Department for Energy Security & Net Zero

ofgem

Evolution of Economic Regulation for CO_2 Storage

Call for Evidence

Closing date: 31 October 2025

August 2025

.

Any enquiries regarding this publication should be sent to us at:
CO2storagestrategy@energysecurity.gov.uk

Contents

General information

Rationale for calling for evidence

Carbon capture and storage (CCS) will be essential to meeting the UK's 2050 net zero target, playing a vital role in growing the economy, supporting the low-carbon economic transformation of our industrial regions, and creating new high value jobs. The Climate Change Committee (CCC) has stated that they 'cannot see a route to net zero that doesn't include CCS'.

This call for evidence is jointly produced by the Department for Energy Security and Net Zero (DESNZ) and the Office of Gas and Electricity Markets (Ofgem). We are keen to understand whether the Regulated Asset Base (RAB) model of economic regulation for CO_2 storage will continue to best meet the needs of users, developers, investors, and consumers as the CCS market matures; whilst also supporting the UK's Carbon Budgets and net zero.

The RAB model attracts investors with a longer-term investment horizon by providing long-term revenue certainty. This is achieved through a regulated revenue, determined by economic regulation to protect users from anti-competitive behaviours[1]. The RAB model appeals to a different group of investors to those interested in higher-risk, higher-reward projects.

As the CCS market matures and grows it is important that government looks to reduce costs for taxpayers and consumers while continuing to incentivise investment in CO_2 storage. Competition can provide incentives for developers to lower prices, improve quality of service, increase efficiency, and innovate. Participants of the CCS sector have said that a competitive CO_2 storage market can develop over time and a different form of regulation may then be appropriate for new stores. We want to understand the views of stakeholders on this.

We are seeking views and evidence on elements of economic regulatory regime for CO_2 storage in these key areas:

1. Economic Regulation and Natural Monopolies

2. Competition and Storage Costs

3. Investment: Equity and Debt Considerations

Following the call for evidence closing on 31 October 2025, government and Ofgem will assess the responses received and provide a summary. We will use the information gathered to inform policy development and decisions on economic regulation to support continued growth and deployment of offshore CO_2 storage.

[1] The economic regulator protects consumer interests by ensuring only efficient costs are passed on to users and promoting efficient asset management in the same way that competitive forces do.

Related documents

This publication is part of a series of four documents, which aim to progress key work areas that could help transition to a self-sustaining CCUS market.

When responding to this call for evidence, you may find it useful to consider the content and relevance of other documents in this series:

- CCUS Future Networks Call for Evidence, published 6 August 2025 (open for responses): This call for evidence discusses the need for government and industry collaboration and wider stakeholder engagement to develop CO_2 transport and storage networks across the UK, focusing on the steps that help to optimise future networks and that could help to advance network development towards a self-sustaining and commercially operated sector.

- Access to CO_2 Transport and Storage Infrastructure Consultation, forthcoming in 2025. This consultation will seek views on how to ensure transparent and non-discriminatory third party access to CO_2 transport and storage infrastructure. It will also review the Storage of Carbon Dioxide (Access to Infrastructure) Regulations 2011 to assess whether they remain fit for purpose and enable transport networks and storage sites to operate effectively with the new economic regulation and licensing framework.

- CCUS non-pipeline transport (NPT) consultation, forthcoming in 2025: This consultation follows on from the May 2024 call for evidence on NPT and cross-border networks and the summary of responses published in November 2024 and sets out policy proposals to support the deployment of NPT projects.

Call for evidence details

Issued: 6 August 2025

Respond by: 31 October 2025

Enquiries to:

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Call for evidence reference: Evolution of Economic Regulation for CO_2 Storage

Audiences:

We welcome responses from anyone with an interest in this policy area. We envisage that this call for evidence will be of particular interest to:

- Those intending to use UK CO_2 storage services for domestic and international storage of CO_2 including CO_2 capture facilities and transport providers.
- Any consumers whose interests may be impacted.
- Current and future CO_2 storage developers and infrastructure providers.
- Those intending to finance the development of a CO_2 storage site including prospective investors or investment bodies.
- Trade bodies, academics and think tanks.

Territorial extent:

The territorial extent is in the United Kingdom or in, under, or over the territorial sea adjacent to the United Kingdom, or waters in a gas importation and storage zone (within the meaning given by Section 1 of the Energy Act 2008).

How to respond

Responses will be most useful if they are framed in direct response to the questions posed, and with supporting evidence wherever possible. Further comments and wider evidence are also welcome. When responding, please state whether you are responding as an individual or representing the views of an organisation. It is not necessary to answer every question.

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

Respond online at: https://energygovuk.citizenspace.com/energy-security/evolution-of-economic-regulation-for-co2-storage

or

Email to: CO2storagestrategy@energysecurity.gov.uk

We will conduct engagement while the call for evidence is open. If you want to be included in these engagement events, then please contact DESNZ and Ofgem as soon as possible via the email above.

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). Both the Department for Energy Security and Net Zero, and the Office of Gas and Electricity Market will receive your call for evidence response.

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, subject to the quantity and complexity of the responses provided. The summary will include a list of names or organisations that responded, but not people's personal names, addresses or other contact details.

We may share relevant data within government and Ofgem, and with our technical advisors to aid CCS policy development. DESNZ and Ofgem teams may also reach out to clarify responses.

Quality assurance

This call for evidence 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: bru@energysecurity.gov.uk.

Background

Significant growth of CCS is required in the UK to meet the UK's legally binding target to achieve net zero emissions by 2050. A growing, diverse and resilient CCS sector will support economic growth, with CCS projected to support up to 50,000 jobs as the sector matures in the 2030s and generate £4-5bn in Gross Value Added (GVA) from UK CCUS exports by 2050[2].

Enabling future forms of economic regulation for CO_2 storage may attract further investment in CO_2 storage development and help grow the UK CO_2 storage sector. We are seeking views on whether the current RAB model remains the most appropriate form of economic regulation for future CO_2 storage projects as the CCS market develops.

Current Economic Regulatory Regime

The current CO_2 Transport and Storage Regulatory Investment (TRI) model (Figure 1) is based on an economic regulation funding model where T&SCos require an economic licence to transport and store CO_2. The economic licence entitles T&SCos to recover a regulated revenue 'allowed revenue' which includes a reasonable return on their capital investment.

Government developed the current TRI model for the deployment of the first-of-a-kind transport and storage (T&S) networks necessary to establish the market and allow it to grow to meet our CCS ambitions by 2030. This economic licensing framework helps overcome market barriers to private investment by providing long-term revenue certainty for T&S developers, with government bearing a large proportion of risk in order to support the development of a new market which lacks an established customer base. Independent regulatory oversight protects network users from anticompetitive behaviour.

The TRI model is drawn from precedence in other regulated industries, the government's former CCS Commercialisation competition, international programmes, recommendations from the CCUS Advisory Group (CAG), and previous consultations on CCUS business models[3].

The current TRI model consists of key interrelated components:

1. The Economic Regulatory Regime (ERR)[4] framework set out in the economic licence is underpinned by the RAB model and determines the T&SCo's allowed revenue. This is based on efficient and economic costs incurred by a T&SCo in respect of its duties and outputs, and subject to appropriate performance targets. These targets are underpinned by appropriate risk allocation between T&SCo and the users[5] in defined regulatory periods[6].

2. The revenue model is a 'user pays' model that sets out the arrangements for how users will pay for the T&SCo's services along with mitigations to address demand-side

[2] Department for Business, Energy and Industrial Strategy (2019), 'Energy Innovation Needs Assessments', https://www.gov.uk/government/publications/energy-innovation-needs-assessments.
[3] Carbon capture, usage and storage (CCUS): Business models 2019.
[4] Under the ERR, licensees are regulated using the RAB model.
[5] User means a person other than T&SCo who is bound by the provisions of the Network Code and delivers CO_2 into the T&S Network.
[6] Regulatory periods are reviews undertaken by the regulator at regular intervals. The purpose of a regulatory reviews is for the regulator to determine settlements for the next regulatory period.

risks[7] (i.e., how the T&SCo can recover its allowed revenues in certain circumstances), underpinned by the Revenue Support Agreement (RSA); and

3. The Government Support Package (GSP) providing protection, through a set of contractual arrangements for investors against high impact low probability risks that the private sector would not be able to bear at an efficient price at this time.

Further to this, a condition of the economic licence is that T&SCos administer the CCS Network Code (the 'Code'), the governance of which is overseen by Ofgem. The Code sets out the various commercial, operational and technical arrangements between network users and T&SCos and is thus critical to the optimal operation of the network. Industry codes are a well-established mechanism for parties contracting with each other in regulated infrastructure sectors. They combine a degree of certainty with the flexibility to modify code provisions under the auspices of a regulator when particular changes occur in the market. The Code provides a framework for parties seeking a connection to a network, commissioning arrangements, operating parameters, plus other arrangements including governance, disputes, data management and liabilities. It also details responsibilities around capacity, charging and CO_2 specifications[8].

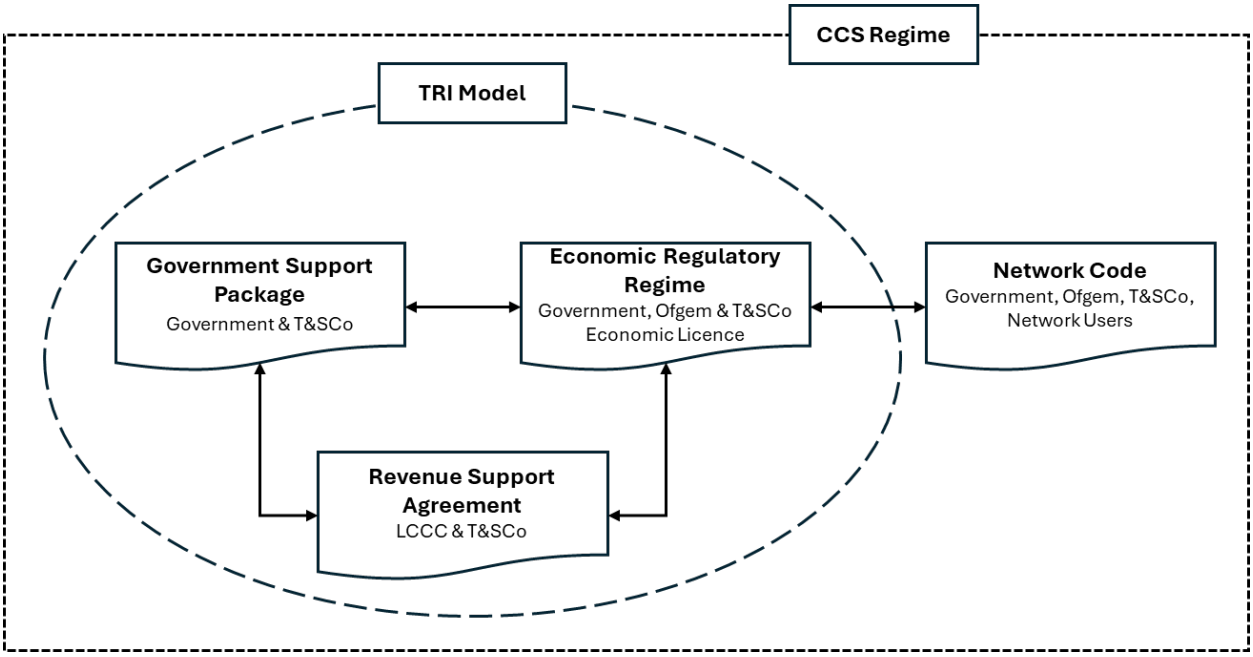

Figure 1 Elements of the TRI Model.

[7] Within the revenue model, user-funded Risk Mitigation Measures (RMM) are designed to enable T&SCo to recover its allowed revenue from network users. However, if RMMs are insufficient and T&SCo continues to experience a shortfall in allowed revenue, T&SCo may be entitled to government revenue support as a last resort, subject to certain conditions of the economic licence.

[8] CCUS Network Codes (January 2025)

Transitioning to a self-sustaining market[9]

Over time, we see that it is possible that the CCUS market may evolve if the following factors materialise:

1. An increased demand for CO_2 storage as more carbon capture contracts are allocated[10], international imports are enabled, alongside the introduction of merchant users[11].
2. Users have more choice of storage through transport options e.g., non-pipeline transport (NPT).
3. Unbundled T&S services mean that storage may not exhibit the characteristics of a natural monopoly, potentially allowing for a different form of economic regulation.
4. Carbon capture becomes commercially viable as the Emissions Trading Scheme (ETS) price increases, the voluntary carbon market develops and as technology costs and risks fall across the sector.

We are developing this call for evidence within the context of the CCS market maturing and transitioning towards a more self-sustaining sector. This initiative is part of a broader effort to explore long-term policy options for CCUS. Gathering evidence at this stage will help us determine if the RAB economic model, as part of the current economic regulatory framework for CO_2 storage will continue to be the best way to protect the interests of current and future users of CO_2 T&S networks, consumers, as well as best meet the needs of developers, investors, and taxpayers as the CCS market matures, while meeting the UK's carbon budgets and net zero target. This CfE only considers the storage part of the T&S network. We want to establish whether different forms of economic regulation:

- Would be more appropriate for future CO_2 storage sites as the market matures.
- Will have an impact on investment and continued deployment of CO_2 storage.
- Would better support government's net zero target.
- Fit with the government's approach to risks and affordability.

To do this, we need to:

1. Increase our understanding of the nature and characteristics of CO_2 storage.
2. Understand the feasibility and impact of competition for the offshore CO_2 storage market.
3. Increase our understanding of the costs associated with the development of a CO_2 storage site.

[9] The 2023 CCUS Vision considered that a three-phase process could occur of: a market creation stage; a market transition; and finally, a self-sustaining CCUS market.
[10] In the future, how government allocates capture contracts may change and DESNZ is continuing to look at the best method of doing this, and any implication this could have on competition for CO_2 storage.
[11] T&S networks could provide access to users not requiring UK government financial support. Recent government publications have referred to these users as 'projects unsupported by CCUS business models'. Some stakeholders that responded to recent consultations (e.g. CCS network codes consultation) referred to such self-financing users as 'merchant' users.

4. Understand if moving away from the RAB model of economic regulation for future projects would impact investment in CO_2 storage, and whether or not it could enable a more effective, efficient and economic delivery of CO_2 storage.
5. Understand stakeholder views on the potential opportunities and challenges associated with co-existing forms of economic regulation for CO_2 storage.

Key considerations for developing an economic regulatory regime

The Energy Act 2023 establishes the legislative framework for the economic licensing and regulation of CO_2 transport and storage. An economic licence is legally required to operate a site for the geological storage of CO_2 or transporting CO_2 by pipe. This is to ensure the efficient development of CO_2 transport and storage networks, ensuring the interests of both current and future users of the networks are protected, and having regard to Carbon Budgets and net zero. The licence may include provisions on the allowed revenue that the licensee may receive and how this may be calculated. Such provisions are included in the currently awarded Licences.

Changes to the ERR and the RAB will need to comply with the Energy Act 2023 and will need to be consistent with the following principal objectives as set out in Section 1 of Part 1 of the Energy Act 2023, which are to:

1. Protect the interests of current and future transport and storage network users.
2. Protect the interests of any consumers whose interests may be impacted.
3. Promote the efficient and economic development and operation of transport and storage networks, while having regard to the need for licence holders to be able to finance their licensable activities.

Furthermore, the Secretary of State and the economic regulator (as the case may be) must carry out their respective functions in respect to CO_2 transport and storage licensing in the manner they consider is best calculated to further the principal objectives, wherever appropriate by:

1. Promoting effective competition between persons engaged in, or in commercial activities connected with, the transport and storage of CO_2.
2. Promoting the resilience of transport and storage networks.
3. Protecting the public from dangers arising from the construction, operation and decommissioning of infrastructure used for transporting and storage of CO_2.

Ofgem and the Secretary of State (as the case may be) also have a general duty in carrying out functions in respect to CO_2 transport and storage licensing to have regard to:

1. The principles under which regulatory activities should be transparent, accountable, proportionate, consistent and targeted only at cases in which action is needed, and any other principles appearing to the Secretary of State or Ofgem to represent the best regulatory practice; and

2. The need to contribute to the achievement of sustainable development effective competition between persons engaged in, or in commercial activities connected with, the transport and storage of CO_2.

Under the Enterprise Act 2002, Ofgem has concurrent functions with the Competition and Markets Authority (CMA) to carry out market studies and investigations in relation to commercial activities connected with relevant storage and transport activities in the CCS sector[12].

Any future decision on the evolution of economic regulation will be done in the context of our principal objectives, duties, powers and functions.

[12] Section 36(2) of the Energy Act 2023

Call for evidence questions

We are seeking views from all potential stakeholders, not just those involved in the existing CCS cluster sequencing process. This is to ensure that the forward-looking policies we develop align with the government's long-term vision for a self-sustaining CCS sector.

To facilitate the aims for this call for evidence, we will ask questions in the following areas:

1. **Respondent data**
2. **Economic Regulation and Natural Monopolies**
3. **Competition and Storage Costs**
4. **Investment: Equity and Debt Considerations**

We understand that there are many questions in this call for evidence, and we are trying to gather evidence from a wide range of stakeholders. As a result, some questions may not be relevant to all respondents. Therefore, you are not required to provide a response to all questions. To better manage the responses we receive, please make clear which question(s) your response is in relation to. We thank participants in advance for their cooperation, as this will expedite the analysis of the data and responses provided.

Respondent Data

We are collecting information on the respondent to better understand any trends that may exist from different stakeholder groups. Additionally, we are looking for permissions on how the data provided can be used for future analysis. Further analysis may be required from third-party contractors (who have the expertise to assess the data provided) to ensure robustness. The teams at DESNZ and Ofgem may also reach out to clarify responses. Please clarify:

1. **Who are you responding on behalf of, and what is your interest in this call for evidence?**
2. **If you consent to members of the DESNZ and Ofgem team reaching out for clarifications on responses provided, please provide contact details.**
3. **Do you give permission for your anonymised evidence to be shared with external advisors for the purpose of additional analysis?**

Chapter 1 – Economic Regulation and Natural Monopolies

Economic regulation is applied to monopoly infrastructure to mitigate the negative effects of market power that monopoly firms can exert, protects users and consumers, and prevents anti-competitive behaviour and other abuses of market power. It does so by creating a system of incentives and penalties that ensure that user charges reflect economic and efficient costs, while allowing a reasonable return on capital investment.

At present, a single entity owns and operates an integrated network which includes a transport pipeline connected to a geological store. The CO_2 T&S networks selected as part of the cluster sequencing process have the characteristics of geographic natural monopolies and are therefore subject to economic regulation via a licensing regime. It would be costly and inefficient to have multiple companies operating within a single integrated network, or to have overlapping networks. This reduces competitive pressure which could result in higher prices for users, and potentially fewer incentives for companies, as monopoly providers, to offer choice and innovate.

The CO_2 T&S network is subject to a RAB model of economic regulation, similar to electricity and gas networks, the Thames Tideway Tunnel and other infrastructure sectors. This ERR follows precedents used across utilities, including regulated returns and costs, incentives to drive positive behaviours, reopeners to account for uncertainty, and defined price control periods to set the allowed revenue a T&SCo Licensee can recover from its users. The previous consultation on CCUS business model[13] showed a clear preference for the RAB model as it would enable the development of regional T&S networks that can provide certainty to both investors and the network users in terms of revenue flows, risk allocation and service, while recognising the particular challenges for CO_2 T&S that were addressed through the design of the TRI model . Accordingly, the business model choice has implications for the government's risk and affordability, and to best protect value for money for taxpayers, it is right that the government, learning lessons from deployment of CCUS thus far, continues to look at ways to optimise the balance between the public and private sectors.

CO_2 T&SCo Licensees are also subject to additional regulation from other regulatory bodies, including the Offshore Petroleum Regulator for Environment and Decommissioning (OPRED) and the North Sea Transition Authority (NSTA).

As the CCS market matures in the UK, DESNZ is interested in establishing a commercial market for CO_2 storage through varying commercial drivers, unbundled from the transport network. These networks could exist as bundled natural monopolies or as unbundled structures where the T&S network is separated into activities that have natural monopoly characteristics (e.g. pipeline) and activities that are potentially competitive (e.g. storage). As such, CO_2 storage may no longer form a natural monopoly. Subject to market conditions and potential policy developments, in future the CCUS market may have the following characteristics:

- An increase in demand for CO_2 storage.

[13] Carbon capture, usage and storage (CCUS): Business models 2019

- T&S network Users will have more choice through a network of pipeline or non-pipeline CO_2 transport options.
- Increased confidence in CCS technology and the de-risking of CCS through existing government intervention in the initial CCS clusters.
- Unbundling of T&S services into separate transport and storage networks. This change of approach would allow for individual operators to own and operate unique areas of the CCS value chain and present options for storage only companies to enter the market.
- Developments in areas such as the UK Emissions Trading Scheme (ETS) and potential mechanisms to mitigate carbon leakage may take place.

As such alternate forms of economic regulation may be considered.

1. **Do you think that the CO_2 storage market will continue to have natural monopoly characteristics as the sector grows? Please explain your views.**
2. **Do you think the current RAB model of economic regulation will remain appropriate for CO_2 storage during the transition towards a self-sustaining market?**
    - **If yes, please explain your views and what your priorities are in terms of economic regulation.**
    - **If no, what alternative modes of regulation could better accelerate storage of CO_2 and provide optimal value for money for Users?**
3. **What do you envisage the risks and benefits would be to moving away from the RAB model of economic regulation for CO_2 storage (in terms of how it may impact certain stakeholders, including consumers)? What do you envisage the risks and benefits would be to keeping the RAB model of economic regulation for CO_2 storage?**

Chapter 2 – Competition and Storage Costs

Understanding the feasibility of competition for the offshore CO_2 storage sector is an important part in developing our understanding of what form of economic regulation is appropriate for CO_2 storage as the market matures. This section seeks views on whether or not over time there could be a competitive offshore CO_2 storage market and highlights the need for careful consideration of whether any potential changes to economic regulation for CO_2 storage are required and their timing.

Competition is a major driver for growth[14]. It provides incentives for developers to lower prices, maintain quality and service, make the provision of services more efficient, and innovate. The Competition and Markets Authority (CMA) has published a series of reports[15] that provides strong empirical evidence that competition can drive greater productivity. The evidence suggests that competition places pressures on firms to become more efficient, ensures more productive firms gain market share and drives innovation. Additionally, the reports highlight empirical evidence that competition policy itself had a positive impact on economic growth and productivity.

As the storage market develops, it may have higher levels of competition. This is because:

- Large numbers of CO_2 storage sites are likely to be required to facilitate greater emissions savings and support the UK in meeting its Carbon Budgets and net zero target.
- Demand will increase to support the import of international CO_2.
- Storage may not share all the characteristics of a natural monopoly.
- There may be increasing numbers of firms competing to offer CO_2 storage sites.

However, there remains the potential for market dominance which may restrict the development of a market for CO_2 storage and allow operators to set unfair prices or drive out competitors without appropriate regulation. There is also a risk of supplier insolvency where many CO_2 storage operators may enter a market that can only support a few of them. CO_2 storage users could be left disadvantaged if subsequently their supplier exits the market.

In a purely competitive market, storage developers would need to make the best possible offer to potential users to win business. Where there is limited or no competition, companies do not have the same incentives to be efficient and respond to users and consumers' needs. Economic regulation therefore can act as a substitute for competition, using price controls to provide companies with an incentive to operate efficiently, while providing investors a fair return for their investment. As an alternative or in addition to an ex-ante economic regulatory regime, ex-post actions can be taken by the regulator and the CMA to address anti-competitive behaviours which infringe competition law after they have occurred. In CCS, Ofgem has powers to take both approaches[16].

[14] Smarter Regulation: Strengthening the economic regulation of the energy, water, and telecoms sector. Nov 2023
[15] Wider Benefits of Competition Policy and Enforcement, CMA Microeconomic Units literature review Jan 2025
[16] CO_2 transport and storage enforcement guidelines and penalty policy statement (2024)

The Telecoms industry gives an example where, as the level of competition increased, there was a change in approach to regulation, moving from ex-ante to an ex-post form of control[17]. A reduction in the power of monopoly players in a market through new entrants or the threat of entry is likely necessary to move away from ex-ante regulation.

As discussed further above, in addition to the principal objectives set out in the Energy Act 2023, the Secretary of State and the economic regulator (as the case may be) must carry out their respective functions in the manner they consider is best calculated to further the principal objectives including by promoting effective competition between persons engaged in, or in commercial activities connected with, the transport and storage of CO_2, wherever appropriate.

However, the nature of the market could limit the extent to which competition can be introduced meaning economic regulation may continue to be needed to replicate the outcomes of competitive markets. Competition in the market, where developers compete for users and market share, is difficult or sometimes impossible in natural monopoly markets[18]. Competition in the market would imply that several CO_2 stores are developed and there is overcapacity, that then compete to attract CO_2. This is distinct from competition for the market, whereby competition is focused on a company becoming the supplier of a product, or piece of infrastructure, or in the case of CCS the individual carbon storage licences, issued by the North Sea Transition Authority (NSTA), rather than market share[19].

As part of this, we would like to better understand the feasibility, potential approaches and impact of increasing CO_2 storage competition.

4. **How feasible is it that competition will be possible in/for the CO_2 storage market? Please explain your view. What are the conditions that would enable competition in/for the CO_2 storage market?**
5. **Which factors would be most important to enhance/limit competition?**
6. **What is the value of CO_2 storage competition, and what impact(s) could this have? Please include views on the impact on:**
    a. **Costs**
    b. **Operational efficiencies**
    c. **Market efficiencies**
    d. **Innovation**
    e. **Outcomes for investors, users, taxpayers and consumers**

As the CCS market matures, T&S networks that currently receive government financial support could co-exist with others that may not have the same level of support. In addition to RAB based economic regulation, government currently provides comprehensive demand side protections (RSA) for T&SCo, and protections against high impact low probability risks (GSP) that are not available commercially. Where T&SCo has a shortfall in allowed revenue, and after

[17] Review of the fixed narrowband services markets. Statements on the proposed markets, market power determinations and remediations (Ofcom, 2013)
[18] The telecoms, energy, and water sectors contain natural monopoly features in their markets, due to the high fixed costs of entry and the potential inefficiency of duplicating provision or involve essential facilities (e.g. a single owner of the distribution network). Subsequently, it is often more efficient for one firm to provide a good or service to the market, rather than multiple firms.
[19] Currently 27 carbon storage licences have been awarded by the NSTA. Carbon storage public register

certain conditions have been met, the RSA ensures the T&SCo's revenue is 'whole' subject to conditions of the economic licence. It is right that government continually keeps under review its approach to risk support, subsidy and investment as CCUS evolves to ensure the best outcome for taxpayers. The co-existence of government supported bundled systems with non-government supported unbundled systems may complicate the evolution of economic regulation.

Creating excess capacity before existing capacity is fully utilised could increase RSA exposure and could result in higher costs for both government-supported and non-government supported systems. Therefore, the timing and evolution of economic regulation will need be carefully considered as to do so prematurely – before the market is sufficiently developed - may be counterproductive.

When considering alternative forms of economic regulation in the longer term and during the market transition phase, we need to do so within the context of desire to find the right approach to balancing the interests of taxpayers, consumers and investors, such as removing or minimising the need for RSA.

7. **Does existing government financial support for current market participants have an effect on the growth the storage market? Please explain your views.**

8. **What would be the potential opportunities and challenges associated with co-existing forms of economic regulation for CO_2 storage within these market structures, and the potential impacts of this? E.g. RAB and alternate forms of regulation.**

Storage Costs

We recognise that high-cost barriers for entry may limit competition. We are keen to better understand and consider the cost structures of the CO_2 storage market, both as they are now and how they might evolve in the future, as these will be fundamental to how, if and when competition can be successfully established. The cost of entry for CO_2 storage is lower than that of national and transport infrastructure projects. Additionally, after a certain initial level of spend, CO_2 storage development can, to a certain extent, be phased to incrementally increase capacity according to demand, up to a technical limit (e.g. by drilling more wells into a storage site and staggering development[20]). This may mean that the CO_2 storage market could become competitive as the CCS market develops.

We would like to understand the operating, capital, and financing costs that a hypothetical new storage developer would incur if it were to attempt to replicate the storage services that are subject to the current RAB model of regulation.

9. **What are the barriers to entry for a new CO_2 storage developer (In terms of cost, expertise, financing etc.)? How do the costs of developing a CO_2 store compare with those associated with transport infrastructure?**

[20] Although economies of scale exist for CO_2 storage, these are mostly associated with the capacity of the individual storage sites rather than the number of storage sites owned by a single developer.

Contract duration and allocation

In the energy sector, contracts with different durations are in place between buyers and sellers of energy products. The nature of these contracts, including length and whether prices are fixed will impact on whether the users of CO_2 storage are able to take advantage of competition. Generally, these can be referred to as short-term contracts (also referred to as spot market contracts, which are for immediate or very near-term delivery) and long-term contracts.

There are advantages and disadvantages of both types of contracts. Short-term contracts generally offer flexibility and respond to immediate market demands but may be volatile and expose buyers to potentially higher prices. Long-term contracts can provide financial security and mitigate risks associated with market dynamics but are generally inflexible in responding to changes in demand and costs in a market[21].

The duration of the capture business models for projects selected as part of the cluster sequencing process is 10-15 years. The depreciation of the RAB for currently awarded T&SCos licences is planned on a 25-year basis[22]. These existing contracts and licences were directly awarded by DESNZ to T&S network users and T&SCo following a period of application, evaluation and negotiation. The contract-term lengths offer both an attractive proposition for investors and value for money for consumers.

10. **How easy would it be for users to switch storage providers? Would that be favourable? What would need to happen to make this possible?**

11. **During the market transition phase, what are the pros and cons of using long-term contracts vs. spot market for storage services — particularly in terms of their impact on competition and market development? Please respond from the perspective as an operator or a user of a storage site.**

12. **How might capture contract allocation design influence the evolution of economic regulation for CO_2 storage and move towards a competitive market for CO_2 storage?**

[21] Long-term Contracts and Efficiency in the Liquefied Natural Gas Industry by Nahim Bin Zahur: Available at SSRN

[22] For the first regulatory period, depreciation will be calculated assuming a real terms straight line RAB depreciation profile.

Chapter 3 – Investment: Equity and Debt Considerations

CCS projects are capital-intensive and require the installation of complex technologies for the transportation of CO_2, and the development, operation and monitoring of a CO_2 storage site. Significant long-term investment therefore is required to build the level of infrastructure necessary for the development of the CCS sector.

The *UK Infrastructure: A Ten Year Strategy*[23] sets out the entrepreneurial state the government is fostering, which will support business investment and catalyse growth. A key element of this support is through the use of 'financial transactions' which allow government to invest alongside the private sector, through equity investments, loans and guarantees, through institutions such as the National Wealth Fund and Great British Energy.

Current investment in CCS is composed of debt and equity investment, the majority of which is in the form of debt investment. Debt investment is capital from banks, other debt investors or public finance institutions, in the form of loans or bonds often secured and may include covenants. Debt is often considered the lowest cost of capital in a project. Equity investment is money invested by an equity investor (e.g. corporate stake holding or private equity firms or a public finance institution) by purchasing shares of a company, for example, in the stock market. It is expected that different types of investors will have different preferences on how risk allocation and economic regulation is implemented in the offshore CO_2 storage market and value different aspects of economic regulation. Institutional investors may prioritise predictability and downside protection, while banks focus on creditworthiness and return thresholds, and equity investors may seek either stability or potential upside, depending on their strategy. The design and credibility of the regulatory framework are key to aligning with investor preferences, especially given that CO_2 storage sites also face unique, low-probability but high-impact risks. Types of lending investors will heavily depend on if the project is investment grade rate at the time of debt raise.

The CCUS Cost Challenge Task Force[24] reported that the RAB model is preferred by investors with longer-term investment horizons due to its low volatility in returns, stable regulatory regime, and potential for future growth and further capital deployment. These factors attract investors who prefer stability over those seeking higher risk, higher reward projects. Due to the ability to share delivery and cost overrun risks with the parties best placed to manage them—RAB generally commands a lower cost of capital, which helps drive down overall delivery costs. This outcome also depends on how risk is allocated across the wider regulatory framework such as RSA/GSP.

The current RSA and the GSP approach may have helped make the proposition in the UK investable and ensures charges to users of the T&S network are not prohibitive, as government currently owns cross chain risks, stranded asset and leakage risks[25]. The allowed revenue and its associated protections included in the RAB regime attract certain types of investors.

[23] UK Infrastructure: A 10 Year Strategy (2025)
[24] Delivering clean growth: CCUS Cost Challenge Taskforce (2018)
[25] Risks that the private sector cannot efficiently price or take until the CCS sector matures.

Moving away from the RAB does not remove the demand risk and stranded asset risk. However:

- It may mean storage developers need to include a higher level of contingency to manage the risk of revenue shortfall. The forecast revenue stream based on T&S fees charged must be sufficiently attractive to their investors to be able to provide comfort that the project can absorb any risks which could materialise. For users, this may result in high T&S fees.
- Under the RAB model, certain risks can be shared with or transferred to users i.e. the allowed revenue could be adjusted if a risk materialises and returns are affected, but users will not pay if the risk does not occur. As an example, it allows T&S operators to amend T&S fees to cover higher energy costs than originally anticipated.

As we expect equity investors and debt investors to have different preferences on how economic regulation is implemented in the offshore CO_2 storage market, the following questions are grouped into three categories: general investment questions, equity investment questions and debt investment questions.

General investment questions:

13. **How do you view the trade-off between risk and returns for CO_2 storage during the market transition phase?**
14. **Are there efficient capital structures that existing approaches to regulation presently discourage, and how could the evolution of CCS policy facilitate a range of efficient financing options?**
15. **What do you see as the pros and cons of the RAB regime for investors?**
16. **What could be the best roles that public finance institutions can play in carbon storage projects?**

Equity investment questions:

17. **What aspects of the current economic regulatory regime influence your organisations' prioritisation of investment in CO_2 storage projects in the context of a global portfolio and against other investment opportunities?**
18. **If non-RAB, what provisions would you propose to safeguard financial resilience during the market transition phase?**

Debt investment questions

19. **As the scale of CCS in the UK increases, how should the economic regulation of CCS evolve to facilitate the continued ability of developers to readily access efficient debt finance?**
20. **How do developers view refinancing risk, and what actions could be taken to increase market liquidity for lending to the CCS sector?**
21. **Do you believe the existing RAB model is well suited to allow a maturing CO_2 storage sector to secure access to high credit quality debt finance?**
22. **Under future regulatory models for the CO_2 storage sector, do you think it is desirable that future licensees are able to access investment grade or**

equivalent debt finance? If so - what policy levers could be considered to enable this policy objective?

Call for Evidence Questions

1. **Do you think that the CO_2 storage market will continue to have natural monopoly characteristics as the sector grows? Please explain your views.**
2. **Do you think the current RAB model of economic regulation will remain appropriate for CO_2 storage during the transition towards a self-sustaining market?**
    - **If yes, please explain your views and what your priorities are in terms of economic regulation.**
    - **If no, what alternative modes of regulation could better accelerate storage of CO_2 and provide optimal value for money for Users?**
3. **What do you envisage the risks and benefits would be to moving away from the RAB model of economic regulation for CO_2 storage (in terms of how it may impact certain stakeholders, including consumers)? What do you envisage the risks and benefits would be to keeping the RAB model of economic regulation for CO_2 storage?**
4. **How feasible is it that competition will be possible in/for the CO_2 storage market? Please explain your view. What are the conditions that would enable competition in/for the CO2 storage market?**
5. **Which factors would be most important to enhance/limit competition?**
6. **What is the value of CO_2 storage competition, and what impact(s) could this have? Please include views on the impact on:**
    a. **Costs**
    b. **Operational efficiencies**
    c. **Market efficiencies**
    d. **Innovation**
    e. **Outcomes for investors, users, taxpayers and consumers**
7. **Does existing government financial support for current market participants have an effect on the growth the storage market? Please explain your views.**
8. **What would be the potential opportunities and challenges associated with co-existing forms of economic regulation for CO_2 storage within these market structures, and the potential impacts of this? E.g. RAB and alternate forms of regulation.**
9. **What are the barriers to entry for a new CO_2 storage developer (In terms of cost, expertise, financing etc.)? How do the costs of developing a CO_2 store compare with those associated with transport infrastructure?**
10. **How easy would it be for users to switch storage providers? Would that be favourable? What would need to happen to make this possible?**

11. **During the market transition phase, what are the pros and cons of using long-term contracts vs. spot market for storage services — particularly in terms of their impact on competition and market development? Please respond from the perspective as an operator or a user of a storage site.**

12. **How might capture contract allocation design influence the evolution of economic regulation for CO_2 storage and move towards a competitive market for CO_2 storage?**

13. **How do you view the tradeoff between risk and returns for CO_2 storage during the market transition phase?**

14. **Are there efficient capital structures that existing approaches to regulation presently discourage, and how could the evolution of CCS policy facilitate a range of efficient financing options?**

15. **What do you see as the pros and cons of the RAB regime for investors?**

16. **What could be the best roles that public finance institutions can play in carbon storage projects?**

17. **What aspects of the current economic regulatory regime influence your organisations' prioritisation of investment in CO_2 storage projects in the context of a global portfolio and against other investment opportunities?**

18. **If non-RAB, what provisions would you propose to safeguard financial resilience during the market transition phase?**

19. **As the scale of CCS in the UK increases, how should the economic regulation of CCS evolve to facilitate the continued ability of developers to readily access efficient debt finance?**

20. **How do developers view refinancing risk, and what actions could be taken to increase market liquidity for lending to the CCS sector?**

21. **Do you believe the existing RAB model is well suited to allow a maturing CO_2 storage sector to secure access to high credit quality debt finance?**

22. **Under future regulatory models for the CO_2 storage sector, do you think it is desirable that future licensees are able to access investment grade or equivalent debt finance? If so - what policy levers could be considered to enable this policy objective?**

Next Steps

After the call for evidence closes on 31 October 2025, DESNZ and Ofgem will analyse information received and provide a summary of responses circa early 2026. The analysis of responses will be used to inform future policy development. We intend to consult on future policy proposals.

This call for evidence is available from: www.gov.uk/government/calls-for-evidence/evolution-of-economic-regulation-for-co2-storage

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