



Department for  
Business, Energy  
& Industrial Strategy

# Duties and Functions of the Economic Regulator for Carbon Dioxide Transport & Storage Networks

Government response to the consultation

January 2022



This publication is licensed under the terms of the Open Government Licence v3.0 except where otherwise stated. To view this licence, visit [nationalarchives.gov.uk/doc/open-government-licence/version/3](https://nationalarchives.gov.uk/doc/open-government-licence/version/3) or write to the Information Policy Team, The National Archives, Kew, London TW9 4DU, or email: [psi@nationalarchives.gsi.gov.uk](mailto:psi@nationalarchives.gsi.gov.uk).

Where we have identified any third-party copyright information you will need to obtain permission from the copyright holders concerned.

Any enquiries regarding this publication should be sent to us at: [ccustandsconsultations@beis.gov.uk](mailto:ccustandsconsultations@beis.gov.uk)

---

# Contents

Section 1: Introduction	4
1.1 Summary of responses received	4
1.2 Overview	4
1.3 Next Steps	5
Section 2: Identity of the Economic Regulator	5
2.1 Summary of responses	5
2.2 Government's view	6
Section 3: Duties, Powers and Objectives of the Economic Regulator	6
3.1 Summary of responses	7
3.2 Government's view	8
Section 4: Functions of the Economic Regulator	10
4.1 Summary of Responses	11
4.2 Government's view	12
Section 5: Economic Licences	13
5.1 Summary of responses	13
5.2 Government's view	14
Section 6: Enforcement and Penalties	15
6.1 Summary of responses	16
6.2 Government's view	17
Section 7: Non-pipeline transportation	17
7.1 Summary of responses	18
7.2 Government's view	18
Section 8: Consultation Requirements and Regulatory Cooperation	19
8.1 Summary of Responses	19
8.2 Government's view	21

# Section 1: Introduction

The consultation on proposals for the Duties and Functions of an Economic Regulator for Carbon Dioxide (CO<sub>2</sub>) Transport and Storage (T&S) Networks which ran from 2 August 2021 to 26 September 2021 set out a proposed approach for the duties, powers, functions, and objectives of an independent economic regulator of CO<sub>2</sub> transport and storage.

This consultation followed an earlier consultation in 2019 on business models for Carbon Capture, Usage and Storage (CCUS), and the government response to that consultation which set out that an independent body is likely to be required to oversee the development of the CO<sub>2</sub> T&S network and support its deployment, given that the network will have natural monopoly characteristics similar to other regulated utilities.

This document provides a summary of the responses received to the consultation as well as an outline and rationale for the government's current policy for the duties and functions of the T&S economic regulator, as developed in light of the consultation responses. Further detail on the government's plans for the T&S Regulatory Investment model ("TRI model") for CO<sub>2</sub> T&S networks are outlined in the January 2022 TRI model update ("TRI model update"). The policy positions that are discussed in both documents have been informed by the responses to the consultation.

## 1.1 Summary of responses received

We received 27 responses to the consultation on the duties and functions of the economic regulator. Most of the responses were from businesses and industry groups in the CCUS sector, five of which were from emitters who are potential users of T&S networks. The other respondents included non-governmental organisations, private individuals, sector regulators and devolved governments.

## 1.2 Overview

This Government Response comprises 8 sections: (1) Introduction, (2) Identity of the Economic Regulator, (3) Duties, Powers and Objectives of the Economic Regulator, (4) Functions of the Economic Regulator, (5) Economic Licences, (6) Enforcement and Penalties, (7) Non-Pipeline Transportation and (8) Consultation Requirements and Regulatory Cooperation.

## 1.3 Next Steps

Government has considered the responses to the consultation which have informed our approach to the establishment of an economic regulator for CO<sub>2</sub> T&S networks. The January 2022 TRI model update sets out the government's current position in relation to the development of the TRI model and the role of the economic regulator for T&S.

We will continue to develop our policy positions as detailed in this response and the TRI model update, with a view to bringing forward legislative provisions for a statutory mandate for the regulator when Parliamentary time allows. Proposals in this document are subject to further development, including to facilitate Parliamentary approval of required legislation and in light of associated further engagement with the devolved administrations. Nothing in this document creates any basis for any form of expectation or reliance.

# Section 2: Identity of the Economic Regulator

The consultation outlined the government's position that Ofgem is the entity best suited to the role of economic regulator for CO<sub>2</sub> T&S, due to Ofgem's proven track record, familiarity with investors and experience in regulating sectors with similar infrastructure.

## 2.1 Summary of responses

Respondents were supportive of the government's intention to appoint Ofgem as the economic regulator, recognising the value of using an established regulator given the pace and scale of CCUS deployment targets. A small number of points to consider were raised. For example, some respondents noted the need for a specific capability set, for example in regulation of offshore and subsurface oil and gas assets, and we received comments that Ofgem should work closely with the Oil and Gas Authority (OGA) given that storage assets will be offshore, as well as the Crown Estate and the Committee for Climate Change in their relevant areas of expertise.

Other points noted included Ofgem's capacity to take on additional responsibilities beyond regulation of the gas and electricity markets. A couple of the responses flagged the need for clarity on how Ofgem would deal with competing duties and obligations for the T&S sector and gas and electricity markets if the circumstance arose that these were in conflict, particularly as T&S costs may be indirectly passed on to gas and electricity consumers. It was also commented that Ofgem's decisions should be scrutinised by Parliament.

## 2.2 Government's view

In determining the appropriate body to economically regulate CO<sub>2</sub> T&S networks, certain criteria guided our considerations as set out in the consultation document.

Government's selection of Ofgem as the most suitable economic regulator has been made after consideration of other possibilities, including existing regulators for other sectors. Our view is that Ofgem is the most appropriate entity to be the economic regulator given its experience in managing the economic regulation of similar assets.

Government and Ofgem both recognise that to effectively fulfil new functions in respect of T&S regulation will require Ofgem to acquire additional expertise, particularly in respect of offshore/sub-surface T&S activities, and to consult and collaborate with the OGA in this area. We consider further the range of bodies with whom Ofgem, in the role of economic regulator for T&S, may be expected to consult and cooperate with in section 8 below.

In respect of the potential for conflict between Ofgem's duties as regulator of the gas and electricity sectors and the T&S sector, Ofgem is well practiced at balancing different interests between gas and electricity consumers, or between distribution and transmission consumers of the same electricity or gas systems.

The duties and objectives which will provide the framework for governing Ofgem's decision-making as economic regulator of T&S will be subject to Parliamentary scrutiny and approval. For decisions in respect of the CCUS regime, regulatory decisions would need to be consistent with the duties set out in the relevant legislation, with consideration to be given to relevant factors depending on the circumstances. Regulators are held to account for their performance against their legislative duties, including by Parliamentary select committees, the National Audit Office, and organisations representing consumer interests.

## Section 3: Duties, Powers and Objectives of the Economic Regulator

The consultation set out proposals for the statutory duties and objectives that the economic regulator should have regard to in the conduct of its functions. The premise for the consultation was that there are benefits to applying a similar structure of duties and objectives as apply in the gas and electricity sectors, where Ofgem has a principal objective to protect the interests of existing and future consumers.

Question 1 of the consultation sought the views of respondents on our proposed approach to the duties of the economic regulator for CO<sub>2</sub> T&S.

Question 2 asked for views on whether there are additional objectives and duties to those outlined in the consultation for the economic regulator.

## 3.1 Summary of responses

We received 22 answers to the questions on objectives and duties for the regulator.

The majority of respondents broadly agreed with the list of objectives proposed for the regulator. Some respondents supported the primary duty for the regulator presented in the consultation - to protect the interests of current and future users of the T&S network - without any suggested amendments. Whilst many respondents acknowledged the rationale for maintaining some consistency with the structure of duties in the gas and electricity sectors, it was largely felt that the nascency and particularities of the CCUS sector warranted further consideration and an adapted set of duties.

Many respondents were in favour of a more balanced set of duties for the regulator or for multiple primary duties to be considered. One respondent expressed that a clear hierarchy in duties would ensure that the regulator can manage trade-offs in decision-making in a transparent way. A few responses commented that the principal duty of the economic regulator should be framed more closely in alignment with the government's objectives for the TRI model:

- attracting stable investment in the T&S network by providing investors with a clear long-term revenue model;
- enabling low-cost decarbonisation in multiple sectors; and
- providing sufficient flexibility for future market expansion.

Half of the responses referenced the idea that the regulator should have explicit regard to the government's decarbonisation objectives or net zero emissions targets. Some respondents felt that decarbonisation should make up part or whole of the principal objective of the regulator, given the essential role of CCUS in meeting statutory net zero obligations. Other respondents recognised that Strategic Policy Statements (SPS) would be a useful vehicle for providing direction on net zero commitments. It was also commented that Ofgem would need to take the net zero emissions targets in each part of the UK into consideration in fulfilling the role of independent economic regulator on a UK-wide basis.

A few respondents stated that more focus should be given to protecting the interests of energy consumers as well as the users of the CO<sub>2</sub> T&S networks, suggesting that costs for users of the network would ultimately be passed on to taxpayers and energy consumers and that the duty proposed would not take account of consumers' direct and material financial interest in T&S networks. It was also questioned how this primary objective would be applied in the early years of the CCUS market if users of the network had also received government subsidies, and whether the duty to protect user interests would also extend to international users of UK T&S networks.

Several responses suggested that the regulator should have a principal objective for the T&S network, such as to promote the expansion of the network and the maximisation of economic storage potential, or to ensure financial sustainability and long-term resilience for the T&SCo. However, it was also commented that a principal duty to promote the development or expansion of the T&S network would be relevant only in the initial development phase of the sector, and therefore an objective of this nature could potentially be transitional or accommodated by strategic policy direction from government instead. Incentives and investor confidence for the development and expansion of a new sector were drawn out as a consideration and there was a suggestion that the proposed secondary objective for the regulator to take into account the financeability of a T&SCo's licensed activities should be promoted to a primary duty. It was flagged that T&SCos need to not only raise finance but also return distributions to investors consistent with the risks undertaken.

A number of respondents thought that a statutory objective to promote effective competition should be introduced only when the market was sufficiently mature, since introducing competition too early would introduce greater uncertainty for investors. Respondents supported the introduction of concurrent powers for competition law enforcement.

Regarding additional duties and objectives to those outlined in the consultation, we received a variety of specific suggestions. A few stakeholders suggested that the regulator should have an objective to facilitate a smooth and stable transition between initial T&S projects and the enduring regulatory regime. Several respondents asked for consideration of where the duties of the economic regulator would overlap with other regulatory bodies in the CCUS sector in order to avoid duplication. It was flagged as critical for the developers and investors to have confidence that the economic regulator would not reopen decisions made by other bodies and that it would account for efficient delivery of the obligations imposed on it by these other bodies. Other suggestions were for objectives relating to incentives, including incentives around the efficient use and expansion of the networks, the maximisation of storage capacity, exploration and appraisal activity, and appropriate risk management.

## 3.2 Government's view

We consulted on a structure and hierarchy of duties aligned with those which currently apply in the gas and electricity regulatory regimes. The proposed principal objective – to protect the interests of current and future users of the T&S networks - was intended to ensure that a primary consideration for the economic regulator is to protect users of T&S networks from monopolistic behaviour. We also considered the benefits of consistency for investors familiar with the structure of a principal objective and statutory duties in gas and electricity.

We have considered carefully the views offered through the consultation process, in particular concerns raised that transposing an established hierarchy of regulatory duties from a mature market may not apply as effectively in a nascent carbon capture and storage sector, and whether this approach would best achieve our objectives for the economic regulation of CO<sub>2</sub> transport and storage.



## Government Response to the Consultation on Duties and Functions of the Economic Regulator for Carbon Dioxide Transport & Storage Networks

A more balanced approach to primary duties, where one single objective does not take precedence over other regulatory objectives, will inevitably give rise to tensions which the regulator will be required to balance in its decision-making. Such a tension can however be constructive and ensure a balanced approach to decision-making if a number of objectives need to be considered collectively and equally as appropriate, particularly where there is a material interconnection between regulatory objectives. For example, the interests of users of T&S networks and of the network operators will be intertwined, as regulation which increases costs or risks on networks will invariably increase the cost of the relevant services on users. Similarly, regulatory decisions which result in increasing costs to users also increase the risk of asset stranding, which is a key concern of prospective T&S network operators. Therefore, in a sector like CCUS, efficient regulatory determinations will consider the various interests enshrined in primary objectives equally and in a balanced manner. We note this approach has been adopted in other regulated sectors, notably the water sector, where the regulator for England and Wales successfully manages a balanced set of primary duties.

We are minded to review the approach to primary duties in light of the consultation responses. In considering a more balanced set of primary objectives, we are clear that these must remain workable for the regulator: too many objectives, or objectives covering too broad a range of considerations, would make the act of balancing them all increasingly difficult. It may also reduce regulatory predictability. Furthermore, with each additional objective added, relatively less weight must be given to the initial objectives.

We have also taken note of the view that protection of user interests may not fully or sufficiently protect consumer interests in relation to subsidies for carbon capture and storage. Our view has been that the foremost considerations for taxpayers and consumers are the same as those for direct users of the network, in particular in respect of the safe, economic and efficient operation of the network, and that therefore consumer and taxpayer interests are served through a primary objective focussed on user interests. Moreover, our expectation is that in the medium and long term the evolution of CO<sub>2</sub> market pricing will result in a carbon capture and storage sector that is capable of operating without subsidy, so the relevance of the consumer may be increasingly limited over time. We acknowledge however that for the regulator to have explicit regard to consumer interests, where this is relevant, would ensure consumer interests are fully taken into account when appropriate to do so, and provide an appropriate safeguard of consumer interests in any circumstance where there is divergence between user and consumer interests.

Our current view is that a balanced set of primary duties for the economic regulator of T&S comprises objectives in relation to the protection of current and future users' interests, and consumer interests where relevant, the financeability of T&S networks, and the need for efficient and economic T&S networks.

We continue to believe there is value in the economic regulator also having regard to many of the additional secondary objectives we published in August 2021<sup>1</sup> when performing its functions under the primary objectives. Where the economic regulator has a statutory duty to have regard to issues which fall within the remit of other regulators, for example environmental or safety considerations, the regulator would consider these issues if and as relevant to their decision-making, for example where these considerations have a bearing on costs. The intent is not to duplicate, or cut across, another regulatory body's role or decision-making, rather, to ensure that all relevant factors are taken into account in the economic regulator's determinations.

Consultation responses showed a level of support for a primary duty with specific reference to the UK's Net Zero targets, in order that the regulator takes into account the speed and scale of CCUS deployment needed to meet both near and long-term decarbonisation targets.

In the gas and electricity sectors Ofgem has regard to decarbonisation through its principal objective to protect consumer interests, where the legislation is explicit that this includes consumer interests in relation to the reduction of greenhouse gas emissions, and also through the statutory objective relating to the achievement of sustainable development, through which Ofgem has regard to a broad range of environmental considerations in making its determinations including the reduction of carbon emissions.

Government agrees that the economic regulator for T&S should have explicit regard to the purpose and contribution of T&S networks in achieving statutory decarbonisation targets, including statutory targets that are in place across the nations of the UK. We intend to give further consideration to the most suitable means of reflecting the role of CCUS in decarbonisation in the statutory provisions required to establish the regulatory regime for T&S.

We intend to continue to develop and publish information on the TRI model later this year and the final approach to regulatory duties and objectives will be subject to Parliamentary approval. We intend to bring forward legislation to establish the economic regulatory regime as soon as Parliamentary time allows.

## Section 4: Functions of the Economic Regulator

The consultation set out proposed roles and responsibilities of the economic regulator, and the evolution of these from the first regulatory period to an enduring regulatory regime. This

---

<sup>1</sup> These included objectives relating to competition, resilience, sustainable development, environmental impact, safety, and regulatory good practice.

phased approach allows the government to coordinate the management of first-of-a-kind risks in establishing new T&S networks.

Question 3 of the consultation asked for views on the proposed functions for the economic regulator, and how roles and responsibilities evolve over time as the network matures.

## 4.1 Summary of Responses

There were 21 answers to this question in the consultation. There was broad agreement that the roles and the responsibilities of the regulator should evolve over time as the market matures.

Several respondents commented on the need for a smooth transition between the first and subsequent regulatory periods such as through providing consistency in the parameters used to determine allowed revenues, in order to minimise uncertainty for investors and to enable them to make long term investment decisions in the expectation that they will not see substantive changes in the framework in subsequent regulatory periods. It was stated that certainty on the appropriate duration and length of subsequent regulatory periods is essential to ensure regulated T&S network operators are not at a competitive disadvantage to other projects with similar levels of risk.

A few responses raised the topic of clarity around the obligations of the T&S network operators for expansion of the network and storage volumes. There were mixed proposals on dealing with network expansion between regulatory periods, including to have agreed obligations for expansions within fixed regulatory periods or agreeing an allowance in the initial phase to cover network development in subsequent periods.

A couple of responses flagged that investors will need a framework to understand whether the regulator will treat upfront costs in the first regulatory period or before a Final Investment Decision (FID) as eligible and therefore recoverable in the long term.

Some responses suggested that the list of functions described could be simplified, since many requirements could be resolved in bilateral contract negotiations given the localised nature of the T&SCo and users compared with the gas and electricity sectors. For example, the suggestion that design of tariff structures could be negotiated between the network and users without an overriding role for the regulator and that performance standards, network agreements, operational parameters and metering arrangements could be agreed outside the licence framework. This could also extend to expenditure programmes largely being determined in bilateral discussions before being subject to final regulatory approval.

Other suggestions for functions of the regulator included: validating the annual accounts of T&SCo, administering any innovation incentives throughout the period, public reporting, reopening of the T&S licence in exceptional circumstances, functions relating to exploration and appraisal for storage sites, ensuring connections for smaller users without undesirable barriers to entry, and functions in relation to the transfer of upstream oil and gas assets to the T&S licences.

One response commented that the regulator should have oversight of the terms and conditions within connection agreements to ensure it can fulfil its duty to protect the interests of network users. It was also raised that network codes should be developed by the regulator and the T&SCo in consultation with prospective and current users.

Transparency of the regulator's assessments, technical considerations and calculations was requested with the implication that this could contribute to collective learning on reducing costs and enabling fast development. It was also suggested that the regulator should establish a specific team for new players in the CCUS landscape to contact about regulated returns calculations to ensure accessibility to new parties and small businesses.

It was noted that the precedent for tariff arrangements in the electricity and gas networks is managed through open governance.

Greater clarity was requested in respect of the approach to be taken to:

- Adjustments to RAV over time including re-openers
- Ex ante and ex post cost assessments
- Allowable costs
- Length of price controls
- Network access arrangements

## 4.2 Government's view

Government's overarching aim is to provide a stable, predictable and independent regulatory framework for CO<sub>2</sub> transport and storage; to enable the market to anticipate the context for future decisions, and to make long term investment decisions with confidence. We appreciate the views put forward in the consultation and understand the importance of providing visibility of the approach to the economic regulatory regime for T&S to provide certainty to investors. Our aim through the detailed January 2022 TRI model update published prior to this consultation response has been to provide clarity on many of these issues.

For example, the TRI model update highlights that as part of the network development we are considering the requirements on T&SCos regarding how they assess applications for access to the network. We are exploring several options and evaluating their suitability particularly as a CCUS market matures and regulatory arrangements for network connections mature. Further work is ongoing to develop network access requirements, and to better understand the implications for developers, and the implications for legislation for third party access arrangements.

It is envisaged that many organisations with different expertise and specialisms will be responsible for establishing the network codes and it is recognised that industry will have a significant role in this area. Where relevant, it is expected that the economic regulator will

consult other technical regulators for CCUS (e.g., OGA and OPRED) before approving changes to network codes. The process for developing and governing network codes and connection agreements, including the role of government and the economic regulator in these, will require further work, including due consideration of the outcomes of the government's consultations on system operation and code governance.

Respondents asked for clarity on the costs that will be recoverable before and during the first regulatory period. Further information on this topic has been published as part of the TRI model update, alongside Indicative Heads of Terms for the T&S economic licence. The Heads of Terms set out high level indicative terms for economic licence conditions in both the construction and operational phases, and obligations in respect of both onshore transportation services and offshore transportation and storage services. As noted in these Heads of Terms, the economic licence is expected to be supplemented by guidance from the economic regulator on the approach in areas where there is regulatory discretion, including, in particular, the determination of the WACC in the second and subsequent regulatory periods. The application of reopeners is expected to follow a defined process as set out in the economic licence, further detail on which is in the TRI model update.

We will continue to develop and publish information on the TRI model throughout 2022.

## Section 5: Economic Licences

The consultation set out proposals for the issuance of economic licences to T&SCos and noted that there may be circumstances where an exemption from the obligation to hold an economic licence may be appropriate.

Question 5 asked respondents for views on the approach to issuing economic licences, including on the principle of allowing exemptions from the requirement for CO<sub>2</sub> transport and storage operators to hold an economic licence.

### 5.1 Summary of responses

We received 20 responses to our question on the issuing of economic licences.

The majority of responses agreed that the issuance of an economic licence to authorise a T&SCo to operate a T&S network and charge a regulated fee was a sensible approach.

There were mixed responses on the topic of exemptions to requiring a licence. Some respondents felt that exemptions could be appropriately applied to avoid unintended consequences, such as users requiring a transport licence for infrastructure necessary to connect with a regulated T&S network. It was also suggested that exemptions from requiring a licence could apply to transport networks under certain size limits, or to remove barriers to

entry to encourage growth of networks under certain circumstances. Respondents thought it important that no exceptions should be allowed that would enable a competitive advantage over a licensed T&SCo and that there should be high criteria for the use of exemptions. Others could not envisage scenarios for exemptions and thought their introduction could cause market distortions if some T&SCos are able to operate in an inefficient manner compared to regulated peers or increase the perception of reduced regulatory oversight. They commented that any exemption on size would need justification and clarity would be needed as to how T&SCos would move in and out of exemption criteria. Reduced, more proportionate licence fees for smaller operators rather than exemptions were suggested in one response.

Clarity was also requested on the licence fee more broadly, and the extent to which the fees will form part of a T&SCo's allowed revenue.

Some respondents raised the topic of the sequencing of required licence and permit applications for the regime. Since the award of the economic licence is subject to the operator obtaining all other permits and licences, some responses advocated for a pre-licence agreement where parameters for eligibility under the ERR of ongoing infrastructure development costs incurred prior to FID would be set. It was questioned which existing requirements by other licensing authorities a T&SCo would be required to meet in order to qualify for an economic licence, and whether this would include requirements that would only become applicable post-construction or during the operational phase of projects.

There was discussion of requirements for expansion of the network in the licence conditions. It was considered that an obligation for future expansion could create an open-ended financial commitment with negative consequences for financeability. It was suggested that this could be addressed by a principle for the regulator to recognise commitments agreed between BEIS and the T&SCo in the initial granting of the T&S licence on expanding the network for additional connections or storage volumes. It was also discussed that the development of new infrastructures for network expansion by T&SCo should not require any additional economic licence to that initially issued.

## 5.2 Government's view

Under the proposals for economic regulation of T&S, an economic licence would be required to operate and charge payment for use of a T&S network. This reflects the natural monopoly characteristics of T&S networks where oversight by an independent economic regulator ensures user charges reflect economic and efficient costs, a reasonable return on capital investment and prevents anti-competitive behaviour, such as restriction of access to a network.

As this approach would introduce a prohibition on the operation of a T&S network without an economic licence, the purpose of allowing for exemptions would be to ensure that particular types of activity, where the requirement for economic regulation may not be appropriate, are not caught by the requirement to hold an economic licence. We agree that exemptions from the requirement to hold a licence should not enable a competitive advantage over a licensed T&SCo.

Our intent is an exemptions regime that is narrowly scoped. Exemptions from the requirement to hold an economic licence for the transport and storage of CO<sub>2</sub> could apply to specific persons, or to certain classes of activity. Classes of activity that could be exempt might include small scale localised networks, or networks transporting CO<sub>2</sub> for usage purposes and which may require short-term storage. We intend to consult further on the need for and appropriate application of any potential exemptions. We also recognise it will be important to retain the flexibility to review the approach to exemptions as the T&S networks grow and become established.

Respondents asked for clarity on certain aspects of the economic licence, including how licence fees would be treated. Indicative Heads of Terms have been published alongside the TRI model update which sets out our current proposals that licence fees would be an allowable opex cost in allowed revenue calculations.

We understand that there will be co-ordination and sequencing in the process of seeking the licences and permits required to reach a final investment decision, and to commence construction and operation under a T&S economic licence. The government intends to work through this process with T&SCos as part of the process for agreeing the settlement for the first regulatory period.

In terms of managing network access, arrangements for third party access to CO<sub>2</sub> transport and storage services are currently governed by the Storage of Carbon Dioxide (Access to Infrastructure) Regulations 2011. We intend to review the appropriateness of the current Regulations to ensure they remain consistent with the implementation of the new economic regulatory model for T&S. If we consider that updates would be appropriate, we will consult on proposals before changes are made.

Growth and expansion of T&S networks will be part of the settlement process. Expectations regarding investment in the T&S network in the first regulatory period will be agreed between the T&SCo and the government. Decisions regarding expansion of the network in subsequent regulatory periods will be agreed between the T&SCo and Ofgem, having regard to Ofgem's statutory duties and the economic licence conditions.

## Section 6: Enforcement and Penalties

The consultation outlined the government's proposals that the economic regulator should be granted powers to monitor licensees to ensure that they comply with their licence conditions and to enforce the conditions of the licence, equivalent to the powers that Ofgem has under the existing gas and electricity legislative regimes.

Question 6 requested views on the approach to enforcement, including the appropriate penalties for breach of licence conditions or of other regulatory requirements.

## 6.1 Summary of responses

There were 23 responses to the question on enforcement and penalties.

There was a general consensus that enforcement and monitoring of performance are core activities for the economic regulator. However, a majority of respondents noted that the imposition of large penalties at the early stages of industry development could impact investor confidence and slow the pace of network deployment to detrimental impact on future users. Several responses argued that a phased approach to penalties, proportionate to the maturity of the sector, should be considered, so as not to hinder the development of the T&S network in the initial phases. There were suggestions for how this could be implemented including an initial moratorium on financial penalties, or a gradual increase to the maximum penalty amount as the industry matures. It was also put forward that the regulator should focus on providing guidance and remediation of breaches in the early stage of projects, as opposed to imposing penalties. A couple of responses mentioned that an effective performance incentives regime would allow for any risks of penalty to be allocated and balanced efficiently between the developer, investors and taxpayers to deliver T&S networks and ensure proportionality of any negative incentives.

Some responses agreed with the proposed maximum penalty of up to 10% of turnover and recognised an equivalent capped amount in other regulated sectors and competition law. It was argued that the penalty amount of 10% of a company's annual turnover should be limited only to the turnover of the company's licensed T&S business, rather than any other unrelated business strands, and that there should be a cap on annual exposure to penalties. Other responses questioned whether the maximum penalty of 10% of turnover from the gas and electricity sectors would be too high and impact on investor confidence, since CCUS is a first-of-a-kind (FOAK) sector and needs to take account of specific geological storage risks. A lower fixed-price penalty might suffice to ensure compliance, particularly as the reputational damage associated with a licence breach will be considerable for a nascent industry. Another suggestion was that potential penalties should be linked to the level of permitted return of licensees.

Several responses raised that a coordinated approach between regulators should be taken to address incidents resulting in breaches of multiple licences and consents, so that there is no duplication of enforcement and there are maximum levels of exposure. It was posited that this could extend to a single cap for all breaches for the relevant regulators to coordinate accordingly.

Many respondents highlighted that the T&SCo must also have the ability to appeal enforcement and penalty decisions for review by independent experts and were in favour of statutory routes of appeal. Decisions being appealable to the Courts by way of judicial review was considered important depending on the circumstances of the appeal. Respondents also named the Competition and Markets Authority (CMA) as having the necessary expertise to hear economic regulatory appeals.



Clarification was requested regarding penalties for connections to the network in the case of a shortage of network capacity.

Responses also asked about the economic regulator's role in regulation and licensing of network users, to ensure reciprocal compliance to T&S network codes between T&S users and T&SCos.

## 6.2 Government's view

Government has considered the responses to the consultation regarding enforcement and penalties. Our view is that the economic regulator should have robust powers of enforcement including powers to impose financial penalties on a regulated entity which is not complying with regulatory requirements. The size of the penalty should be reasonable in all the circumstances of the case and the economic regulator would be required to publish an enforcement policy statement that sets out how the regulator will approach quantifying a penalty.

We note the variety of views on a maximum financial penalty of 10% of company turnover, including the sectoral differences between CCUS and other regulated utilities which have been highlighted, and that T&S operations are likely to be one part of a much broader business operation for many companies. We intend to give further consideration as to how company turnover might be defined in relation to a maximum penalty that is calculated proportional to turnover.

As a safeguard for T&SCo's investors, decisions made by the economic regulator are expected to be appealable to the CMA or subject to judicial review, depending on the nature of the decision being challenged. Our current view is that the CMA's role in regulatory appeals in the T&S sector, and the types of decisions which are appealable to the CMA, should be consistent with the CMA's role in appeals in other regulated sectors including gas and electricity.

## Section 7: Non-pipeline transportation

Government's view is that non-pipeline methods of transporting CO<sub>2</sub> will be essential to achieving CCUS deployment in areas of the country where it is not economic or efficient to construct or access pipeline transport. The consultation invited discussion on whether non-pipeline transport should be treated as part of a licensed network and be subject to similar economic regulation and requirements as pipeline transport, and the extent to which factors such as the scope for competition should influence this decision.

Question 7 of the consultation requested views on whether aspects of non-pipeline transportation should require an economic licence.

## 7.1 Summary of responses

This question received 21 responses.

Several respondents thought that non-pipeline transportation of CO<sub>2</sub> should not be subject to an economic licence. Reasons for this viewpoint included the reduced likelihood of monopolistic power for non-pipeline transport, the potential for a licence to lead to an inappropriate rate of return, the international nature of non-pipeline transportation, and allowing flexibility for the market to develop.

On the other hand, several respondents argued that non-pipeline transport needs to be regulated and licences granted. This would ensure that costs involved in non-pipeline transport are reliably understood such that they can be factored into the Dispatchable Power Agreements and industrial carbon capture and hydrogen production business models. It was put forward that excluding non-pipeline transportation from requiring a licence could create a separated two-tier system from the licensed T&S network and prevent a level playing field for a competitive CCUS landscape. Others commented that part of the non-pipeline transportation may not necessarily require an economic licence, but a licence should be required for injecting CO<sub>2</sub> into the network for storage.

A significant number of responses commented that further developments were needed before it would be possible to provide views on the licensing of non-pipeline transportation. It was largely recognised that the role of licensing for non-pipeline transportation and how it would be applied is a complex picture that needs further clarification.

## 7.2 Government's view

As set out in the consultation document, government considers that the capacity for T&S networks to be able to accept CO<sub>2</sub> from dispersed sites, and international sources, transported by non-pipeline methods of transport (ship, road, rail) to be vital to our long-term objectives of achieving carbon budgets and net zero targets, and we are continuing to develop the TRI model arrangements to accommodate non-piped sources of CO<sub>2</sub>.

Non-pipeline transport does not share the same monopolistic characteristics of pipeline transportation however, and the potentially lower costs of entry for non-pipeline transportation and ability for multiple assets running in parallel suggests competitive regional markets may emerge. As such we do not currently consider there to be grounds to economically licence the operation of all forms of CO<sub>2</sub> transport. However, we do note that there remains the potential for market dominance in other non-pipeline CO<sub>2</sub> transport sectors, and were this to occur, this would be a rationale for regulatory intervention. As such, we intend to keep this position under review. We also note that there may be other (non-economic) grounds for regulatory intervention and we would expect to consult with other relevant regulators on any further consideration of the regulation of non-pipeline transport of CO<sub>2</sub>.

## Section 8: Consultation Requirements and Regulatory Cooperation

The consultation sought views on statutory consultation requirements for the economic regulator, setting out the expectation that the economic regulator should consult with T&SCo, government ministers and other relevant stakeholders in carrying out its functions, including on making any adjustments or re-determinations during the first regulatory period, setting and reviewing tariff arrangements, and implementing certain changes to the ERR such as to licence conditions or price controls. We proposed that the economic regulator would be required to consult on any significant changes to the enforcement policy or guidelines. We also set out our expectation that the regulator would consult and cooperate with designated regulatory authorities and other relevant authorities to promote efficient outcomes in areas of common interest, such as where there are contemporaneous licensing requirements, as well as government and the devolved administrations in relevant areas.

Question 4 of the consultation asked which stakeholders the economic regulator should be statutorily required to consult with on changes to the Economic Regulatory Regime. Questions 8 and 9 asked whether there are matters on which the economic regulator should be expressly required to consult other authorities or regulatory bodies, and what barriers to co-operation or information sharing between regulatory bodies exist.

### 8.1 Summary of Responses

We received 22 responses to these questions on consultation and co-operation.

A large proportion of responses put forward that both T&SCos and existing and future T&S network users should be consulted on changes to the Economic Regulatory Regime including operational price control reviews and reviewing and adjusting tariff arrangements. Some suggested this extend to parties included under network codes and storage permit holders. Many responses also thought consultation should include relevant industry and trade bodies.

The Oil and Gas Authority (OGA) was named by many as a key stakeholder for the economic regulator to consult due its relevant expertise in subsurface activities and offshore risks for CO<sub>2</sub> storage considerations. The Crown Estate and Crown Estate Scotland were also consistently mentioned due to being uniquely positioned to provide input on holistic spatial planning of the seabed and alternative uses of the seabed where much of the CO<sub>2</sub> will be stored. Other relevant public bodies and regulatory agencies named included the Offshore Petroleum Regulator for Environment & Decommissioning (OPRED), the Low Carbon Contracts Company (LCCC), the Committee for Climate Change (CCC), the Planning Inspectorate (PINS), the Marine Management Organisation (MMO), NatureScot, the Health and Safety Executive (HSE) and the Health and Safety Executive Northern Ireland (HSENI), the Scottish Environment Protection Agency (SEPA), the Environment Agency (EA) and Northern Ireland Environment Agency (NIEA).

## Government Response to the Consultation on Duties and Functions of the Economic Regulator for Carbon Dioxide Transport & Storage Networks

Some suggested that the economic regulator should consult with the UK government, local and devolved administrations with regards to planning and how sequestration and storage can be linked to economic value in the longer term (for example, carbon pricing under the UK Emissions Trading System). Interconnectors and national authorities responsible for CCUS in adjacent countries were also suggested.

Respondents put forward a number of suggestions for matters where the economic regulator should consult with other bodies. These included changes to the Economic Regulatory Regime, technical matters relating to the offshore and subsurface environment and infrastructure, estimates of decommissioning liability, geospatial planning, public and environmental safety, undertaking enforcement action where this could impact more than one licence, and any matters where action may cause the licensee to breach another permit or consent, increase its costs of compliance or otherwise affect the allocation of risk between the T&S licensee and other parties.

Responses highlighted that collaboration between regulators will be essential to ensure subsurface data can be shared. Where relevant data can be made available to assess the suitability of future CO<sub>2</sub> storage projects before a licence is granted this could accelerate deployment and lower costs.

Others raised the value of consultation with the Climate Change Committee on the pace and scale of the development programme for CO<sub>2</sub> T&S and its alignment with the CCC's guidance on the capability required to stay on track to meet legally binding carbon budgets and the UK's net zero commitment.

The economic regulator could also consult relevant trade or sector associations to ensure the views and needs of industries that use, contribute to, or are impacted by CO<sub>2</sub> T&S are fully considered.

Other suggestions included consultation on the impacts of decisions that relate to energy costs for businesses and consumers of the CO<sub>2</sub> industry, energy security, and the economic impacts for different industries.

Barriers to co-operation or information sharing between regulatory bodies were identified including that, as a new sector, regulators would require time to familiarise themselves with the sector and the complexities of deploying and delivering offshore and subsurface assets at scale. Regulators may also need to develop new ways of working compared with their existing work. Since each regulatory body will be part of an integrated picture of CCUS regulation, it was seen as important that different responsibilities and interactions between regulators are mapped out with clear delineations and requirements to cooperate where relevant. One suggestion to incentivise information sharing and collaboration between regulatory bodies was to introduce a collaboration duty as per the National Infrastructure Commission recommendation<sup>2</sup>. Aligned objectives and obligations for all regulatory bodies to gather and share information to support decarbonisation outcomes in the UK were seen as useful.

---

<sup>2</sup> <https://nic.org.uk/studies-reports/regulation/>

Another potential barrier to cooperation that was raised pertained to cross-border and international trade. Stakeholders expressed uncertainty as to how political developments could affect the market for CCUS within the UK and overseas where different regulatory bodies have jurisdiction. Cooperation with regulators in connected countries was considered useful to ensure that the UK's regimes and standards foster cross-border trade and do not create unintended barriers.

Confidentiality and data protection were also considered to be barriers to cooperation if mechanisms are not in place to facilitate the exchange of commercially sensitive information.

## 8.2 Government's view

Government recognises the importance of consultation and cooperation between the economic regulator and other designated regulatory authorities and relevant national authorities in order to promote efficient outcomes in areas of common interest, and we are grateful to respondents for sharing views on the bodies which it will be important for the economic regulator to work with. We agree with the majority of these suggestions and in particular that cooperation and consultation with the OGA and OPRED is of high importance, given the interdependence with the CO<sub>2</sub> storage permit which is regulated by the OGA, and with OPRED's oversight of offshore decommissioning funds. We similarly agree that consultation and cooperation with bodies responsible for safety and environmental protection is paramount.

We also share the view that relevant government ministers should be consulted on certain regulatory decisions, as should others with an interest in the licensing regime or who are affected by regulatory decisions, including but not limited to, licence holders.

Regulatory cooperation should include the sharing of relevant information and data where this is appropriate and relevant to the conduct of each authorities' statutory responsibilities. We will consider further whether new or additional legislative mechanisms are required to enable this, including the extent to which consultation requirements should be a statutory obligation and where consultation and co-operation can be facilitated through other mechanisms.

---

This publication is available from: [www.gov.uk/government/consultations/carbon-capture-usage-and-storage-ccus-duties-and-functions-of-an-economic-regulator-for-co2-transport-and-storage](https://www.gov.uk/government/consultations/carbon-capture-usage-and-storage-ccus-duties-and-functions-of-an-economic-regulator-for-co2-transport-and-storage)

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