The market carbon price used to test this condition will be the average over the 12-month period. We are considering how negative emissions revenues should be taken into account within the market condition.

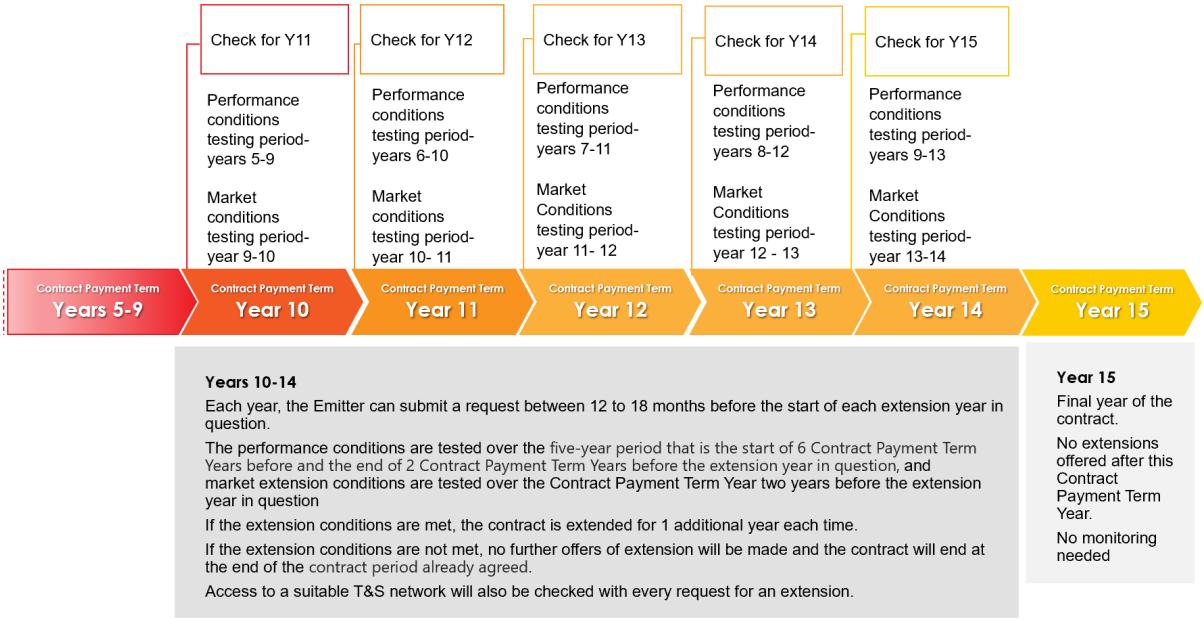
The Emitter will need to demonstrate that it remains connected to the T&S network when it makes its request for an extension to the term.[20]

If an Emitter wants to request an extension, it would need to do so 12 to 18 months before the start of each extension year in question (e.g. to request an extension into Contract Payment Term Year 11, the Emitter would have to submit a request between halfway through Contract Payment Term Year 9 and the start of Contract Payment Term Year 10). The Emitter would also need to provide any information requested by the ICC Contract Counterparty to carry out an assessment as to whether the Emitter has met the extension conditions. After the checks are complete, the ICC Contract Counterparty will notify the Emitter whether it has or has not met the extension conditions or has provided insufficient information to enable the ICC Contract Counterparty to make this determination. If the Emitter is notified that it has met all the conditions, the term of the ICC Contract will be extended by one year. If the Emitter has not met all the conditions, the ICC Contract will expire at the end of Contract period already agreed on a no-liability basis.

If a Contract is extended, a request can be submitted for subsequent one-year extensions. However, if at any point a Contract is not extended, no further extensions will be offered. Figure 4 describes the sequence of performance and market conditions checks.

[19] The methodology for calculating this average to be defined.
[20] We are considering if any additional information will be required from Emitters regarding access to a suitable T&S network for the extension period being applied for.

Figure 4: Timeline of performance and market conditions checks for ICC Contract extensions



Features of the Extension Period

The reference price for the extension period will be set as the prevailing market carbon price rather than a continuation of the fixed trajectory from the initial 10-year period.

There is uncertainty over whether negative emissions sales will still be restricted by the time of the extension period, or whether this initial restriction will have been lifted. We are considering how to apply a market reference price in the extension period and whether a market carbon price should be applied to all emissions, given that emissions arising from biogenic fuels are zero rated under the UK ETS (subject to sustainability criteria). Therefore, we are considering an alternative approach in the extension period such that ICC Contract payments would be calculated with respect to the applicable carbon price exposure of the emissions. If the sale of negative emissions credits is permitted (either on a voluntary market or a regulated market), then an appropriate adjustment to the payment mechanism will be made to account for this (e.g. by using the market carbon reference price for biogenic emissions or by making an additional deduction for negative emissions revenue). Both of these approaches may be subject to any applicable sustainability criteria. We are considering whether negative emissions revenues should be taken into account within the market condition described above.

Asymmetric payments will come to an end at the end of the initial 10-year period of the ICC Contract, and therefore the Emitter would be obliged to pay the ICC Contract Counterparty the difference between the prevailing market carbon price and the subsidy rate (the strike price plus T&S fees) and, should the former be greater than the latter.

Price and volume assurance on FAs will come to an end at the end of the initial 10-year period of the ICC Contract and so Emitters will no longer forfeit any FAs or receive any compensation in respect of forfeited or protected FAs during the extension period.

11. Risk Treatment

Project Risks

Risk	Position
Construction Risk	Subject to there being sufficient headroom within the CIF to allow it, capital grants will offer a degree of risk sharing on construction cost overruns by covering an agreed percentage of the outturn construction costs (below 50%) or a capped absolute amount, whichever is smaller. The remainder of the overrun will need to be funded by the Emitter and will not be reimbursed through the ICC Contract. The industrial facility will bear the risk if there is damage to the process plant during construction of the carbon capture plant; if the carbon capture technology cannot be delivered at the relevant site; or if construction is not completed. Payments will not commence if the carbon capture facility's construction is not completed. The Target Commissioning Window (TCW) will be 12 months, which will give facilities some protection from timing delays, with the industrial facility bearing the risks for any delays beyond this. This includes the risk of (i) contract erosion, if construction is complete and operations start after the TCW but before the Longstop Date and (ii) contract termination, if construction is incomplete or operations do not start by the Longstop Date. Noting that the TCW and Longstop Period will be extended day for day for delays caused by Force Majeure and the T&S network. The Emitter will bear construction completion risk and payments will not commence if the carbon capture facility's construction is not completed. The Emitter is responsible for ensuring that they have the capability and capacity to construct and operate the facility.
Decommissioning Risk	The industrial facility is responsible for decommissioning capture plant in line with relevant industry standards.

Commercial Risk	The industrial facility is responsible for obtaining finance, managing its cashflows and continuing its commercial industrial operations.
Operating Risk	There will be an operating cost reopener one year after the Start Date. This will include items for which a baseline volume can be determined and included in the Contract and for which actual volumes can be evidenced during the first year of operations. 'Overperformance', i.e. the capture and storage of more CO_2 than originally agreed, will receive the corresponding volumetric opex payments up to the opex payment cap for that year, the same is true of the capex payments up to the capex payment cap for that year. This CO_2 must be produced as part of efficient operations of the industrial and capture plants, as described in section 9, 'Carbon Intensity Reporting'. 'Underperformance', i.e. the capture of less CO_2 than originally agreed, will receive the corresponding volumetric opex and capex payments. This risk remains with the Emitter.

Cross Chain Risks

Risk	Position
User Stranded Asset	If the T&S network is discontinued, and no alternative T&S option is deemed feasible, then the project will be considered to be stranded. If this scenario occurs after the Start Date (when contractual payments have begun) then we are minded to provide compensation for costs which are wholly attributable to the post-Agreement Date development, construction, testing, completion, commissioning or decommissioning of the Capture plant; and break costs associated with the Emitter's contractual arrangements (excluding financing); up to the balance of the Total Capex Payment (excluding the return on capex)[21]. If this scenario were to occur before the Start Date, and contractual payments had not commenced, we are still developing our position and are minded to provide compensation which is proportionate to the costs incurred by the Emitter. This compensation would not exceed the Total

[21] Note that the payment profile of this compensation is still under consideration.

	Capex Payment (excluding the return on capex) and be subject to expert assessment[22]. In both scenarios, compensation will be reduced to reflect any savings which have been, will be or are reasonably likely to be made by or received in respect of the project by the Emitter, which may include: • avoided out-of-pocket costs; • tax reliefs or reductions; • insurance proceeds; and • other compensation (including any net recoverable value from the capture plant)[23]. Additionally, our intention to return some forfeited FAs (in respect of emissions that were expected to be captured but which were not), is unchanged.
T&S Timing Mismatch	In the event that the Target Commissioning Window (TCW) and Longstop Period (LSP) of the ICC Contract are extended to match the T&S timelines, we are minded to provide compensation for costs which are reasonably incurred by the project as a direct result of the TCW and LSP being extended. These costs could include the following, but note that the list is indicative, not exhaustive, and all costs must be justified to the satisfaction of the ICC Contract Counterparty: • Costs relating to staff required to maintain the capture plant; • Costs related to preserving the capture plant. These could relate to energy, heat, light, power, water and chemicals required to prevent degradation[24]. These costs will not include the following, but note that the list is indicative, not exhaustive, and all costs must be justified to the satisfaction of the ICC Contract Counterparty: • Return on capex, which will be delayed, along with the capex payment and opex payments, until the Start Date of the ICC Contract; • Advisory fees;

[22] Note that we are exploring all scenarios, and so there may be instances where providing no compensation is appropriate.
[23] Note that we are still determining how the net recoverable value from the capture plant would be calculated.
[24] Note that we are still developing the process to determine this.

	• Staff bonuses; • Lost product revenue as a result of the timing mismatch. For example, product(s) not being certified as low carbon due to the timing mismatch and this resulting in lower market value of the product(s).
T&S Unplanned Outage	If the T&S is experiencing an outage (CO_2 cannot be injected to the network), and the Emitter is not at fault for this outage event, then we are minded to apply the following treatment to the ICC Contract payments. Capex payments and the return on capex will be based on the previous 12 months' performance[25], in terms of the average CO_2 storage rate achieved during the previous 12 months of operation[26]. We would expect Emitters to minimise their opex costs where possible, depending on CCUS technology type being used, for example turning off the capture plant if post-combustion capture technology is being used or bypassing the CO_2 conditioning and compression units if pre-combustion capture technology (or any other technology type or process which would require the industrial process to be halted in order for capture to be halted) is being used[27]. Compensation will not be provided for lost product revenue as a result of the T&S outage. For example, product(s) not being certified as low carbon due to the T&S outage and this resulting in lower market value of the product(s). If, during the T&S outage, the industrial facility is online but the capture plant is experiencing an outage due to a (continuing) non-T&S event (whether arising before or after the T&S outage event) then this

[25] Note that when considering the previous 12 months of operation, we will not include periods where there has been (i) a T&S outage or capacity constraint (provided the T&S outage or capacity constraint does not arise out of or in connection with any act, omission, breach or default by the Emitter and provided the capture plant is not experiencing a simultaneous full capture outage event for non-T&S reasons), or (ii) a full industrial facility outage (which does not occur as a direct result of the T&S outage or capacity constraint) and there was therefore no CO_2 being produced.

[26] In the event that the T&S outage occurs within the first 12 months of the Emitter's Start Date, we are minded-to base capex payments on the Emitter's previous operating performance within those first 12 months (i.e. if the outage occurs in month 8 then we will consider the Emitter's performance up to that point). If the outage were to occur immediately after the Start Date, then we are minded-to use the Emitter's OCP performance data to determine capex payments.

[27] We propose that the extent to which an Emitter can mitigate against a T&S unplanned outage is agreed on a project-by-project basis and effected via an adjusted strike price as set out in Annex 3 of the Front-End Agreement.

	treatment will not be applied, as no CO_2 would have been stored if the T&S network had been available[28]. Additionally, our intention to return some forfeited FAs (in respect of emissions that were expected to be captured but which were not), is unchanged.
T&S Capacity Constraint	If the T&S is not able to accept the agreed quantities of CO_2, and the Emitter is not at fault for this constraint in the T&S, then we are minded to apply the following treatment to the ICC Contract payments. Capex payments and the return on capex will be based on the previous 12 months' performance[29], in terms of the average CO_2 storage rate achieved during the previous 12 months of operation[30]. We would expect Emitters to minimise their opex costs where possible, for example by turning down their capture plant operations to match the (reduced) T&S capacity as far as possible[31]. If, during the T&S capacity constraint, the industrial facility is online, but the capture plant is experiencing an outage event due to a (continuing) non-T&S event (whether arising before or after the T&S outage event) then this treatment will not be applied, as no CO_2 would have been stored if the T&S network had been fully available[32]. Additionally, our intention to return some forfeited FAs (in respect of emissions that were expected to be captured but which were not), is unchanged.

[28] We are considering the process by which an Emitter could demonstrate that they were able to recommence operation of the capture plant, but the continued outage of the T&S was preventing them from doing so.
[29] Similar to the T&S outage scenario, when considering the previous 12 months of operation, we will exclude periods where there has been (i) a T&S outage or capacity constraint (provided the T&S outage or capacity constraint does not arise out of or in connection with any act, omission, breach or default by the Emitter and provided the capture plant is not experiencing a simultaneous full capture outage event for non-T&S reasons), or (ii) a full industrial facility outage (which does not occur as a direct result of the T&S outage or capacity constraint) and there was therefore no CO_2 being produced.
[30] In the event that the T&S constraint occurs within the first 12 months of the Emitter's Start Date, we are minded-to base capex payments on the Emitter's previous operating performance within those first 12 months (i.e. if the constraint occurs in month 8 then we will consider the Emitter's performance up to that point). If the constraint were to occur immediately after the Start Date, then we are minded-to use the Emitter's OCP performance data to determine capex payments.
[31] We propose that the extent to which an Emitter can mitigate against a T&S capacity constraint is agreed on a project-by-project basis and effected via an adjusted strike price as set out in Annex 3 of the Front-End Agreement.
[32] We are considering the process by which an Emitter could demonstrate that they were able to recommence operation of the capture plant, but the continued capacity constraint of the T&S was preventing them from doing so.

12. Change in Law

The Contract sets out categories of Qualifying Change in Law (QCiL) and compensation that may be payable to the Emitter or the ICC Contract Counterparty if a QCiL occurs.

A QCiL is a Discriminatory Change in Law, a Specific Change in Law, or an Other Change in Law which, in each case, is not a Foreseeable Change in Law. In summary:

- a Discriminatory Change in Law is a Change in Law the terms of which specifically apply to the particular Project, Capture Plant or Emitter and not to any other project, capture plant or person;
- a Specific Change in Law is a Change in Law the terms of which specifically apply to industrial installations which deploy CO_2 Capture Technology (or their holding companies) (or the CO_2 Capture Technology forming part of such installations) and not to other industrial installations;
- an Other Change in Law is a Change in Law which does not specifically apply to industrial installations which deploy CO_2 Capture Technology but has an undue, discriminatory effect on the Emitter/project's out-of-pocket costs or savings when compared with those of specified comparator groups.

Compensation will be payable where the Emitter is able to provide evidence that a QCiL:

- permanently prevents the construction, testing, completion or commissioning of the Capture Plant (QCiL Construction Event Payment);
- affects a project's capex (QCiL Capex Payment) / opex (QCiL Opex Payment);
- affects an Installation's Metered CO_2 Output to T&S; or
- permanently prevents a Capture Plant from operating (QCiL Operations Cessation Payment).

In the event of a QCiL Capex Payment, the compensation will be made as either a lump sum and/or staged payments.

In the event of a QCiL Opex Payment, the compensation will be made as either an adjustment to the strike price (which would be increased if there are net opex costs, and decreased if there are net opex savings) or as staged payments.

If there is an Adjusted Capture Period, a QCiL Adjusted Capture Payment will be payable. An Adjusted Capture Period is a period during the term of the ICC Contract in which the Expected Annual Capture Factor, and the Metered CO_2 Output to T&S (including for the purposes of calculating the Achieved CO_2 Capture Rate and/or Achieved CO_2 Capture Quantity of the Installation) is reduced or increased as a direct result of a QCiL.

A QCiL Adjusted Capture Payment will be effected, at the ICC Contract Counterparty's election (after consultation with the Emitter), as a lump sum payment or staged payments (on a backward-looking basis), and/or an adjustment to the CO_2 Capture Rate and/or Metered CO_2

Output to T&S either on an Ex-Post or Ex-Ante basis. Details of the QCiL Construction Event Payment and QCiL Operations Cessation Payments are included in the Suspension, Penalties and Termination section 14.

13. Milestones and Commissioning

Milestone Requirements

The Milestone Delivery Date occurs 18 months after the ICC Contract has been entered into. Once the ICC Contract has been entered into, the Emitter will have 18 months to fulfil either one of two milestone requirements set out in the ICC Contract.

These requirements are either:

- that the Emitter and its direct shareholders have in aggregate spent ten percent or more of the project's pre-commissioning costs (which will be an amount agreed within negotiations) on the project, or;
- that specified project commitments (for example, delivery to the ICC Contract Counterparty of evidence that the Emitter has, or will have, sufficient financial resources to meet the total financial commitments required to commission the project) have been complied with or fulfilled.

In the situation where there is a CaaS Group, the Milestone Requirement can similarly be fulfilled in one of two ways. The CaaSCo can either provide evidence that (i) it and its direct shareholders and (if applicable) the Emitter and its direct shareholders have in aggregate spent ten percent or more of the project’s pre-commissioning costs, or (ii) specified project commitments have been complied with or fulfilled.

Commissioning

The Initial Target Commissioning Window (TCW) will be defined as the 12-month period within which the project’s Target Commissioning Date falls. Each Emitter has the flexibility to commission its capture plant at any time within the TCW.

- The ICC Contract Payment Term will commence on the earlier of the ‘Start Date’ (when the OCPs are fulfilled/waived, see section below) and the last day of the TCW.
- A Longstop Date will be defined as the last day of the 12-month Longstop Period following the last day of the TCW.
- The facility can satisfy OCPs at any time during the Longstop Period and enter the operational phase of the Contract, where the payment term will be eroded commensurate to the day-for-day delay beyond the TCW.
- Failure to fulfil the relevant OCPs by the Longstop Date will give the ICC Contract Counterparty the right, but not obligation, to terminate the ICC Contract.

- The Milestone Delivery Date, TCW and Longstop Period will be extended day-for-day for any delays which occur due to Force Majeure and/or the T&S network commissioning being delayed (provided the Emitter satisfies certain requirements/conditions).
- Note that in order to comply with the eligibility criterion of the project being operational, no later than the end of December 2027, the Emitter's TCW will, at latest, be defined to end on or before 31 December 2027, excepting where in-contract the TCW is extended day-for-day due to Force Majeure events or T&S network commissioning delays.
- Where commissioning of a project is not achieved (aside from the above Force Majeure and T&S exceptions) by 31 December 2027, the Contract will enter the longstop period, eroding the term of the Contract until the demonstration of OCPs.

Operational Conditions Precedent

In order to trigger the Start Date and payment of contractual payments, the Emitter must fulfilled specified Operational Conditions Precedent (OCPs).

The proposed OCPs include the following[33]:

- CO_2 capture rate is equal to or greater than the higher of i) 85% and ii) 5 percentage points less than the CO_2 capture rate included in the project's Phase-2 application,
- The sum of CO_2 flowrate directed to the T&S plus flowrate directed to CCU meets the design CO_2 flowrate from the capture plant, as agreed in the ICC Contract,
- The Emitter is complying with Capture Plant Metering obligations[34] (which include the captured CO_2 complying with specified standards (i.e. compositional, pressure and temperature limits at entry to the T&S network)), and the Emitter has provided metering schematic diagrams,
- The project has connected to the T&S network[35],
- For CHP projects:
    - (i) for CHP-only[36] and CHP-included projects[37], a valid full or partial CHPQA certificate,

[33] Please see the draft ICC Contract, published in parallel to this update, for a full list of proposed OCPs.
[34] Please note that detailed metering requirements and obligations are still being developed and will be set out in due course.
[35] The evidence we require from the project to demonstrate this could include installation drawings, equipment data sheets, factory acceptance test reports, commissioning test reports, site photographs of the relevant equipment, certification from T&S co to confirm that the project has completed all necessary work.
[36] ICC projects that are deploying CCUS and capturing emissions from a CHP facility only and not combining flue gas streams with other industrial process(es). Please note that this does not refer to the combination of multiple Emitters' flue gas streams in a CaaS Group, but the combination of flue gas streams within the wider industrial facility.
[37] ICC projects that are deploying CCUS to a CHP facility and an industrial process(es) whereby the CHP facility's flue gas stream is combined with other industrial process(es)' streams. Please note that this does not refer to the combination of multiple Emitters' flue gas streams in a CaaS Group, but the combination of flue gas streams within the wider industrial facility.

- (ii) for CHP-only projects, proof of supplying energy (heat and/or electricity) to at least one industrial facility[38].

14. Suspension, Termination and Compensation

Suspensions

Suspension of payments is available to the ICC Contract Counterparty in circumstances where:

- the Emitter fails to provide the required CO_2 metering data;
- the Emitter is in breach of the Metering Schematic Obligation (requirement to notify the ICC Contract Counterparty of material changes to metering equipment);
- the Emitter fails to permit the ICC Contract Counterparty to exercise the Metering Access Right;
- the Emitter fails to give an Opex Costs Early Reopener Notice to the ICC Contract Counterparty;
- the Emitter is in breach of a SCADA Systems Obligation;
- the Emitter breaches a Full Capture Outage Event Notification Obligation;
- the Emitter is in breach of its obligation to permit the ICC Contract Counterparty to exercise the Full Capture Outage Event Access Right;
- the Emitter (i) fails to provide a capture rate breach rectification plan (which sets out how they will achieve a CO_2 capture rate equal to or greater than the higher of (i) 80% and (ii) 10 percentage points less than the CO_2 capture rate achieved during OCPs for 3 consecutive billing periods[39]) to the ICC Contract Counterparty within 6 months of the ICC Contract Counterparty notifying the Emitter of a Minimum CO_2 Capture Rate Breach, or (ii) submits an invalid plan;
- the Emitter fails to provide a valid carbon intensity report within 30 business days of receiving a non-compliance notice, or fails to provide supporting information with 30 business days of the non-compliance notice;
- the Emitter fails to respond to a T&S Prolonged Unavailability Event Notice within [6 months][40] after the T&S Prolonged Unavailability Event Notice, and/or, where applicable, the Emitter fails to deliver a T&S Prolonged Unavailability Further Response Notice;

[38] For the purpose of CHP only, we define an 'industrial facility' as a facility or part of a facility that is classified under SIC codes 5 to 33 (excluding 24.46). Capture plants that are solely capturing emissions from the CHP facility are also an eligible end-use of the energy output, but only where energy output from the CHP is also provided to other eligible industrial facilities.
[39] A billing period is every settlement unit in a calendar month.
[40] BEIS are still considering the appropriate timelines so we have marked these timescales with square brackets to signal they could change.

- the Emitter gives a notice that it intends to provide an Alternative T&S Network Solution Plan, but does not by [18 months] after the T&S Prolonged Unavailability Event Notice;
- the ICC Contract Counterparty requests for further evidence of supporting information in response to a notice or Alternative T&S Network Solution Plan provided by the Emitter, and the Emitter fails to provide this within [20 business days];
- the Emitter is in breach of no cumulation of subsidy;
- the Emitter fails to comply with no cumulation of subsidy, state aid and/or union funding undertaking;
- the Emitter fails to comply with no cumulation of subsidy, state aid and/or union funding information provision undertaking.

Termination

Termination of the Contract will be an option in instances of:

- Pre-Start Date breaches (e.g, failure to satisfy Conditions Precedent and if a default termination event, see below, occurs before the Start Date);
- Prolonged Force Majeure;
- T&S Prolonged Unavailability Event;
- Default termination events (e.g. Emitter insolvency; fraud; non-payment; breach of key obligations relating to ownership of the capture plant, metering, cross-default, Non-compliant Carbon Intensity Reporting, Minimum CO_2 Capture Rate Breach);
- Qualifying Change in Law termination.

Pre-Start Date Termination

The ICC Contract Counterparty will have the right to terminate the Contract if:

- a Termination Event has occurred (pre-Start Date) and is continuing;
- the Emitter fails to fulfil any of the ICPs within 20 business days of the Agreement Date;
- The Emitter fails to fulfil any of the OCPs by the Longstop Date;
- The Emitter fails to fulfil either Milestone Requirement by the Milestone Delivery Date, or fails to deliver a Milestone Requirement Notice by the Milestone Delivery Date;
- At any time prior to the Start Date, any Director’s Certificate is not true, complete, or accurate in any material respect or is misleading.

Prolonged Force Majeure

The ICC Contract Counterparty will have the right to terminate the ICC Contract where the Emitter is delayed in developing, constructing, completing, testing and/or commissioning the Capture Plant for a continuous period of 18 months due to a continuing, unresolved event of Force Majeure that first occurs between the Agreement Date and Milestone Satisfaction Date.

T&S Prolonged Unavailability Event

This is a termination right for the ICC Contract Counterparty, which arises where a T&S Prolonged Unavailability Event occurs, such as:

- a Full T&S Outage Event which lasts for at least [6 months][41];
- a T&S Commissioning Delay which lasts for at least [6 months]; or
- a T&S Cessation Event, which means the occurrence of one of the following:
    - A notice of discontinuation is issued by the Secretary of State to the T&S Operator pursuant to the discontinuation agreement entered into between the T&S Operator and the Secretary of State; or
    - The licence of the T&S Operator is (i) revoked; and (ii) is not transferred to a substitute T&S Operator, such that the T&S Network ceases to operate or the Emitter is no longer able to connect to the T&S Network; or
    - There is a determination made by the relevant Competent Authority that the Emitter's connection to the T&S Network is no longer viable.

If a T&S Prolonged Unavailability Event occurs, the ICC Contract Counterparty can give a T&S Prolonged Unavailability Event Notice to the Emitter which shall specify the date on and from which the ICC Contract Counterparty has a right, but not obligation, to terminate the ICC Contract, which is the T&S Prolonged Unavailability Remediation Deadline ([30 months] after the T&S Prolonged Unavailability Event Notice).

Within [6 months] of a T&S Prolonged Unavailability Event Notice, the Emitter must provide the ICC Contract Counterparty with a T&S Prolonged Unavailability Response Notice, along with supporting information and evidence[42], specifying either:

(i) The T&S Prolonged Unavailability Event is no longer continuing; or

(ii) The Emitter considers that the T&S Prolonged Unavailability Event will be remedied by the T&S Prolonged Unavailability Remediation Deadline (attaching supporting evidence, which we anticipate will include evidence from the relevant T&S Operator); or

(iii) The Emitter intends to provide the ICC Contract Counterparty with an Alternative T&S Network Solution Plan by [18 months] after the T&S Prolonged Unavailability Event Notice; or

(iv) The Emitter considers that the T&S Prolonged Unavailability Event will not be remedied by the T&S Prolonged Unavailability Remediation Deadline and that the Emitter cannot provide a feasible Alternative T&S Network Solution Plan for one of the following reasons:

[41] BEIS are still considering the appropriate timelines so we have marked these timescales with square brackets to signal they could change.
[42] If, when the Emitter delivers a T&S Prolonged Unavailability Response Notice, the ICC Contract Counterparty determines that the Emitter has not delivered satisfactory accompanying evidence, then the Emitter must provide a T&S Prolonged Unavailability Further Response Notice to the ICC Contract Counterparty, accompanied by sufficient supporting evidence.

- It is not technically feasible for the Emitter, acting in accordance with a Reasonable and Prudent Standard, to connect the Installation to an alternative CO_2 Delivery Point and T&S Network or permanent storage of CO_2 from the Installation;
- The implementation of an Alternative T&S Network Solution Plan would be illegal;
- It is not economically feasible for the Emitter, acting in accordance with a Reasonable and Prudent Standard, to connect to an alternative CO_2 Delivery Point and T&S Network or permanent storage of CO_2 from the Emitter;
- There are no feasible alternative T&S Networks which can permanently store the CO_2 from the Installation; and/or
- Any other reason which will or is reasonably likely to justify the decision not to provide an Alternative T&S Network Solution Plan.

It is our minded-to position that if an Emitter fails to comply with a T&S Prolonged Unavailability Procedure Obligation, such as:

- An Emitter fails to give a T&S Prolonged Unavailability Response Notice by [6 months] after the T&S Prolonged Unavailability Event Notice;
- If applicable, an Emitter fails to give a T&S Prolonged Unavailability Further Response Notice;
- An Emitter gives a notice pursuant to (iii) above specifying that it intends to provide the ICC Contract Counterparty with an Alternative T&S Network Solution Plan, and then does not provide such a plan by [18 months] after the T&S Prolonged Unavailability Event Notice; or
- If the ICC Contract Counterparty asks for additional supporting information via an Alternative T&S Network Review Notice and the Emitter fails to provide this within [20 business days]; or
- If the Emitter fails to provide an amended Alternative T&S Network Solution Plan which includes amendments specified by the ICC Contract Counterparty in an Alternative T&S Network Review Notice within [20 business days];

then the ICC Contract Counterparty will have the right (but not obligation) to suspend any payments to the Emitter (on notice to the Emitter). If the Emitter subsequently cures by complying with the relevant T&S Prolonged Unavailability Procedure Obligation, then any payments which were suspended will be paid, without interest, to the Emitter.

If an Emitter submits a T&S Prolonged Unavailability Response Notice pursuant to (iv) above, along with sufficient supporting information to verify this, then it is our minded to position that the ICC Contract Counterparty will have the right but not obligation to give a notice specifying the date on which termination of the ICC Contract is designated to take effect.

If the T&S Prolonged Unavailability Event is continuing after the T&S Prolonged Unavailability Remediation Deadline, no Alternative T&S Network Solution Plan has been agreed, or an Alternative T&S Network Solution Plan has been agreed but the Emitter has failed to implement such a plan in accordance with its terms (in order to remedy the T&S Prolonged

Unavailability Event) the ICC Contract Counterparty will have the right (but not obligation) to issue a notice specifying the date on which termination of the ICC Contract is designated to take effect.

Default Termination

The ICC Contract Counterparty has the right to terminate the Contract (for default) where one of the following has occurred and is continuing, at any time on or after the Start Date[43]:

- The Emitter is insolvent (or similar);
- The Emitter defaults on credit support;
- There has been a non-payment by the Emitter which is not remedied within a cure period;
- The Emitter has breached key obligations;
- A Technical Compliance Termination Event or a Metering Access Termination Event occurs;
- The Emitter has breached the minimum CO_2 capture rate obligation and a capture rate termination event occurs (see above);
- A Carbon Intensity Termination Event occurs;
- A misleading CO_2 Metering Data Termination Event occurs;
- A Misleading Full Capture Outage Event Notification Termination Event or a Full Capture Outage Event Access Termination Event occurs; or
- The Grant Funding Agreement (GFA) is terminated due to the Emitter's breach or default.

Qualifying Change in Law Termination

If a QCiL is implemented, occurs or becomes effective and gives rise to or results in a QCiL Construction Event or QCiL Operations Cessation Event, the ICC Contract Counterparty must give notice to the Emitter terminating the ICC Contract.

Non-Compliant Carbon Intensity Reporting

The ICC Contract Counterparty will have the right (but not obligation) to terminate the ICC Contract if it considers that the Emitter has provided a misleading declaration and/or data in their (Carbon Intensity) report. The ICC Contract Counterparty will also have the right (but not obligation) to terminate the Contract if it considers that the data provided in the reports shows that the Emitter has been creating excess CO_2 for the purpose of receiving additional subsidies under the business model.

If a report is not submitted, the ICC Contract Counterparty will send a non-compliance notice to the Emitter, who will then have 30 business days from receipt of the notice to rectify the

[43] BEIS is considering potential termination rights related to the FA forfeiture and reconciliation process.

situation through the submission of a valid report. If a valid report is not received by the ICC Contract Counterparty by this time, payments under the ICC Contract may be suspended. If the Emitter subsequently submits a valid report, it will receive the suspended payments without the interest.

Prolonged Minimum CO_2 Capture Rate Breach: Termination

This is a post Start Date termination right for the ICC Contract Counterparty, which arises where an Emitter's CO_2 capture rate is less than the Minimum CO_2 Capture Rate for either three consecutive billing periods or three non-consecutive billing periods within six consecutive billing periods, resulting in a Minimum CO_2 Capture Rate Breach. For this purpose, the Minimum CO_2 Capture Rate is a CO_2 capture rate which is equal to or greater than the higher of (i) 10 percentage points less than the CO_2 capture rate demonstrated during OCP acceptance tests[44] and (ii) 80%.

Once a Minimum CO_2 Capture Rate Breach has occurred, the ICC Contract Counterparty can give an initial notice to the Emitter. This notice will specify the date on and from which the ICC Contract Counterparty can give the Emitter a termination notice in respect of the Minimum CO_2 Capture Rate Breach, which is the date which falls 18 months after the date of this notice (the Capture Rate Breach Deadline[45]).

Following this initial notice, the ICC Contract Counterparty may terminate the ICC Contract on and from the Capture Rate Breach Deadline if:

- the Emitter fails to achieve the Minimum CO_2 Capture Rate for 3 consecutive billing periods by the Capture Rate Breach Deadline; or
- the Emitter fails to achieve the Minimum CO_2 Capture Rate for 3 consecutive billing periods by the date agreed by the ICC Contract Counterparty, which is later than the Capture Rate Breach Deadline, in a rectification plan that has been expressly approved by the ICC Contract Counterparty; or
- the Emitter fails to implement a rectification plan that has been expressly approved by the ICC Contract Counterparty in accordance with its terms (i.e. where rectification is anticipated to take longer than the Capture Rate Breach Deadline and the Emitter has failed to satisfy specified milestones/take certain actions in accordance with the deadlines in its rectification plan).

Prolonged Minimum CO_2 Capture Rate Breach: Suspension of Payments

There is a separate, but related, right for the ICC Contract Counterparty to suspend payments following a Minimum CO_2 Capture Rate Breach (as described above). This right arises where the Emitter is required to provide a capture rate breach rectification plan (as above) and then

[44] Noting that this must be equal to or greater than the higher of 5 percentage points lower than the CO_2 capture rate estimated in the project's Phase-2 application and 85%.
[45] Note that this date may be extended for each day of delay caused by an Force Majeure event or a T&S Outage Event.

either fails to submit a plan within 6 months of the initial notice or submits a plan but the plan is invalid because it does meet the minimum requirements.

In either case, after the 6 month deadline has passed, the ICC Contract Counterparty can elect to suspend any payments which would otherwise be payable to the Emitter until the Emitter either: (i) achieves the Minimum CO_2 Capture Rate for 3 consecutive billing periods by the Capture Rate Breach Deadline (see above); or (ii) submits a valid capture rate breach rectification plan which is approved by the ICC Contract Counterparty, the Counterparty shall pay any amounts to the Emitter which would have been payable but for the operation of this right to suspend payments.

Compensation

Compensation in the above termination scenarios will be as follows:

- Pre-Start Date termination and Prolonged Force Majeure termination will be on a no-liability basis and therefore no compensation will be payable to the Emitter or to the ICC Contract Counterparty.
- Termination due to a QCiL permanently preventing construction will result in compensation being payable by the ICC Contract Counterparty to the Emitter. This compensation may (to the extent that these costs arise) include:
    - costs which are wholly attributable to the post-Agreement Date development, construction, testing, completion, commissioning and decommissioning of the Capture plant; and break costs associated with the Emitter's contractual arrangements (excluding financing);
    - but excluding all other costs which will or are reasonably likely to be payable by the Emitter in connection with the QCiL Construction Event and all costs associated with the Emitter's financing arrangements in respect of the project,
    - the amount of compensation available will be reduced by any savings made by the Emitter, which may include avoided out-of-pocket costs; tax relief or reductions; insurance proceeds and other compensation (including the net recoverable value from the capture plant[46]).
- Termination due to a QCiL which permanently prevents operations will result in compensation being payable by the ICC Contract Counterparty to the Emitter. This compensation may include:
    - the remaining capex payments (excluding the return on capex) that the Emitter would have received but for the QCiL Operations Cessation Event; and
    - all irrecoverable and unavoidable out-of-pocket costs which have been, will be or are reasonably likely to be incurred by the Emitter in respect of the Project arising directly from the relevant QCiL Operations Cessation Event, but excluding financing, hedging, decommissioning and environmental clean-up costs,

[46] Note that we are still determining how the net recoverable value from the capture plant would be calculated.

  - the amount of compensation available will be reduced by any savings made by the Emitter, which may include avoided out-of-pocket costs; tax relief or reductions; insurance proceeds and other compensation (including the net recoverable value from the capture plant[47])

- T&S prolonged unavailability:
  - In the scenario where the ICC Contract is terminated as a result of T&S prolonged unavailability *after* the Start Date (and contractual payments have begun) then the compensation[48] we are minded to provide may (to the extent that these costs arise) include costs which are wholly attributable to the post-Agreement Date development, construction, testing, completion, commissioning or decommissioning of the Capture plant; and break costs associated with the Emitter's contractual arrangements (excluding financing); up to the balance of the Total Capex Payment (excluding the return on capex). Additionally, we intend to return some forfeited FAs (in respect of emissions that were expected to be captured but which were not).
  - In the scenario where the ICC Contract is terminated as a result of T&S prolonged unavailability *before* the Start Date, and contractual payments had not commenced, we are still developing our position and are minded to provide compensation which is proportionate to the costs incurred by the Emitter. This compensation would not exceed the Total Capex Payment (excluding the return on capex) and be subject to expert assessment.
  - In both scenarios, compensation will be reduced to reflect any savings which have been, will be or are reasonably likely to be made by or received in respect of the project by the Emitter, which may include:
    - avoided out-of-pocket costs;
    - tax reliefs or reductions;
    - insurance proceeds; and
    - other compensation (including any net recoverable value from the capture plant[49]).
- We are currently developing our position on timings for FA forfeiture and reconciliation, and any potential adjustment mechanism required to address hybrid CCU and CCS projects. As part of this, we are considering how these processes may need to vary if a termination event occurs.
- Termination due to Default will result in compensation being payable by the Emitter to the ICC Contract Counterparty, calculated via the Default Termination Payment formula.

  Default Termination Payment = f(t) x Maximum Annual CO_2 Capture Quantity (tCO_2/pa) x Termination Fee Rate (£/tCO_2)

[47] Note that we are still determining how the net recoverable value from the capture plant would be calculated.
[48] Note that the payment profile of this compensation is still under consideration.
[49] Note that we are still determining how the net recoverable value from the capture plant would be calculated.

whereby f(t) refers to the stage of the ICC Contract, with the termination being profiled depending on what Contract Payment Term of the ICC Contract the project is in (the ICC Contract duration is 10 years with a possible extension of 5 years awarded depending on certain conditions being met – for the extension years, the f(t) value will be fixed). For years 1-8, f(t) will be a fixed value of 1. For year 9, this will reduce to 2/3 and for the remaining years (10, 11, 12, 13, 14, 15) to 1/3 (see table below). The Termination Fee Rate is a nominal figure and we are proposing using a value of £5/tCO_2.

Table 1: Value of f(t) for Contract Payment Term

Year	f(t)
1-8	1
9	2/3
10-15	1/3

An Emitter will not be required to pay more than one Default Termination Payment under a single ICC Contract. In the event that more than one Termination Event has arisen on or after the Start Date, and the ICC Contract Counterparty has exercised its right to terminate the ICC Contract, a single fee will apply based on the above calculation appropriate to the relevant termination cause.

If the ICC Contract Counterparty suspends payments to the Emitter for an event that subsequently results in termination and a Default Termination Payment being payable (e.g. for a failure to remedy a Prolonged Minimum CO_2 Capture Rate Breach (see above)), the Default Termination Payment will be reduced by any Payments which the ICC Contract Counterparty has suspended and not subsequently paid to the Emitter (see above).

Reconciliations in a termination scenario

We are currently developing our position on timings for FA forfeiture and reconciliation, and any potential adjustment mechanism required to address hybrid CCU and CCS projects. As part of this, we are considering how these processes may need to vary if a termination event occurs.

15. Monitoring, Reporting and Verification

Pre-capture monitoring requirement

Effective monitoring, reporting and verification using accurate methods such as metering or calculation is important for determining the CO_2 capture rate, CO_2 quality and quantity of CO_2

captured from the industrial installation and sent for permanent storage. The following sets out our approach on the pre-capture monitoring requirements.

For industrial facilities that are not part of a CaaS group, use of a pre-capture meter, via direct measurement (incorporating both flow measurement and compositional analysis, to determine the mass flow rate of CO_2) will be the default measuring method. However, we are continuing to consider whether Emitters should be allowed to make a case to use the UK ETS calculation methodology if they can demonstrate that metering would not be suitable for their project e.g. if there would be an undue cost burden, or technical difficulties associated with installing pre-capture metering. In addition, Emitters would have to evidence the calculation methodology and prove that it meets additional BEIS criteria that will be defined and developed in due course. The work required to develop and finalise these criteria and requisite compliance and verification procedures could be significant, and it is possible that, during the course of undertaking this work, barriers are identified which mean that adopting this approach is inconsistent with delivering the ICC business model. Therefore, at this stage, it cannot be ruled out that pre-capture meters for all Emitters could be required.

For CaaSCo projects, our minded to position is to require meters for each Emitter's stream entering the aggregated stream, the calculation methodology will not be permitted. Instead, meters will be required for each Emitter in order to determine individual flowrates for the aggregated stream going into the capture plant and ensure auditability, replicability and accessibility of the data, given the interdependency of Emitter projects within a CaaS group and this data's role in payment calculations. Additionally, monitoring is required because there will be transfer of ownership and responsibility for the CO_2 from the Emitters to the CaaSCo at the relevant boundary.

Economic Benefits and Supply Chain Reporting

In November we provided an update on the DPA and ICC business models clarifying our intention to include a requirement for participants in the Cluster Sequencing Phase-2 process to report on the economic benefits (i.e. jobs, skills, community regeneration) and CCUS supply chains associated with the development of their CCS capture plant projects.

The first report will have to submitted to the ICC Contract Counterparty by the deadline of 18 months after ICC Contract signature which aligns with the Milestone Delivery Date (if there is a delay to the Milestone Delivery Date, the first report would also be delayed), the second report by the third anniversary of the Start Date, and the third and final report by the seventh anniversary of the Start Date. In each case, reports will be accepted within the preceding 6 months; for example, the first report can be submitted between 12 and 18 months after ICC Contract signature. All reports will need to be accompanied by a Directors' Certificate to provide the ICC Contract Counterparty with comfort that the information submitted is accurate and complete.

The ICC Contract Counterparty must respond to the Emitter within 20 business days of the deadline to confirm receipt of a satisfactory report or to notify the Emitter of its non-compliance. A non-compliance notice will be issued if the report is not submitted before the relevant

reporting deadline. Additionally, a non-compliance notice can be issued if the report has been submitted but is not valid, for example if any fields in the template are blank or, completed with information that is not relevant to the question asked, or completed with information that does not adhere to restrictions on the type of data that can be entered/number of words. BEIS will consider further exactly what constitutes an invalid report.

The ICC Contract Counterparty will then pass this information to BEIS, who may look to publish extracts from these reports in order to share information with wider industry and to support the implementation of a CCUS supply chain. Before doing so, any information that BEIS considered to be commercially sensitive would be removed.

Our minded-to position is that if the ICC Contract Counterparty has issued a non-compliance notice, the Emitter will be required to pay the nominal fees set out in Table 2.

Table 2: Fees for non-compliance

Months of non-compliance	Maximum monthly fee per month of non-compliance
1	£1,000
2	£1,000
3	£1,000
4	£2,500
5 or more	£5,000

The ICC Contract Counterparty would have the right to set-off any fees due to it against any payments due to the Emitter under the ICC Contract.

Any fees payable in respect of the first report will not need to be paid until the Start Date has occurred and payments under the ICC Contract have commenced, except in any circumstance whereby payments are due to the Emitter before the Start Date, such as QCiL Compensation payments, in this case the ICC Counterparty may set off the accrued fees against such amount. If payments under the ICC Contract never commence, and the ICC Contract Counterparty elects to terminate the ICC Contract, then the Emitter will not be required to pay any non-compliance fees that have accrued.

We have set out below some worked examples of non-compliance fees that could apply under the ICC Contract:

- After 3 months of non-compliance, the Emitter will have incurred fines totalling £3,000 (which, assuming that payments have not been suspended for any other reason, will be deducted from payments due to the Emitter).
- After 6 months of non-compliance, the Emitter will have incurred fines totalling £15,500 (which, assuming that payments have not been suspended for any other reason, will be deducted from payments due to the Emitter).

For the non-compliance procedure to end, and for the Emitter to stop incurring the non-compliance fees, the Emitter would need to submit a valid report to the ICC Contract Counterparty (see above).

Information sharing

The terms of the ICC agreement will protect confidentiality of the parties, but will allow the ICC Contract Counterparty to share information with the expressly defined parties including: T&S operator, BEIS, NAO and any Subsidy Control competent authority, for certain permitted purposes including complying with its responsibilities and obligations under the ICC Contract and the law and reporting on the performance or operation of the project, or allowing the recipient to fulfil or perform is functions or obligations in connection with, or related to, the ICC Contract or wider CCUS programme.

Business Model Offer Variations

16. Capture-as-a-Service (CaaS)

ICC Contracts will be agreed with and entered into by Emitters with the ICC Contract Counterparty. Emitters will then enter into one subcontract with the CaaSCo ('CaaSCo Subcontracts') to fulfil the relevant capture obligations. Emitters will receive Contract payments and are responsible (in line with the subcontract terms) for the disbursement of appropriate and agreed fees and costs to the CaaSCo.

The ICC Contract front-end agreement will specify provisions to amend clauses in the ICC Contract to reflect the relevant CaaS arrangements.

This front-end agreement will also define which ICC Contract terms and conditions will need to be passed down from the Emitter to the CaaSCo through the 'CaaS Subcontract Checklist'. While HMG will not draft template or specific CaaSCo subcontracts, but will publish principles for their content and the adherence and satisfaction of these the subcontract must comply with the terms of the CaaS Subcontract Checklist provided by HMG. This will be an additional Initial Condition Precedent in the ICC Contract.

Where not explicitly stated in the front-end agreement, the unamended ICC Contract Standard Terms and Conditions will apply to the relevant CaaSCo arrangements.

Capital grant funding will be made available to the entity which is responsible for funding the development of the relevant capture plant which, in the case of CaaS models, is expected to be the CaaSCo.

17. Carbon Capture Usage/Storage Hybrid

We previously confirmed that projects that incorporate CCU with CCS may be eligible for support via the ICC business model, but that support will only be provided in respect of the CO_2 captured and stored (i.e. directed to the T&S network). We also confirmed that CCU only projects are not eligible for support via the ICC business model, although this position will be kept under review for future rounds of allocation. We are considering how to adapt the model to account for hybrid CCU with CCS projects.

Capex payments through the model for hybrid CCU with CCS projects

Only capex required for CCS and capex required for both CCS and CCU will be eligible for business model support. Capex required for CCU only will not be eligible for support. For the capital grant, we are still considering how the level of the grant will be set for capex relating to CCS and capex relating to both CCS and CCU and the extent to which this should be adjusted to reflect the expected proportion of CO_2 stored versus the proportion which is utilised.

Capex payments made under the ICC Contract will only be paid on CO_2 captured and stored via the T&S network; capex payments will not be made on CO_2 directed for utilisation. However, similar to the capital grant, we are also considering how the level of capex that is subsidised through the ICC Contract will be set for hybrid CCU with CCS projects. We are considering how to determine the capex payment rate under the ICC Contract (i.e. the £/tCO_2 figure for CO_2 captured and stored). We are considering options, including:

(i) Determining it from the expected amount of CO_2 captured (irrespective of subsequent storage or utilisation). This would mean taking the overall capex figure that is being subsidised under the ICC Contract plus the allowed rate of return and dividing it by the total expected tonnes of CO_2 captured to give a £/tCO_2 figure.

(ii) Determining it from the expected amount of CO_2 captured and stored. This would mean taking the overall capex figure that is being subsidised under the ICC Contract plus the allowed rate of return, and dividing it by the total tonnes of CO_2 expected to be captured and stored in the T&S network to give a £/tCO_2 figure.

We are considering how the annual capex payment limit will be calculated under these options, and whether will be calculated based on the anticipated amount of CO_2 captured each year (regardless of whether the CO_2 is utilised or stored) or to the amount of CO_2 captured and stored.

Even when making ICC Contract payments on CO_2 captured and stored, there may still be a difference between the proportion of capex payments made (through both the capital grant and ICC Contract) and the actual proportion of CO_2 stored. We are continuing to consider how to treat this within the business model, including the extent to which any clawback of payments may be required if an Emitter captures and stores a different proportion of CO_2 than expected.

Opex payments for hybrid CCU with CCS projects

Only opex required for CCS and opex required for both CCS and CCU will be eligible for business model support. Opex required for CCU only will not be eligible for support. The strike price will be paid based on the amount of CO_2 stored. This means that opex payments made under the ICC Contract will only be paid on CO_2 captured and stored via the T&S network; opex payments will not be made on CO_2 directed for utilisation.

Free allowances for hybrid CCU with CCS projects

The forfeiture of FAs uses the capture factor, which considers the amount of CO_2 captured and subsequently sorted (i.e. directed to a T&S network). Therefore, FAs will not be forfeited for the amount of CO_2 utilised.

18. Combined Heat and Power

Projects deploying CCUS and capturing emissions from a CHP facility will be subject to additional contractual provisions.

In order to trigger payments, CHP projects must provide a valid CHP Quality Assurance (CHPQA) certificate. Then, from the Start Date, the Emitter will be required to maintain their CHPQA certification by continuing to participate in the CHPQA scheme annually for the duration of the ICC Contract.

To ensure that we are targeting support for CHP that primarily supports industrial facilities, certain CHP projects (CHP-only[50]) will be required to demonstrate supplying energy (heat and or electricity) to at least one industrial facility[51] for payments to start.

CHP-only Projects will also be required to report annually the proportion of the energy output (i.e. heat/electricity) that has been provided to one or more to industrial facility in the previous year. We are considering what, if any, impact there should be on ICC Contract payments if no energy output directed to industrial facilities is reported. Our minded to position is that the report would be for monitoring purposes only and the energy output reported as directed to industrial facilities would not impact on ICC Contract payments, although we are continuing to keep this under review.

Except the additional eligibility criteria described in the Phase-2 guidance document and contractual provisions above, the terms and conditions offered to eligible CHP facilities will be the same as those offered to ‘generic’ industrial Emitters.

19. Waste

In November 2021, it was announced that waste management CCS projects would be eligible to apply for the ICC business model for Phase-2 of the Cluster Sequencing process. Whilst there are commonalities between the barriers to CCS deployment for the waste management CCS projects and industrial CCS projects, commercial circumstances and incentives in the waste management sector differ from other industrial sectors that are eligible for support under the ICC model. Given the differences between the waste management sector and other industrial sectors supported under the ICC business model, it was also set out that we would be exploring adaptations to the business model to ensure it was appropriate for the waste management sector. Any adaptations to the ‘generic’ ICC business model would lead to a variation of the ‘generic’ ICC Contract being offered for successful waste management CCS projects, referred to as the “Waste ICC Contract”. Many of the provisions contained in the ‘generic’ ICC Contract would be retained in the Waste ICC Contract, therefore we are also seeking views on the ‘generic’ ICC Contract from stakeholders in the waste management sector.

[50] ICC projects that are deploying CCUS and capturing emissions from a CHP facility only and not combining flue gas streams with other industrial process(es). Please note that this does not refer to the combination of multiple emitters’ flue gas streams in a CaaS Group, but the combination of flue gas streams within the wider industrial facility.

[51] For this purpose only, we define an ‘industrial facility’’ as a facility or part of a facility that is classified under SIC codes 5 to 33 (excluding 24.46). Capture plants that are solely capturing emissions from the CHP facility are also an eligible end-use of the energy output, but only where energy output from the CHP is also provided to other eligible industrial facilities.

The April 2022 update on the ICC Business Model, published alongside this document, contains our latest thinking on the Waste ICC Contract. The key adaptations we have been exploring are around:

- The overarching payment calculation and reference price;
- The length of the capex payback period;
- The approach to the extension period and the payment calculation used during the extension period;
- Additional requirements relating to the specific eligibility criteria for waste management CCS projects, outlined in the guidance document for the Phase-2 Cluster Sequencing process;
- Additional requirements for monitoring, reporting and verification of waste compositions.

In addition to this, we have also been developing our approach to the capture of permanent geological storage of biogenic CO_2 and the 'negative emissions' that arise from this. These provisions are applicable to both waste management CCS projects and industrial CCS projects so will be contained under both the 'generic' ICC Contract and the Waste ICC Contract. More details on the approach to biogenic CO_2 and negative emissions can be found in section 7 above and in the April 2022 update on the ICC Business Model.

Next steps for the Waste ICC Contract

The Waste ICC Contract will follow a different timeline to the 'generic' ICC Contract. As the Waste ICC Contract will be an adaptation of the 'generic' ICC Contract and is expected to retain many of the provisions in the 'generic' ICC Contract, we are currently seeking views on the draft ICC Contract from both waste management stakeholders as well as all other relevant stakeholders. We are seeking to publish a draft Waste ICC Contract by the summer, which will provide more clarity on the potential adaptations we have outlined in the ICC Business Model Update published alongside this document. After the publication of the draft Waste ICC Contract, we will look to engage with the waste sector before a final Waste ICC Contract is published to align with negotiations commencing with shortlisted projects in the waste management sector.

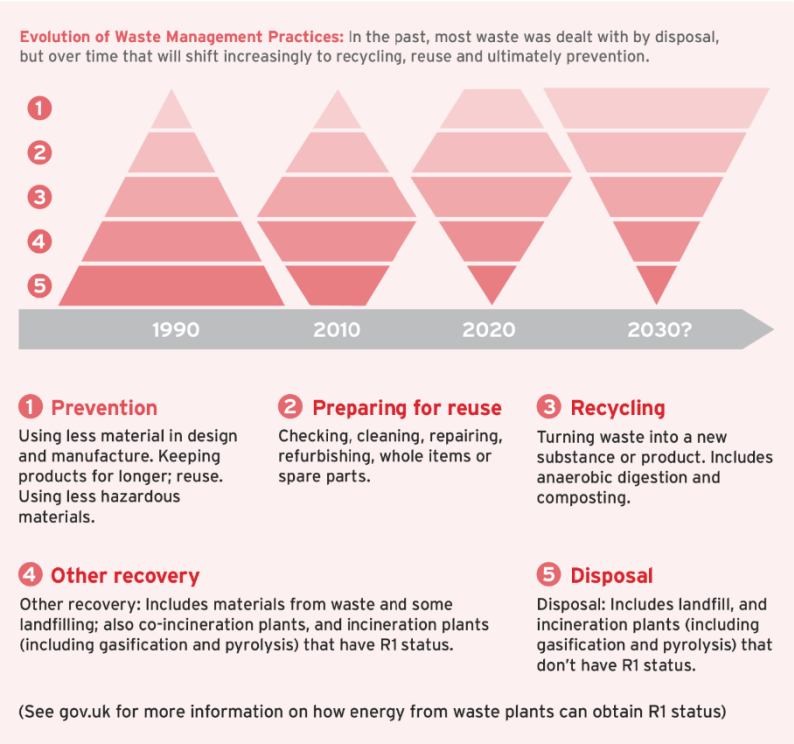
20. Waste ICC Contract impacts on waste hierarchy

It is important that any support provided by a Waste ICC Contract is consistent with waste strategies across the UK. More specifically, the support provided should not create perverse incentives which could lead to behaviour which undermines the waste hierarchy (see Figure 5), by diverting waste that could be used further up the waste hierarchy towards recovery in Energy-from-Waste (EfW), Advanced Thermal Treatment (ATT) or Advanced Conversion Technologies (ACT) processes.

The "waste hierarchy" ranks waste management options according to the most sustainable use of our resources. It gives top priority to preventing waste in the first place. When waste is

created, it gives priority to preparing it for re-use, then recycling, then recovery, and last of all disposal (e.g. landfill).

Figure 5: The Waste Hierarchy



Source: Waste Management Plan for England (2021)

Given the work we have done so far on the design of the Waste ICC Contract and the relatively small number of projects that could be affected, our current view is that the support proposed to be provided to waste management CCS projects through the Waste ICC Contract is unlikely to create perverse incentives that undermine the waste hierarchy, such as increasing the quantity of waste processed in residual waste management facilities rather than further up the waste hierarchy or diverting certain specific waste streams down the waste hierarchy to residual waste management facilities in order to change the composition of waste being handled. We are using this consultation to seek feedback on our assessment of the potential risks of impacting the waste hierarchy and if any potential impacts could be mitigated via the design of the Waste ICC Contract. We are also seeking views on any requirements for monitoring waste volumes and compositions that could be included under the Waste ICC Contract.

Number of plants and new plants

Decisions on the eligibility of waste CCS projects for future rounds of funding beyond Track-1 clusters have not been made, and inclusion of waste CCS projects in the Phase-2 of the CCUS cluster sequencing process does not guarantee funding nor eligibility in future rounds of funding. Therefore, any potential perverse incentives arising as a result of support provided

through the Waste ICC Contract would only occur in the limited number of projects that may potentially be successful in being selected for support under Phase-2 of the CCUS Cluster Sequencing process. If Waste CCS projects were to be eligible for further rounds of funding, the incentives provided by any support mechanism and potential impacts on the waste hierarchy would be kept under review.

To be eligible for Phase-2, projects must show that it is able to be operational no later than the end of December 2027. This, alongside the need for projects to demonstrate deliverability through the evaluation criteria, protects against any speculative new plants being supported under the business model, as the timings mean projects would already need to be in the advanced planning stage to be operational with CCS by the end of 2027.

Volume of waste processed

The Waste ICC Contract will make payment per tonne of CO_2 captured and stored to help cover the additional costs of CCS (including the opex costs, return on capex investment and the T&S fees) only, not to support the underlying facility. Payment per tonne of CO_2 captured could risk creating an incentive for more waste to be processed at the facility in order to generate further payments. However, we do not expect that this will create an incentive to divert waste that could have been used further up the waste hierarchy towards waste recovery streams, because:

- Many plants, particularly those built under PFI/PPP contracts, are limited by their size in the volumes of waste they can process.
- The business model is being designed with consideration of minimising the potential negative impacts on the waste hierarchy. It aims to have a neutral impact on gate fees so as not to distort incentive for sending waste to the facility over other routes. If carbon pricing were to apply to an Emitter in the waste management sector in future, facilities operating carbon capture with a Waste ICC Contract may face different economic conditions to those operating unabated. To minimise the risk of distorted incentives we are therefore considering linking payments under the business model to the plant's carbon price exposure (please see section 4 of the ICC Business Model update published alongside this consultation).
- The ICC business model design includes an annual cap on capex payments and a maximum limit on opex payments in respect of each settlement period. We will continue to consider whether additional protections are needed, to further mitigate this risk.

If waste was due to be processed at a waste management facility without CCS (e.g. an Energy from Waste plant) and therefore potentially exposed to a cost of carbon (if carbon pricing were to apply the facility in the future), it could be possible that arrangements are made between the facilities to enable the waste to be processed at a similar facility (e.g. another Energy from Waste plant) with CCS so that any cost of emitting the carbon can be avoided. Such an outcome may be beneficial to support decarbonisation of the sector, where otherwise residual emissions would be greater, though may be unlikely given existing contractual arrangements in place between waste management facilities and their customers.

Composition of waste processed

We do not expect that the business model will create an incentive for the composition of waste processed at supported facilities to change, because:

- New s45A to 45AZB of the Environmental Protection Act 1990 (as amended / inserted by the Environment Act 2021) once in force will require all local authorities and businesses in England to arrange for the separate collection of a core set of materials (paper and card; glass; metal; plastic; food waste; and garden waste) for recycling. These materials must always be collected separately from residual waste so that they can be recycled. Only recyclable materials from these categories that remain in the residual waste stream should continue to be sent to residual waste treatment facilities, including incineration. This should restrict the ability of waste collectors to divert recyclable materials to waste management plants in pursuit of payments under the Waste ICC Contract.
- There is a correlation between carbon intensity and calorific value of the waste. The waste throughput of a waste management plant would be limited by its maximum thermal input, so if a plant were to burn higher carbon intensity (and therefore higher calorific value) waste, less total waste can be incinerated by the plant and the plant would therefore see a reduction in gate fee revenue.
- As set out above, the business model is being designed with the aim of having a neutral impact on gate fees, so as not to distort incentives for sending waste to the facility over other routes that are dependent on other costs.
- The business model will pay for all emissions captured, whether from fossil or biogenic sources, so that certain types of waste are not preferred over others. Any adjustment to payments to reflect any future carbon price will consider the plant's carbon price exposure.

In summary, the incentives to increase the quantity of waste or to change the composition of waste being handled are considered to be the same for waste management facilities with or without a Waste ICC Contract.

A possible exception to this is if the sale of negative emissions into a voluntary market were to be permitted (see section 7). In this scenario there could be an incentive for supported plants to increase biogenic content to maximise this revenue. We are still considering our approach to negative emissions, proposing to initially prohibit the sale of negative emissions credits under the business model, though will look to provide a mechanism for the Waste ICC Contract to review this prohibition. Therefore, any review of this provision would also need to take into account any perverse impacts on the waste hierarchy.

Monitoring of waste compositions and volumes

We think it is important that data is collected on composition and volumes to help monitor whether there is any unintended impact on these as a result of any support provided by the Waste ICC Contracts. We are considering to what extent and how data on waste compositions and volumes should be collected. At this stage we are not considering any punitive measures

should be introduced if there are significant variations in either waste volumes or waste compositions, due to the complexity of interactions with waste management processes and risk of unintended consequences. For example, if a waste management company diverted residual waste from a waste management facility without CCS towards a waste management facility with CCS it may be considered beneficial to reduce CO_2 emissions associated with waste that could not be used further up the waste hierarchy.

If any form of carbon pricing is applied to an Emitter within the waste sector in future, then there may be a requirement for plants to monitor and report on waste compositions to calculate CO_2 produced by the Emitter and thus the carbon price exposure of the plant. It we were to permit negative emissions sales under the Waste ICC Contract, then this would likely require robust monitoring of waste compositions by the permitted market, in order to identify the level of biogenic CO_2 captured at the plant to calculate the level of negative emissions produced. This monitoring of biogenic CO_2 would also be required in order to determine any appropriate adjustment to the payment calculation as a result of the sale of any negative emissions. Therefore, it may be appropriate for any initial monitoring and reporting of waste composition required under the Waste ICC Contract to be superseded by monitoring and reporting for any form of carbon pricing and any permitted negative emissions sales, to avoid undue burden. We are continuing to undertake work on the methodology that would be required for any monitoring of waste compositions, as well as the frequency of reporting that would be required.

Pre-award Process

Applying for ICC business model support

The entry process for Emitters seeking ICC business model support under Phase-2 of the Cluster Sequencing Process is explained in section 2.2 of the Cluster Sequencing for Carbon Capture Usage and Storage Deployment: Phase-2 guidance document. Please note that to be considered under Phase-2 of the Cluster Sequencing Process, project representatives must have submitted an application to BEIS on behalf of their project by 21 January 2022.

21. Eligibility

For Phase-2 ICC project selection, industrial Emitters will be considered eligible if they meet the following criteria:

- Must be located in the UK;
- Must have access to a CO_2 transport solution and Track-1 or reserve cluster CO_2 storage site;
- Must show that it is able to be operational no later than the end of December 2027;
- Must have commenced pre-FEED studies or be ready to commence pre-FEED no later than the end of December 2022;
- Must meet the definition of an industrial facility;
- Must deploy an eligible CCUS technology;
- Must be able to demonstrate the ability to meet high capture rates of at least 85%;
- For projects in the Oil and Gas, CCUS-enabled Hydrogen, Waste Management or CHP sectors, the project must meet specific eligibility criteria.

Please see the Cluster Sequencing for Carbon Capture Usage and Storage Deployment: Phase-2 guidance document for more detail on the eligibility and evaluation process.[52]

22. Negotiations

The majority of provisions of the ICC Contract will not be negotiable on a per-project basis, with a standard set of terms applying. The primary items that will be open for negotiation, to reflect the circumstances of individual projects, will be the capex payment rate and strike price, the size and cap on the capital grant (including any construction risk sharing mechanism) and

[52] Further detail on the eligibility criteria, evaluation and shortlisting process for Cluster Sequencing for Carbon Capture Usage and Storage Deployment: Phase-2 can be found here: https://www.gov.uk/government/publications/cluster-sequencing-for-carbon-capture-usage-and-storage-ccus-deployment-phase-2

profiling thereof, and elements of the opex reopener. HMG retains the right to draw additional aspects of the business model into negotiations on a discretionary basis.

The terms offered during negotiations will consider the wider impacts of final project selection on the risk profile and resilience of the Track-1 Cluster Plans. This includes taking into account the subsequent plans for the clusters and other additional Emitters and ensuring the cost of extending the T&S network to each project remains satisfactory. Any decision to award support at any stage of this process will only be made subject to government being comfortable with: the application of subsidy control requirements, any balance sheet implications, the status of any relevant statutory consents and that the project represents value for money for the consumer and the taxpayer and is deliverable. It should also be noted that any decision to award support may be contingent on wider factors including finalisation of agreements with relevant T&S networks as well as the development and Parliamentary approval of any necessary legislation.

The scope of negotiations will be communicated in the invitation to participate in the negotiation/due diligence stage following the outcome of the Phase-2 evaluation process. Please see the Phase-2 guidance document for further details.[53]

HMG may set bespoke timetables for carrying out these negotiations as a result of anticipated variation between each Track-1 T&SCo's timetable and maturity of projects. Following successful negotiations, the capital grant and ICC Contract will be offered to eligible projects as part of a single package of support.

23. Contract and Grant Agreement Structure

Successful industrial Emitters will receive an ICC Contract that will set out terms and conditions for revenue support payments and a GFA which will set out terms and condition for capital support payments. The ICC Contract will be entered into by the industrial Emitter and ICC Contract Counterparty. The Grant Funding Agreement will be between the entity which is responsible for funding the development of the relevant capture plant and BEIS.

[53] See footnote 52.

24. Consultation questions

With this consultation we are seeking views from stakeholders on the proposed business model package, including the structure and content of the draft ICC Contract, business model summary set out above and update accompanying this document, alongside previous business model and indicative CCS Infrastructure Grant Funding Agreement update. This consultation seeks to assess the extent to which the proposed model is deliverable, investable and supports effective decarbonisation. The Waste ICC Contract will be an adaptation of the 'generic' ICC Contract and we expect many of the provisions in the 'generic' draft ICC Contract to be retained in the Waste ICC Contract.

With this consultation we are also seeking feedback on the extent to which there are any potential risks of the Waste ICC Contract impacting the waste hierarchy, as well as views on how this can be mitigated via the design of the Waste ICC Contract as we develop this further.

Please provide reasoning for your answers and relevant evidence in your response.

Section A: All projects

We welcome views from all stakeholders, including those in the waste management sector, noting that work to do develop an adapted Waste ICC Contract remains ongoing, so please keep that in mind when responding to the questions below.

Principles guiding the design of the ICC business model were specified in the December 2020 ICC update. The following questions seek to establish the extent to which the proposed business model, draft ICC Contract and indicative heads of terms for the Grant Funding Agreement meet those principles:

Q1. To what extent does the ICC business model represent an investable proposition in the context of known HMG policies, stated ambitions, and the Net Zero commitment?

Q2. To what extent do you consider the ICC Contract will incentivise development of low carbon industrial production that has the potential to operate subsidy free at the end of the ICC Contract term?

Q3. Does the business model as described in this document and accompanying updates published alongside this publication, create, risk the creation of, or through its approach unsuccessfully protect against the creation of, any perverse incentives for the creation of excess carbon?

Q4. To what extent do you consider that the proposed negotiations approach will lead to successful agreements of ICC Contracts?

Q5. To what extent does the ICC business model, as delivered by the proposed Contract, succeed in supporting the development of innovative and competitive ICC projects? If not,

please explain how the Contract terms inhibit development of innovative and competitive ICC projects?

Q6. We are developing the business model package, including conditions set out in the indicative heads of terms for the CCS Infrastructure Fund Grant Funding Agreement, such that there is equitable apportioning of risk inherent to a FOAK project between both the developer and HM Government. To what extent do you consider risk is sufficiently balanced to enable investment in projects and value for money for taxpayers? If not, please identify those areas of the business model package where risk apportionment is disproportionate?

Q7. To what extent do the payment mechanics proposed for the main contract term and for the extension period(s) offer a fair balance of financial return, risk and protection in circumstances where costs and market circumstances diverge from expectations?

Q8a. Included within the business model are proposals for the treatment of UK ETS Free Allowances. To what extent does the proposed treatment of Free Allowances within the business model operate effectively within the UK ETS framework (e.g. timelines, allocation processes etc)?

Q8b. In light of the key principles that have guided ICC business model design, namely the development of a deliverable, investable business model that supports effective decarbonisation whilst delivering value for money for taxpayers, to what extent do you consider that the proposed treatment of UK ETS Free Allowances complies with these principles? How would you account for UK ETS Free Allowances within the business model in light of these principles?

Q9. Recognising that the ICC Contract has been drafted to offer consistency with the AR4 CfD and the Dispatchable Power Agreement contracts where appropriate and applicable, are there any areas of the ICC Contract where this consistency has not been achieved, inconsistencies are inappropriate, or where the ICC Contract does not reflect the business model as described in this document and accompanying updates published alongside this publication?

Q10. In the business model update and draft ICC Contract, we have set out our view as to how government and Emitters should share the impact and costs of key risks (including in relation to Qualifying Changes in Law and termination events). We have also set out our proposals relating to the payment of compensation following the occurrence of such risks, with the aim that such compensation i) is proportionate, ii) gives Emitters sufficient protection to ensure that the underlying industrial facility is not rendered uneconomic, the possibility of deploying CCUS is still achievable and that the ICC Contract is investable/bankable and iii) is limited to what is necessary to provide such protection. The proposed compensation considers the extent to which Emitters can themselves partially mitigate some of these risks, just as they would have to in a situation where government subsidy is not required because the market appropriately prices in the cost of CO_2 emissions and CCUS deployment is sufficiently de-risked. In any scenario, are there specific costs which you feel government has not considered and are not protected via either i) the proposed business model compensation or ii) compensation

available beyond the business model (for example from your own revenue streams). Please provide detailed analysis to evidence your response if yes.

Q11. ICC projects will be part of a wider CCUS network. A T&S Prolonged Unavailability Event would have a significant impact on any project connected to the network, including those projects holding ICC Contracts. We need to consider how to best manage this interface risk. We have set out an initial minded to position on the termination right where there is a T&S Prolonged Unavailability Event, which seeks to balance the risk held by investors in the ICC project and investors in transport and storage and the wider network. Do you consider that there is a fair allocation of risk between the different interests in relation to Termination for T&S Prolonged Unavailability Events? If not, please provide your rationale.

Q12. Where the business model calculates payments using a market carbon price – i.e. in the extension period of 'generic' ICC Contracts and potentially in the Waste ICC Contracts – our preference is to use a monthly-averaged carbon price, calculated for each calendar month. We have also considered using a daily market carbon price. Please provide your considerations on these two options.

Section B: Waste ICC Contract

Q13. As explained in section 20 on the Waste ICC Contract impacts on waste hierarchy, we consider that the support proposed to be provided to waste management CCUS projects through the Waste ICC Contract is unlikely to create perverse incentives that undermine the waste hierarchy (for example, by creating perverse incentives to send waste that could have otherwise been used further up the waste hierarchy towards waste recovery processes such as EfW, ATT or ACT processes). Do you agree? If not, how do you consider that support provided through the Waste ICC Contract can mitigate this risk? Please set out any evidence behind your response.

Q14. What methodologies do you consider would be most appropriate to monitor the waste compositions and volumes being processed at waste management facilities receiving a Waste ICC Contract? The purpose of such monitoring would be to ensure that data is collected on waste composition and volumes to help monitor whether there is any unintended impact on these as a result of any support provided by Waste ICC Contracts. How frequently do you think any monitoring and reporting of waste compositions should occur? Please explain the rationale behind any methodologies you consider to be appropriate and the frequency of monitoring and reporting you consider to be most appropriate.

Next steps

The purpose of the consultation is to ensure that the proposals and ongoing policy development in relation to the business model takes in to account all relevant considerations in meeting the policy objectives that government initially set out and summarised above and that all stakeholders have the opportunity to provide relevant feedback on the draft business model design. We will use the responses to identify if we have overlooked any aspects that may inhibit the application of the business model and address any relevant points in the final form of the ICC Contract to ensure it can fully achieve the policy aims. We intend to publish a response to this consultation which would be accompanied by a summary of the responses received to this consultation.

We are seeking to publish the final generic ICC Contract later in the year, to align with meaningful negotiations commencing with shortlisted projects. The Waste ICC Contract will follow a different timeline to the ‘generic’ ICC Contract. We are seeking to publish a draft Waste ICC Contract by the summer, which will provide more clarity on the potential adaptations we have outlined in the ICC Business Model Update published alongside this document. We do not intend a further formal consultation on the changes needed to the ICC Contract for Waste, but are intending to engage with stakeholders before a final draft is published to align with meaningful negotiations with shortlisted projects in the waste management sector.

The exact timetable for negotiations is to be confirmed, with the first projects expected to be awarded contracts from mid-2023.

This consultation is available from: www.gov.uk/beis

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