



Department for
Energy Security
& Net Zero

Energy Security Bill Policy Statement

Retention, Reporting and Disclosure of
Carbon Dioxide Storage Information and
Samples



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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 Energy Act 2008 established a licensing framework for the storage of carbon dioxide (CO₂), with the North Sea Transition Authority (NSTA¹) as the regulator of offshore storage on the UK Continental Shelf². This carbon storage licensing regime establishes robust requirements and controls to ensure that carbon storage is safe and secure, and that the risk of leakage is minimised to avoid potential harm to the environment and human health or undermining of Government's decarbonisation efforts.

Government's ambitions for a UK Carbon Capture, Usage and Storage (CCUS) industry have significantly increased since the 2008 Act, with greater recognition of the role CCUS plays in supporting the delivery of net zero and an ambition to store 20-30 million tonnes of CO₂ per year by 2030³. It is estimated that industry could support up to 50,000 jobs across the UK in 2050, with further potential £4-5bn in GVA from UK CCUS exports by 2050. To support delivery of net zero and realise the economic benefits, the Energy Bill establishes provisions to enable the NSTA to require the retention, reporting and disclosure of relevant information and samples from carbon storage licence holders, to support the carrying out of its regulatory functions.

Provisions on carbon storage licencing information are intended to work in parallel and compliment the separate economic licencing regime for CO₂ transport and storage established across Parts 1 and 2 of the Bill. With a purpose to facilitate regulatory efficiency across the nascent CCUS sector, these provisions enable the alignment of carbon storage information requirements with existing petroleum licensing provisions established in the Energy Act 2016. These enhanced powers for the NSTA to gather and share relevant data will support the Government's ambition to scale up the deployment of CCUS and maximise the UK's estimated 78 billion tonnes of potential CO₂ storage capacity⁴. They will support these ambitions by enhancing knowledge across the CCUS sector through the development of best practices and bolstering of public confidence in carbon storage activities, to help encourage private investment.

This policy statement specifically concerns regulation-making powers for:

¹ The business name of the Oil and Gas Authority (OGA).

² The UK Continental Shelf (UKCS) comprises those areas of the seabed and subsoil beyond the territorial sea over which the UK exercises sovereign rights of exploration and exploitation of natural resources.
https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/549620/UKCS_Designations.pdf

³ <https://www.gov.uk/government/publications/net-zero-strategy>

⁴ Pale Blue Dot: Progressing Development of the UK's Strategic Carbon Dioxide Storage Resource (2016):
<http://www.eti.co.uk/project/strategic-uk-ccs-storage-appraisal/>

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- The retention and reporting of carbon storage licensing information and samples
- The disclosure of carbon storage licensing information and samples:
 - after a specified period; and,
 - to certain persons.
- Financial penalties on sanctionable requirements

Background

Powers established in the Energy Act 2016 enable the NSTA to require the retention, reporting and subsequent disclosure of petroleum-related information and samples to support their functions as the regulator of offshore petroleum in the UK. These powers are widely considered as valuable by the petroleum industry; they were introduced to support the maximum economic recovery of petroleum through greater access to timely and transparent data, necessary for a competitive market. The effect of the retention of information and samples regulations made under the Energy Act 2016 is to safeguard the long-term curation of important national resources by preserving vital information and samples for future use. They also make the retention rules simpler and clearer for industry to follow and help reduce the cost burden involved⁵.

The public consultation on information and sample related matters in CO₂ appraisal licences⁶, published by the NSTA in January 2023, sought views on the principle of applying similar data gathering powers currently held by the NSTA, in respect of petroleum licensees, to carbon storage licences under the Energy Act 2008. The NSTA's consultation response⁷, published in April 2023, confirmed support from all respondents for the proposals for retention, reporting and disclosure of carbon storage information.

The NSTA is currently responsible for six active carbon storage licenses⁸, yet it is estimated that up to 100 separate stores⁹ could be required for domestic carbon storage to meet the UK's net zero targets. In June 2022, the NSTA ran a carbon storage licensing round, inviting applications for carbon storage licences across a number of areas of the UK Continental Shelf. They received 26 bids for 13 areas on offer¹⁰, including the Northern North Sea, Central North Sea, East Irish Sea and Southern North Sea, with licences to be awarded in 2023. Once these new licences are awarded, licence holders are expected to begin the exploration activities required for storage appraisal in order to determine the suitability of sites for the permanent storage of carbon dioxide. Once appropriate sites are confirmed, licence holders will then be required to obtain a separate storage permit from the NSTA to begin CO₂ injection.

CO₂ storage sites will typically comprise of geological formations offshore, within depleted oil or gas fields or saline aquifers. At these sites, CO₂ will be injected underground at depths of around 800 metres or more, where the CO₂ will be securely contained.¹¹

⁵ <https://www.nstauthority.co.uk/media/4799/consultation-response-retention-and-disclosure-of-information-and-samples-ver6-24apr2018.pdf>

⁶ <https://www.nstauthority.co.uk/media/8688/nsta-consultation-ccs-data-disclosure-final.pdf>

⁷ https://www.nstauthority.co.uk/media/8999/consultation-on-cs-data-powers_v2-6-april-2023.pdf

⁸ <https://www.nstauthority.co.uk/media/8532/carbon-dioxide-appraisal-and-storage-licensing-the-public-register-last-updated-november-2022-v2.xlsx>

⁹ <https://www.nstauthority.co.uk/news-publications/news/2023/carbon-capture-and-storage-the-road-to-net-zero/>

¹⁰ <https://www.nstauthority.co.uk/news-publications/news/2023/carbon-capture-and-storage-the-road-to-net-zero/>

¹¹

https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/1134212/ukcs-co2-containment-certainty-report.pdf

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Under the existing legislation, carbon storage licences return to the State once storage sites have been closed for a designated period and Government is liable for any potential future leakage after that point. It is therefore in the public interest that the NSTA has sufficient statutory powers to ensure relevant data is retained and reported by storage licensees as part of the process of the NSTA determining whether to issue a storage permit and during storage operations and the ongoing monitoring of permitted operations; that this information is capable of being shared with the Secretary of State, to whom responsibility will be transferred post closure; and that measures mitigate the risk of loss of data associated with the transfer of information and samples at the time of a licence transfer or change of control of the carbon storage licensee.

The carbon storage licensing information provisions established in the Bill only apply where the NSTA is the licensing authority under the Energy Act 2008: carbon dioxide storage on the UK Continental Shelf, onshore in England, and within the territorial sea adjacent to England, Wales and Northern Ireland¹².

Government intends to lay regulations when Parliamentary time allows, following the passage of the Energy Bill.

¹² Scottish Ministers are the licensing authority for storage activities in the territorial sea adjacent to Scotland.

Policy design and objectives

Retention and reporting of carbon storage information and samples

Section [CSNC2] establishes the provision to require carbon storage licensees to retain information and samples collected through the carrying out of activities under the authority of a NSTA carbon storage licence issued under the Energy Act 2008. The type of information and samples will be specified in regulations, alongside the form and manner in which they are to be retained, the period of retention, and the events that trigger the commencement of such requirements. Whilst the regulations will only apply to licences issued by the NSTA, these regulations will be subject to consultation with any licensing authorities who are also authorised by the 2008 Act to grant a carbon storage licence in respect of any of the places to which the regulations will apply. The consultation requirement reflects the allocation of licensing responsibilities under the 2008 Act; in relation to certain locations, both the NSTA and the relevant devolved administration are authorised to grant a licence.

Exploration, appraisal, and monitoring activities carried out on and under the seabed by carbon storage licence holders will yield important information that will help support the NSTA to carry out its regulatory functions effectively. Requiring the reporting of information and samples to the NSTA will allow it to be securely stored within the NSTA controlled systems such as the National Data Repository¹³ or as Open Data¹⁴, in the NSTA Data Centre, in an appropriate, supporting format to reduce the risk of data loss and enable its continued access into the future. This allows for an increased understanding of the evolving carbon storage landscape, since, following an agreed protected period, the information is disclosed and is of value to others with an interest in the UK carbon storage including other carbon storage licensees and academia.

The types of information and samples likely to fall within scope of the retention, reporting and disclosure provisions includes data relating to how CO₂ storage sites and projects have been appraised, constructed, completed, plugged, or permanently abandoned. This will also include monitoring information and injection volumes gathered during the CO₂ injection phase. Further guidance on retention¹⁵ and reporting¹⁶ has been published by the NSTA to support petroleum licence holders in understanding and carrying out similar requirements, with similar materials intended to be provided for carbon storage licensees. It is Government's intention to closely align with the existing retention and reporting regulations placed upon petroleum licensees which requires, but is not limited to, the following examples of information and sample types:

- well information (e.g., operational, and engineering information and information on the geological strata of the wellbore);

¹³ <https://www.nstauthority.co.uk/data-centre/national-data-repository-ndr/>

¹⁴ <https://www.nstauthority.co.uk/data-centre/nsta-open-data/>

¹⁵ <https://www.nstauthority.co.uk/media/8703/retention-of-information-and-samples-guidance-jan-2023-final.pdf>

¹⁶ <https://www.nstauthority.co.uk/media/8012/guidance-on-reporting-disclosure-august-2021-final.pdf>

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- physical samples (e.g., cores, cuttings, oil and gas fluid samples, thin sections, formation water samples);
- geophysical survey information (e.g., seismic and potential field data);
- production information (e.g., quantity, composition and characteristics of petroleum);
- other licence information (e.g., subsurface reports, computerised models);
- upstream petroleum infrastructure and relevant offshore installation information;
- pipeline information (e.g., construction operation, inspection, maintenance, and decommissioning materials); and
- transition arrangements.

Due to the nascency of the CCUS industry, with carbon dioxide still yet to be injected into storage sites currently licensed within the UK, the technical and specialised information and samples to be required are to be established within regulations and guidance as opposed to on the face of the Bill. Not only is there precedence for setting out such details in regulations and guidance as done for petroleum licensing, but this will also enable the flexibility to account for the potential evolution of requirements as the industry develops. The specific scope of data required will be subject to the expertise of the NSTA and other relevant licensing authorities and their determination of what information is necessary for the carrying out of their functions in supporting the CCUS industry. Proposed regulations for the retention and disclosure of petroleum-related information and samples were consulted on by the NSTA in 2017¹⁷ and it is intended that an equivalent consultation would be conducted for carbon storage regulations. Information and Samples Plans and an Information and Samples Coordinator will also be required for specified licence events as established in clauses [CSNC3, 4 and 5], with the purpose of minimising the risk of data loss associated with the transfer of information and samples.

Retention and reporting regulations are intended to be laid in secondary legislation as soon as parliamentary time allows, following the passage of the Energy Bill.

¹⁷ <https://www.nstauthority.co.uk/media/4799/consultation-response-retention-and-disclosure-of-information-and-samples-ver6-24apr2018.pdf>

Disclosure of carbon storage information and samples

In January 2023, the NSTA consulted on information and sample related matters in CO₂ appraisal and storage licences¹⁸. They received broad support on the principle of applying similar data gathering powers currently held by the NSTA, in respect of petroleum licensees, to carbon storage licenses under the Energy Act 2008. In endorsement of the public disclosure of carbon storage information and samples after a specified period of disclosure, industry stakeholders highlighted the benefits of maintaining public confidence in carbon storage projects, the streamlining of carbon storage activity, and its help in transforming the CCUS sector to ensure the UK is on track to deliver net zero targets.

Information gathered by the NSTA in respect of petroleum licensees is currently shared across the offshore energy sector and academia via the National Data Repository, with a purpose to support the development of projects and enabling them to become operational as soon as possible. This will enable the use of information and samples collected by others to progress the CCUS industry quicker than it would have without this sharing of information. In drawing upon existing petroleum regulations, the intention is to replicate this level of efficiency and knowledge sharing for enhanced utilisation of the UK's natural carbon storage assets and its potential to become a world leader in carbon storage technology. The ability for the NSTA to publicly disclose relevant information, subject to appropriate safeguards, would support the aim to improve knowledge across the CCUS industry, allowing for the development of best practices and sharing of lessons learnt. This would minimise potential wasted exploration and appraisal costs and time, for example: by informing the suitability or leakage potential of sites which have similar geological characteristics and increasing understanding of viable storage sites.

Disclosure will only be permitted following a pre-defined confidentiality period that will be established by the Secretary of State in regulations enabled in SCH1(4), to ensure the protection of commercially valuable information and maintain industry confidence. Proposed regulations for the retention and disclosure of petroleum-related information and samples were consulted on by the NSTA in 2018¹⁹ and it is intended that an equivalent consultation would be conducted for carbon storage regulations to identify the appropriate periods for each types of information and samples. Existing confidentiality periods for petroleum-related data are not entirely uniform. Therefore, it is the Government's intention to explore policy options and the potential to implement differing confidentiality periods for carbon storage information to accommodate various data types and their differing sensitivities. In determining the appropriate period for disclosure, the Secretary of State will be required to take into account a number of factors, including the need to satisfy the original purpose of these acquired materials, industry benefits or risks of disclosure at any specific time, and any other relevant factors deemed appropriate.

¹⁸ <https://www.nstauthority.co.uk/media/8688/nsta-consultation-ccs-data-disclosure-final.pdf>

¹⁹ <https://www.nstauthority.co.uk/media/4799/consultation-response-retention-and-disclosure-of-information-and-samples-ver6-24apr2018.pdf>

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Clause [CSN7] prohibits the NSTA from disclosing information and samples it has obtained under the regulations or under its enforcement powers, except in certain defined circumstances. One such circumstance is where the disclosure is made to anyone on a list of public bodies set out in Schedule [6A]. Regulations made under [SCH1(1)(6)] can amend that list of bodies.

We would only expect the retention and disclosure provisions to begin to operate fully once retention regulations have been made under CSNC2 and once the specified period after which disclosure can be made has also been specified in regulations.

Enforcement of information and samples requirements

Requirements imposed on persons the by virtue of provisions in [Chapter 4A] are sanctionable; examples include requirements regarding data retention, information and samples plans and coordinators, and the reporting of information to the NSTA. A financial penalty notice would outline details of the sanctionable activity in question, non-compliance, notice period, and appropriate penalty value.

Section [CSNC11(3)] specifies that the financial penalty payable under the financial penalty notice in respect of the failure to comply with a sanctionable requirement must not exceed £1 million. A regulation making power under [11(10)] enables the Secretary of State to increase the value of this penalty to a maximum of £5 million, if deemed appropriate in the future. This is to better reflect any change in economic circumstances through market development, or a change in nature on non-compliance. Financial penalty regulations will be subject to further parliamentary scrutiny under the affirmative procedure.

The penalty maximum of £1 million, and power to raise this to £5 million in regulations reflects the provisions in the Energy Act 2016, which set out sanctions for petroleum licensees in relation to any breach of equivalent information and samples requirements. The parameters for carbon storage-related penalties appropriately mirror those of the petroleum industry given the similar nature and potential scale of the CCUS industry. Similar levels of importance in ensuring this data is retained and, if required, disclosed, means that the equivalent sanctions to enforce these requirements are required to support the development and efficiency of carbon storage activities across the UK.

Whilst the maximum penalty amount is established in primary legislation, with scope for amendment through a future statutory instrument if considered appropriate, the specified amount of any specific financial penalty upon an individual sanctionable activity will be determined by the NSTA. The details of how the penalty amount will be determined, and the factors to be regarded in such a decision, will be issued in further guidance by the NSTA in due course. Existing NSTA guidance for petroleum-related penalties²⁰ provides a basis to understand how similar penalties may be determined for carbon storage licences. Examples include the need to ensure any penalty:

- addresses the underlying cause of failure;
- dissuades future failure (e.g., accounts for any potential gain in the failure to comply); and
- is proportionate to the significance of the failure (e.g., degree of cost/harm ensued or severity of non-compliance).

The provisions under this chapter establish that any money paid to the NSTA under a financial penalty notice will be paid into the Consolidated Fund. The notice period by which the payment

²⁰ <https://www.nstauthority.co.uk/media/8487/financial-penalty-guidance.pdf>

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of a financial penalty must occur will be no earlier than 28 days since the issuing of such notice.

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