Department for
Business, Energy
& Industrial Strategy

Energy Security Bill Policy Statement

Carbon Dioxide (CO2) Transport and Storage Regulatory Investment Model

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Summary

The Energy Security Bill was introduced into Parliament on 6 July 2022. This Bill will deliver a cleaner, more affordable and more secure energy system for the long term. It builds on the ambitious commitments in the British Energy Security Strategy to invest in homegrown energy and maintain the diversity and resilience of the UK's energy supply.

The Government's Ten Point Plan set out the Government's commitment, re-affirmed in the British Energy Security Strategy, to invest £1 billion to support the establishment of at least two carbon capture, usage and storage (CCUS) industrial clusters by the mid-2020s and a further two by 2030.

A long-term supportive policy environment and viable business models are essential to support the delivery of CCUS and overcome the challenges and barriers to deploying CCUS in the UK. Alongside the CCS Infrastructure Fund, Government has committed to establish commercial models that will bring through the investment to deploy CCUS at the pace and scale needed to meet our carbon budgets and net zero targets.

The Energy Security Bill makes provisions to establish the CO2 transport and storage regulatory investment model, known as the 'TRI' model; an economic regulation model, complemented by powers to offer targeted Government support to enable deployment of CO2 transport and storage networks. The economic regulation of CO2 transport and storage companies would be complemented by the business models for emitters which are contract-based arrangements to incentivise carbon capture.

The TRI model was identified in the 2020 Government response1 as the preferred option following the Government's 2019 consultation on 'Business models for carbon capture, usage and storage'2. Ongoing industry engagement on business model design and development will continue until the first economic licences are awarded and further evolve as the CCUS market develops, with updates published regularly on gov.uk3.

[1] Business Models for Carbon Capture, Usage and Storage: government response (2020): https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/909706/CCUS-government-response-business-models.pdf
[2] Business Models for Carbon Capture, Usage and Storage: government consultation (2019): https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/819648/ccus-business-models-consultation.pdf
[3] https://www.gov.uk/government/publications/carbon-capture-usage-and-storage-ccus-business-models

Licensing of Carbon Dioxide Transport and Storage

Background

The Bill establishes a new economic licensing framework for CO2 transport and storage, including statutory duties, powers and functions for Ofgem as the economic regulator of CO2 transport and storage. This economic regulation and licensing framework is intended to work alongside and in addition to the existing licence requirements for carbon dioxide storage activities provided in and under s.17 and 18 of the Energy Act 20084.

This follows the 2019 Government consultation on 'Business Models for Carbon Capture, Usage and Storage'5 and subsequent 2021 consultation on the 'Duties and functions of an economic regulator for CO2 transport and storage networks'6. Within the Government response to the 2021 consultation7, we identified a number of aspects of the regulatory regime which would need to be kept under review as the CCUS market develops.

Policy design and context

Extending the licensable means of transportation of CO2

In the economic regulation model for CO2 transport and storage, operators of CO2 transport and storage networks will be required to hold a licence in order to operate and charge for the use of CO2 transport and storage networks, which consist of onshore pipelines, offshore pipelines and an associated offshore storage facility.

We know that many in the CCUS industry are undertaking studies and plans to consider how to use non-pipeline forms of transport (e.g., shipping, road, rail) to transport CO2 for geological storage, and we are continuing to engage with industry and the devolved administrations to

[4] These existing licence requirements concern matters such as technical and environmental viability of carbon dioxide storage activities, whereas the new licensing framework established in the Energy Security Bill is concerned with the economic regulation of carbon dioxide transport and storage activities.

[5] Business Models for Carbon Capture, Usage and Storage: government consultation (2019): https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/819648/ccus-business-models-consultation.pdf

[6] Duties and functions of an economic regulator for carbon dioxide transport and storage: government consultation (2021): https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/1007774/ccus-economic-regulator-consultation.pdf

[7] Duties and functions of an economic regulator for carbon dioxide transport and storage: government response (2022): https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/1046823/ccus-economic-regulator-government-response.pdf

understand government's role in supporting non-pipeline transportation within the UK carbon network.

Pipelines for the transportation of CO2 and geological storage sites for CO2 currently have monopolistic characteristics which are typical of assets that are economically regulated. Our current understanding is that non-pipeline forms of transportation do not share these attributes, therefore we do not currently consider there to be the same grounds to economically regulate non-pipeline methods of CO2 transportation.

The potentially lower costs of entry and ability for multiple assets running in parallel suggests that competitive regional markets may emerge for non-pipeline transport of CO2 to storage. We therefore intend to keep this under consideration through ongoing market engagement and through provision in the Bill for the economic regulator to keep the state of the market under review; however, if competitive markets do not emerge as anticipated, this may be a rationale for future regulatory intervention. The Bill enables the scope of licensable activities to be extended to other forms of CO2 transportation, should this become appropriate. Any future regulations to extend the scope of licensable activities would be subject to statutory consultation as set out in the primary legislation, including consultation with the economic regulator to confirm the rationale for market intervention.

Exemptions from the requirement to hold a licence

Under the provisions in the Bill, an Ofgem-regulated licence would be required to operate, and charge payment for use of, a CO2 pipeline transport and storage network. Given the natural monopolistic characteristics of the pipeline and storage networks, oversight by an independent economic regulator will ensure user charges reflect economic and efficient costs, a reasonable return on capital investment, and the prevention of anti-competitive behaviour, such as restriction of access to a network. A licence would also impose certain obligations on the network operator in the conduct of its activities.

To ensure that the prohibition applied to operating a CO2 transport and storage network without a licence doesn't impact activities which it is not considered necessary or appropriate to economically regulate, the Bill provides for the Secretary of State to grant exemptions from the requirement to hold a licence. Exemptions may be granted either to a class of persons or to an individual person.

Exemptions are envisaged as a means by which small scale operators would not be burdened by licensing costs and obligations that could be considered as disproportionate to the scale of their operation. This might apply also, for example, to certain CO2 transport and storage research and development activities which might otherwise fall within the definitions of licensable activities. Exemptions from the requirement to hold a licence should not enable a competitive advantage over licensed operators.

We intend to engage with the market on potential classes of exemption ahead of bringing forward regulations in this area, and under provisions in the Bill, conduct a formal consultation process ahead of laying exemptions regulations.

The Bill also provides for Secretary of State, by Regulations, to vary, revoke or withdraw exemptions which may have been granted, where it would be appropriate to do so. For example, as market circumstances change, it is conceivable that certain activities, or categories or classes of activity, which are appropriately exempt from economic regulation in the early years of CCUS deployment, may as the sector matures, be considered more appropriate for licensing and regulation, or the particular activity that was subject to the exemption itself develops and changes. Secretary of State would have the power to revoke, vary or withdraw exemptions which have been granted to an individual person or class of persons: at a person's request; in accordance with any provisions of the regulations by which the exemption was granted, or if it appears to the Secretary of State inappropriate that the exemption should continue to have effect.

The future process for granting licences

The first phase of the CCUS cluster sequencing process8 commenced in May 2021, following market engagement on the approach to sequencing CCUS clusters for deployment[9]. The CCUS clusters sequenced onto Track-1 for deployment in the mid-2020s were announced in October 202110. Further detail will be published on the timeline and criteria for the Track-2 approach in due course.

Through the cluster sequencing process, the Secretary of State will determine which network operators should be awarded a licence and the terms and conditions of those licences to establish the first-of-a-kind CO2 transport and storage networks. This is appropriate to reflect the Exchequer support which will be available to those operators and enables the Secretary of State to conduct a thorough assessment of suitability and value for money in these determinations.

Within the cluster-based approach to establishing the first CO2 transport and storage networks, the licences are expected to cover the full CO2 transport and storage network. Guidance for the CCUS cluster sequencing deployment of Phase-1 defined a CO2 transport and storage network as a set of onshore pipelines, offshore pipelines and an associated offshore storage facility, where the pipelines must be capable of transporting CO_2 to the storage site (for example a saline aquifer or depleted oil and gas field) that must be able to store this CO_2 safely and permanently11.

The delegated power in the Bill enables different licence types to be created and granted in respect of different types of transport and storage activity. It is conceivable that in the future it

[8] Cluster sequencing for CCUS deployment: Phase-1 guidance, May 2021: https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/986007/ccus-cluster-sequencing-phase-1-guidance-for-submissions.pdf

[9] Carbon capture, usage and storage: market engagement on cluster sequencing: https://www.gov.uk/government/consultations/carbon-capture-usage-and-storage-market-engagement-on-cluster-sequencing#download-the-full-outcome

[10] Written Ministerial Statement, 19 October 2021: https://questions-statements.parliament.uk/written-statements/detail/2021-10-19/hcws325

[11] Cluster sequencing for CCUS deployment: Phase-1 guidance, May 2021: https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/986007/ccus-cluster-sequencing-phase-1-guidance-for-submissions.pdf

may become desirable to be able to separately licence constituent parts of a network, such as an onshore pipeline network or offshore geological storage site. This would allow operators to specialise in the provision and operation of certain elements of the CO2 transport and storage infrastructure, which may necessitate different licence types with potentially different conditions.

The cluster sequencing process is specifically designed for first-of-a-kind projects; however, in the enduring regulatory regime, and in line with regulatory licensing practice in other sectors, we anticipate that responsibility for the granting of licences will transfer from the Secretary of State to the economic regulator. The point at which it is appropriate to transfer responsibility for licence grant will depend on developments in the market in the early years of its operation, and on levels of Government support for future operators. The Bill also therefore provides for regulations to establish the future process for licence applications. This power will be used to ensure the most appropriate process for licence application, informed by consideration of the initial cluster sequencing process and evolution of the CCUS market.

The delegated powers in the Bill enable the Secretary of State to establish, by regulation, the procedure for licence applications, including conditions that future licence applicants may be required to meet to obtain a licence, and the form and manner in which a licence application can be made. There is, additionally, a discretionary power for a future process for licence application to be determined on a competitive basis. A competitive approach may bring overall value for money benefits for taxpayers and consumers, but whether a competitive process is appropriate for the enduring regime will depend on how the CCUS market develops, including the anticipated number of market participants.

Enforcement

To ensure the licensing framework operates as intended, the economic regulator requires appropriate powers of enforcement in relation to licensable activities, to ensure licence conditions are adhered to and that there is appropriate redress for regulatory breaches, including to act as a sufficient disincentive to licence holders to breach licence conditions.

Enforcement powers for Ofgem as the economic regulator of CO2 transport and storage networks are intended to be broadly similar to those that are available to Ofgem in the regulation of gas and electricity licensing under the Gas Act 1986 and Electricity Act 1989.

That is, the powers in the Bill will enable Ofgem as the economic regulator to monitor CO2 transport and storage licensees to ensure that they comply with their licence conditions and to enforce the conditions of the licence, for example, by issuing an enforcement order to require the relevant company to comply with its licence conditions and impose financial penalties. The Bill also sets out procedural and other requirements relating to the conduct of licence enforcement. This includes the procedure that the economic regulator should follow when making an order, limits on the size of penalties which may be applied for breaches of licence conditions and the method by which orders may be appealed.

As in other regulated sectors, we intend that, following consultation, the economic regulator should publish guidance on its policy and approach to enforcement, including the factors and circumstances which would be taken into account regarding decisions on whether to impose a financial penalty or require redress to be provided to users, and in determining the amount of any financial penalty or redress.

The Bill therefore includes requirements upon the economic regulator in relation to the publication of guidance on its policy and approach to enforcement in the CO2 transport and storage sector, which should include the factors and circumstances which would be considered in decisions on whether to impose a financial penalty, and for determining the amount of any financial penalty.

The Bill seeks to establish a cap on the amount of penalty the regulator is able to impose to 10% of company turnover following precedent in other regulated sectors and provides a power to make regulations to set out how company turnover is defined for the purpose of calculating a maximum penalty. The first CO2 transport and storage companies are expected to be established as Special Purpose Vehicles (SPVs), subsidiary companies of larger parent companies formed specifically to undertake CO2 transport and storage activity and as such the maximum penalty should be appropriate to reflect the size of the transport and storage business operation. Whilst the first CO2 transport and storage operators are expected to be established as SPVs, this may not be the case for all future operators. The ability to regularly review and update how company turnover should be determined is important to ensure the enforcement and penalty regime remains appropriate as the market develops.

Additionally, and as provided for in the Bill, the economic regulator should also have powers to secure compliance with competition law, as in other regulated sectors.

Special Administration Regime for CO2 transport and storage

Background

The Bill creates a new Special Administration Regime (SAR) for licensed CO2 transport and storage companies. Special Administration Regimes are in place for regulated utilities including water companies, transmission and distribution networks of electricity and gas, the national rail, certain electricity suppliers, and smart meter providers. SARs allow for the protection of essential services where normal insolvency would cause undue harm and ensure that the essential service continues.

The aim of a SAR is predominately to prioritise the rescue of the company and continuation of the asset. It is intended as an interim solution rather than a long-term fix. For a CO2 transport and storage network company, keeping the network operational is likely to offer the most optimal result for emitters connected to the network and for taxpayers. Where rescuing the T&S company as a going concern is not possible, the administrator also has the option to transfer all or parts of the undertaking to run as a going concern. In the circumstances that the ongoing operation of the T&S network is no longer viable in its form, the Secretary of State may wish for Government to take ownership and/or transfer the network assets in order to facilitate a restructuring or the safe decommissioning of the assets, using the CCUS statutory transfer scheme provided for in the Bill.

Policy design and context

Under the proposed Special Administration Regime, in the circumstance where a CO2 transport and storage company is running out of funds or likely to become insolvent, the Secretary of State or the economic regulator with the Secretary of State's consent can apply to the High Court for a Special Administration Order which would allow a special administrator to be appointed. In order to establish the process and procedure for the administration, the Bill extends the provisions designed for an energy administration order in the Energy Act 2004, with appropriate amendments, including adopting relevant amendments to Schedule B1 Insolvency Act 1986.

Section 411 Insolvency Act 1986 provides for the establishment of insolvency rules to supplement the provisions in the Act. For England and Wales, the most recent iteration is the Insolvency (England and Wales) Rules 2016 (the "Rules").

These rules cover procedural issues, such as the quorum required for various meetings and the detail of what constitutes service of documents. These rules can be detailed, technical and complex relating to aspects such as the machinery of proving a debt and the way a claim can be quantified.

Rather than amend these Rules to apply to SARs in the energy sector, separate insolvency rules have been established for each of the supply, network, and smart meter communication device company SARs, the most recent example of which is the Smart Meter Communication Licensee Administration Rules (England and Wales) 2020. The provisions in the Bill take the same approach and extend the ability of the Secretary of State to make company insolvency rules conferred by section 411 of the Insolvency Act for the purposes of giving effect to Special Administration Orders.

We intend to bring forward the secondary legislation to make CO2 transport and storage company insolvency rules following Royal Assent of the Bill. Under section 413 of the Insolvency Act 1986, before making any rules under Section 411 the Lord Chancellor must consult the Insolvency Rules Committee.

Decommissioning of carbon storage installations

Background

The Bill provides a power for the Secretary of State to make regulations regarding the financing and provision of security for decommissioning and other post-operational costs associated with CCUS transportation and storage networks. The Bill then provides examples of what these regulations might cover, such as the means for estimating these costs and the establishment of decommissioning funds to manage the funding received to pay for them.

Alongside this, the Bill makes amendments to Sections 30A and 30B of the Energy Act 2008, broadening the scope of Change of Use Relief so that it applies to eligible installations and pipelines more generally. It also amends the trigger point to qualify for such relief, so that broadly the trigger is the payment into a fund of a specified sum of money approved by the Secretary of State, rather than the presence of CO2 in the relevant installation/pipeline. Change of Use Relief can be offered to previous owners of Oil and Gas infrastructure that is intended to be re-purposed for CCUS applications, relieving them of future decommissioning liabilities on those assets, subject to the fund payment.

These proposals follow a consultation in August 202112, in which the Government set out proposals for establishing a funded decommissioning regime for CCUS. This included the Government's proposals on the establishment of decommissioning funds and how these are envisaged to work in practice. The Government confirmed its proposals in January 202213 following broad industry support on the proposals, and will publish a further update later this year. This update will set out further details on areas of this funded regime which required additional consideration, reflecting the ongoing wider development of the CCUS transport and storage business model.

Policy design and context

As outlined in the Government's response to the 2021 consultation, CO2 transport and storage companies will be expected to establish decommissioning funds for each of their transport and storage networks. These funds will accrue money over the operational life of the network to pay for the expected offshore decommissioning and post-closure costs associated with the network. These are in accordance with the requirements set out in the Petroleum Act 1998 and the Energy Acts 2008 and 2010.

[12] https://www.gov.uk/government/consultations/carbon-capture-usage-and-storage-ccus-offshore-decommissioning-regime-for-co2-transport-and-storage
[13] https://www.gov.uk/government/consultations/carbon-capture-usage-and-storage-ccus-offshore-decommissioning-regime-for-co2-transport-and-storage

The decommissioning funds will accrue from the decommissioning building block of the CO2 transport and storage company's allowed revenue and in relevant cases, the approved payment in respect of Change of Use Relief. The scale of this building block will be calculated using estimates of the decommissioning and post-closure costs provided by the company and verified by the appropriate regulators. These estimates will be periodically reviewed to ensure they remain robust and fair, and the accrual rates of the decommissioning funds will be amended as necessary to reflect any changes.

Regulations will provide the framework for how the decommissioning funds are to ensure the funding is secure and available at the time it is required to pay for the decommissioning and post-closure obligations. This may be supplemented by Guidance. This will ensure that the funds are adequately secured and ring-fenced and enable investment of the funds to maintain value.

The amendments to the Change of Use Relief (CoUR) legislation will support the re-purposing of assets for CCUS. However, they will also ensure that previous owners continue to meet their decommissioning obligations for the assets which they would otherwise have had absent CCUS, albeit in a more flexible way. This is delivered through the new trigger point for the issuance of CoUR, the conditional top-up to the decommissioning fund equivalent to the outstanding decommissioning liability associated with the asset. The aim of this policy is to deliver a fair outcome in accordance with the Polluter Pays Principle, mitigating the risk that existing oil and gas companies use CCUS as a means to avoid their decommissioning obligations.

Access to CO2 transport and storage infrastructure

Background

There is existing legislation in place governing access to CO2 transport and storage infrastructure in the Storage of Carbon Dioxide (Access to Infrastructure) Regulations 2011 ("the Regulations"). These Regulations were made as part of the transposition of Directive 2009/31/EC of the European Parliament and of Council of 23 April 2009 on the Geological Storage of Carbon Dioxide. They implemented the requirements in Articles 21 and 22 of the Directive relating to third party access to infrastructure for the transport and storage of carbon dioxide on a fair and transparent basis.

The purpose of the regulations is to ensure that third parties are able to obtain fair and open access to transport networks and storage sites and requires the arrangements to be transparent and non-discriminatory. They set out the circumstances in which an operator could refuse to give access to a third party e.g., on grounds of lack of capacity, or lack of connection, and provide for a process to resolve disputes over access.

As the current Regulations were implemented using the powers in 2(2) European Communities Act 1972, and prior to the development of Government's current CCUS programme involving the establishment of an economic regulator and an economic regulatory regime, a new delegated power is required to enable the Secretary of State to ensure access arrangements can be amended to reflect the new role of the economic regulator.

Policy design and context

The access to infrastructure regulations set detailed requirements on how user access to transport and storage networks should be managed, including any disputes arising.

As the Regulations derive from an EU Directive, a new delegated power to update these regulations is appropriate to ensure that the Secretary of State has a clear and unambiguous authority to update the existing Regulations to ensure the overall legislative framework applying to CO2 transport and storage activities is coherent.

CO2 transport and storage network operators are expected to have an obligation, under the transport and storage licence itself and associated network codes, to provide access to networks on non-discriminatory terms. The new regulated framework may therefore support parties reaching an appropriate agreement without the need to escalate a dispute to an arbiter, however it may be expedient to expressly acknowledge and provide for the economic regulatory framework in the Regulations (or through new Regulations), to ensure clarity and avoid potentially conflicting outcomes.

Draft Heads of Terms for the transport and storage licence and for the CCUS network codes[14] have been published and the Department will continue to engage with industry on the development of both the licence and the codes. We intend to review the continued fitness-for-purpose of the existing Regulations in light of the final licence conditions and network codes.

As set out in the Bill itself, any amendments to the existing Regulations would continue to adhere to the principle that access to infrastructure operates in a transparent and non-discriminatory manner. Modifications to the Regulations would be to ensure consistency with the new economic regulation framework and the licence and network codes provisions. For example, amendments may be made that recognise the role of the economic regulator, in addition to the Secretary of State and relevant ministers in the Devolved Administrations, in the process of how third-party access appeals could take place, rather than seeking to amend the substantive decision on whether appeals can take place.

[14] Draft: carbon capture, usage and storage network code indicative heads of terms: June (2022): https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/1085943/ccs_network_code_draft_HoT__200622_.pdf

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