



Department for
Energy Security
& Net Zero

August 6th 2025

NPT Consultation Wrap-up session

Agenda

- Recap
- Rationale for intervention
- Consultation chapters
 - **Chapter 1:** Delivery mechanism for NPT support
 - **Chapter 2:** Support for NPT costs
 - **Chapter 3:** NPT fee options and cross-chain risks
 - **Chapter 4:** Regulatory environment for the NPT solution
 - **Chapter 5:** Standardisation and operational issues
- Closing remarks

***Disclaimer:** the proposals set out in the presented slides and the minutes are indicative only and do not constitute an offer by government and do not create a basis for any form of expectation or reliance.*

Consultation & engagement recap

The purpose of the NPT consultation is to provide domestic NPT projects with information on key commercial areas that will help unlock their next step in project development. The consultation follows our NPT call for evidence (CfE) which was released in May 2024.

Over the past seven months, we have held a series of stakeholder engagement sessions, each focused on specific policy areas within the consultation.

These sessions provided valuable opportunities for discussion and feedback, both during the meetings and through post-session surveys. This input has played a role in shaping and refining the consultation content.



Today, we are hosting a wrap-up session on the consultation, where we will provide an overview of the consultation positions* being prepared for publication later this year.

**content may be subject to change*

Rationale for intervention

The NPT CfE helped identify market failures that hinder the delivery of NPT value chains, some of which are shared with pipeline CCUS, such as:

- Negative externalities like CO₂ emissions, partially addressed through the Emissions Trading Scheme (ETS), but high CCUS costs remain a particular barrier.
- Coordination failures between emitters and stores, which government has sought to address through the cluster sequencing process, with NPT bringing potential additional complexity.
- Information gaps across industry and government, increasing the perceived risk of being a first mover.

In addition to these, NPT faces additional unique challenges, for example:

- Coordination failure - the early-stage nature of the UK NPT market risks misalignment between T&SCos, capture projects, and government schemes not yet tailored to NPT.
- Information failure - industry lacks clarity on local NPT opportunities and long-term policy certainty.
- Positive externalities less considered during individual NPT project development.

Government acknowledges it may have a role in addressing these market failures but encourages industry to lead on resolving commercial and operational barriers where feasible, supporting the transition to a market-led CCUS sector, as government looks to reduce costs for taxpayers and consumers while continuing to incentivise CCUS development.



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Merchant NPT projects deploying in the UK

The CfE helped identify some CCUS projects capable of deploying via NPT without government support.

Whilst some of the content of the consultation is focused on potential financial support for NPT project deployment, government is separately considering how best to facilitate the deployment projects that can deploy CCUS on a merchant basis (piped and NPT) as part of wider considerations for CCUS deployment in the UK.

There will be a question in the consultation that seeks to gather more information on merchant NPT projects deploying in the UK.

Consultation content

Chapter 1	Chapter 2	Chapter 3	Chapter 4	Chapter 5
Delivery mechanism for NPT support	Support for NPT costs	NPT fee options and cross-chain risk	Regulatory environment for the NPT solution	Standardisation and operational issues
<p>This chapter considers potential models for delivering government support to NPT projects and identifies a preferred option. It explores how NPT costs could be integrated into existing capture business models and proposes the use of a consistent annex to adapt contracts.</p>	<p>This chapter introduces the “NPT fee” as a separate payment element within capture contracts to cover NPT-specific costs. It defines the overarching principles of the fee and proposed scope of costs covered. It also discusses principles for the oversizing of infrastructure.</p>	<p>This chapter presents options for the NPT fee, each with different approaches to managing revenue uncertainty in low / no throughput scenarios. It does not state a preferred option. It also discusses proposals for management of stranded asset, CO₂ quality, and timing mismatch risk.</p>	<p>This chapter assesses whether new economic regulation or licensing is needed for NPT infrastructure. The current position is not to introduce such regulation ahead of market formation, relying instead on existing competition law. It also explores how NPT infrastructure interacts with existing CCUS regulations.</p>	<p>This chapter focuses on the need for interoperability and standardisation across NPT solutions. It proposes an industry and regulator led approach to developing standards, rather than government-led principles. It also seeks evidence on topics related to the CCS Network Code and CO₂ specification.</p>



Chapter 1: Delivery mechanism for NPT support

Delivery mechanism for NPT support

Government considered a wide range of policy options that could address the key market failures and risks that impede the delivery of NPT value chains. **Five** leading options have been identified to provide support on NPT costs where necessary.

Option 1:

Direct contract between government and an NPT aggregator that operates the whole NPT solution (intermediary archetype).

Option 2:

NPT services are an expansion of the Transport and Storage network and is operated by T&SCos (store led archetype). Where if allowed by the regulator, some NPT infrastructure may be on an existing Regulated Asset Base (RAB).

Option 3:

NPT services are an extension of, and operated by, the capture project. NPT costs are included within the capture contracts and considered as part of the overall capture business model support package (capture led archetype).

Option 4:

Government supports NPT service providers by providing one-off grant funding and/or offering an agreement on capital co-investment (e.g. loans, guarantees, equity shares).

Option 5 (Preferred option):

NPT costs are paid through the capture business models, but the NPT service provider is allowed to be a consignor of the CO₂ over the NPT value chain. Alongside enabling option 2 and 3, it allows the delivery of the intermediary-led archetype.

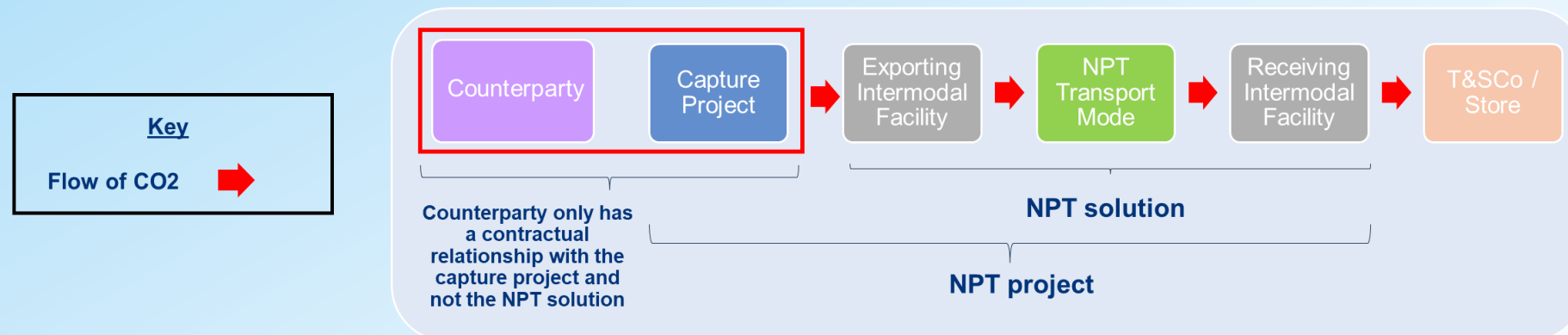


Chapter 2: Support for NPT costs



Outline - Chapter 2: Support for NPT costs

This chapter outlines government's proposed approach to supporting NPT costs, where necessary, within the capture business models. Recognising current market failures and the absence of NPT cost coverage in existing business models, **initial government support is deemed necessary to enable deployment**. Due to subsidy control rules, financial support will only be provided where it is necessary.



We propose the creation of a new payment mechanism, the '**NPT fee**'. This will be a separate payment element which enables consistent application across different business models and a clearer comparison of NPT costs across projects.

Importantly, subject to ongoing policy analysis (e.g., value for money (VfM), affordability and classification impacts), we envisage that **the NPT fee will be agreed directly with capture projects**, meaning **government will not contract directly with NPT service providers**.

Proposed NPT Fee features

Objectives

- The NPT fee should **enable investment** into NPT solutions by providing support for their NPT costs.
- The calculation and subsequent payment of the NPT fee should **incentivise efficient transport of CO₂** from capture project to store, providing value for money for HMG.

Structure



Scope

We propose that the NPT fee should cover costs that are:

- Necessary for processing and transporting CO₂ from the capture site to the pipeline network or injection site.
- Not already funded by other mechanisms (like capture costs or T&S charges).

We envisage that this broad definition can help to ensure relevant costs across different NPT value chains are considered.

Oversizing Infrastructure

The NPT fee may support capex for infrastructure to efficiently manage the operational throughput serving selected CO₂ capture projects.

If multiple projects are selected, shared infrastructure should be appropriately sized.

If only one project is selected, oversizing for future use is possible but not guaranteed.

Government support will focus on infrastructure needed for the selected projects.

Any oversizing must show clear value and will be considered during project selection. Further decisions on this will be made later in the policy process.

The consultation will seek views on this proposal and views on how the NPT fee may need to evolve if oversizing of infrastructure was permitted.



Chapter 3: NPT Fee options and cross-chain risk

Outline: Chapter 3 – NPT fee options and cross-chain risk

This chapter outlines:

- The government's current considerations in managing cross-chain risks.
- Possible NPT fee structures and how each would handle low/no throughput scenarios. No preferred option outlined.
- Proposals for stranded asset risk, CO₂ quality risk, and timing mismatch risk.

Cross-chain risks are issues in one part of the NPT value chain that impact other elements in the chain.

Respondents to the NPT CfE highlighted the need for both cost support and risk protections, given the nascency of the CCS and NPT sectors in the UK.

As discussed, government proposes supporting NPT costs through a new NPT fee within the capture business models.

This fee could also help manage certain cross-chain risks, especially those related to revenue uncertainty.

Risk allocation in managing cross-chain risk may have adverse VfM, affordability and classification impacts which will need to be assessed.



Cross-chain risks in the NPT context

The consultation covers the following five cross-chain risks:

Temporary outage/ capacity constraints
Revenue uncertainty
Stranded asset
CO ₂ quality
Timing mismatch

In developing the NPT fee policy and cross-chain risk approach, we recognise there are important trade-offs to consider between different policy objectives.

We understand that high levels of revenue certainty is a key enabler for project financing and aligns with established industry practices (e.g. send-or-pay models). At the same time, providing guaranteed revenues without links to performance could raise concerns around government's balance sheet exposure.

There are also tensions between reducing operational risk through multiple specialist service providers operating within NPT value chains and the potential for increased cross-chain risk. If government were to take on these risks between NPT service providers through provisions with the NPT annex, it could lead to significant liabilities for government across capture, NPT and T&S, resulting in affordability challenges.

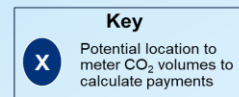
As part of the broader transition to a market-led CCUS sector, government is aiming to reduce its direct role in coordinating value chains. This will mean industry taking on more responsibility for managing risk. While some risks may be mitigated through multiple NPT projects being operational, we acknowledge that this may be more challenging for first-of-a-kind (FOAK) projects.

The positions discussed in the consultation aim to strike a balance between these considerations, taking into account VfM, affordability and classification impacts.

The policy options presented within this section will be specifically for the NPT solution entities only (not capture project or T&SCo). Work will need to be carried out to understand what support would be available for capture projects and T&SCo for NPT fault.



NPT fee options



The consultation discusses in detail the pros and cons of each NPT fee option to aid responses to these consultation questions. The option selected will also need to take account of VfM, affordability and classification impacts.

Option	Description of option
1 - Capture costs and NPT fee based on volumes stored	<ul style="list-style-type: none"> All NPT costs are included in one variable component meaning that the entirety of the NPT fee is paid based on the tonnes that reach the T&S delivery point (meter D). Capture costs, where applicable, would be calculated based on tonnes reaching meter D.
2 - Fixed fee tapers down to zero based on <u>full</u> NPT solution performance	<ul style="list-style-type: none"> The fixed component of the NPT fee covers contractually fixed costs and is tapered from an expected performance threshold down to zero as the performance of the whole NPT solution decreases. Performance of the NPT solution is measured on the efficiency of transporting CO₂ between meter A and meter D. The variable component covers other eligible costs which are not contractually fixed. The variable fee is paid based on flows through meter A. When no CO₂ flows from the capture project, we could either not pay the NPT fee or pay the NPT fee based on a historic average.
3 - Fixed fee paid based on <u>full</u> NPT solution availability	<ul style="list-style-type: none"> The fixed component of the NPT fee covers contractually fixed costs, and it is paid based on availability of the NPT solution. If the NPT solution is not available, there is no payment of the fixed fee. The variable component covers other eligible costs which are not contractually fixed. The variable fee is paid based on flows through meter D. Availability could be defined in two broad ways: <ol style="list-style-type: none"> availability would be dependent on the nature of the NPT asset. Mechanism to define and monitor availability is still to be developed. Downtime and operational maintenance regimes would also be considered in availability calculations to avoid perverse incentives. availability could be deemed available as long as the NPT solution did not cause the capture project to vent. Further work would be required to determine attribution of fault/cause of venting.
4 - Fixed fee paid based on <u>individual</u> NPT service provider availability	<ul style="list-style-type: none"> The fixed component of the NPT fee covers contractually fixed costs, and it is paid based on availability of each NPT service provider. This can be delivered in two ways: <ol style="list-style-type: none"> The NPT project is responsible for attributing fault within the chain and is responsible for reporting this to the counterparty. Until fault attribution is complete, no fixed fee is paid. Once fault is determined, NPT entities not at fault are paid. The fixed fee is paid but later recouped once fault determination occurs. Recouped payments align with compensation agreements under a typical Send or Pay contract, for example when an off-hire event occurs. The variable fee is paid based on flows through meter D. Under option 4, to prevent over subsidy some of the fixed component would also be recouped when additional compensation is paid to NPT service providers for any business interruption.

NPT fee options analysis

Option	Pros	Cons
1 - Capture costs and NPT fee based on volumes stored	<ul style="list-style-type: none"> Strong incentive across the NPT value chain to deliver CO₂ to the T&S delivery point to receive payment. Simple contract design and administration. Encourages value chain collaboration to manage delivery partner performance risk. 	<ul style="list-style-type: none"> Full chain operational risk on both the NPT solution and the capture project (where applicable), limiting organisational and financing structures and likely severely limiting the number of suitable projects coming forward. Some government support still provided during low performance scenarios.
2 - Fixed fee tapers down to zero based on <u>full</u> NPT solution performance	<ul style="list-style-type: none"> No cliff edge in support due to tapering, improving financing and value-for-money. Lower administrative burden as payment is calculated on whole NPT solution basis. Encourages value chain collaboration to manage delivery partner performance risk. 	<ul style="list-style-type: none"> Increased fee calculation complexity when accounting for effect of taper and lag between CO₂ leaving capture boundary and reaching T&S delivery point. NPT solution taking on performance risk of other NPT service providers, limiting organisational and financing structures and limiting the number of suitable projects coming forward. Some government support still provided during low performance scenarios.
3 - Fixed fee paid based on <u>full</u> NPT solution availability	<ul style="list-style-type: none"> Simpler to assess if the whole NPT solution is unavailable compared to assessing the availability of each individual NPT service provider. Government support is only provided when the whole NPT solution is available. Encourages value chain collaboration to manage delivery partner performance risk. 	<ul style="list-style-type: none"> NPT solution taking on performance risk of other NPT service providers, limiting organisational and financing structures and the number of suitable projects coming forward. Cliff edge in support as fixed component is not paid if the NPT solution is unavailable. Potential credit risk on variable component due to payment at T&S delivery point.
4 - Fixed fee paid based on <u>individual</u> NPT service provider availability	<ul style="list-style-type: none"> Linking payment to availability better incentivises performance from NPT service providers. Likely to improve financing options, increase market participants (including specialist service providers) and increasing competition. NPT service providers do not take risk on the performance/availability of other parts of the NPT solution. 	<ul style="list-style-type: none"> Increased interaction with counterparty by NPT service providers as they need to self-report their availability to enable fee adjustments. Increased fee calculation complexity due to possibility of NPT fee being increasingly subdivided for each NPT activity. Government support may still be provided to some available NPT service providers when the whole NPT solution is not operating. Potential credit risk on variable component due to payment at T&S delivery point.

Consultation Questions

As part of the consultation, we will be seeking views on the four proposed NPT fee options. We intend to ask for a ranking in order of preference and seek further evidence on any concerns held about any of the options.

We are also interested in whether certain options may be more appropriate for specific types of NPT value chains, such as particular transport modes or capture projects.

In addition, we will seek input on how availability and fault attribution could be defined under options 3 and 4, and whether you foresee any issues with how comingled CO₂ is treated under any of the options.

Finally, we will welcome views on whether provisions for poor or non-performance should be included in contracts, and if so, how these might be structured and applied across different parts of the NPT chain.



Outline - Stranded asset risk proposal

- Stranded asset risk within the NPT value chain refers to the risk that there is a complete and permanent loss of: i) demand for the NPT solution, or ii) supply of storage at the T&SCo; resulting in elements of the NPT value chain becoming redundant and economically unviable.
- It is expected that asset stranding would not occur without warning. It is anticipated that there would be a significant period over which the potential for asset stranding would be evident.
- Some NPT infrastructure, such as ships and trucks, may be redeployable, offering potential mitigation. Receiving terminals connected to storage facilities may also retain future revenue potential through servicing other NPT projects or international volumes.
- All means of continuing service of the NPT value chain will need to be explored and evidenced before the project can officially be deemed a stranded asset.

Our proposal, subject to VfM, affordability and classification assessment: NPT project is treated as one entity (capture project + NPT solution)

A termination fee will be paid in the following events:

- T&SCo fails to be constructed
- T&SCo is discontinued following a decision by the Secretary of State (SoS) to exercise its right to issue a Discontinuation Notice pursuant to the terms of any Discontinuation Agreement that may be in place between the parties.

In a future competitive market, there should be more opportunity for asset redeployment or redirection of CO₂ to other stores, reducing stranded asset risk.

Government will separately consider the necessity of the development of support provisions for political and regulatory risk. These provisions would aim to address circumstances where qualifying changes in law or regulatory frameworks materially impact the ability of the NPT solution to deliver contracted services or remain economically viable.



Consultation questions

For the consultation, we will be seeking information on the probability of stranded asset events occurring in an NPT chain. Also, information on how long it typically takes to restore NPT infrastructure following different types of disruptions (e.g. technical or economic), and what factors influence those timelines.

We will also be asking for views on the proposed approach to stranded asset risk, particularly in relation to investability and bankability, and whether there are other scenarios where protection might be desirable.

Finally, will be looking for suggestions on how a termination fee could be calculated and agreed, including the rationale behind any proposed methods.

It will important that, where you feel the proposed support may not be sufficient, you clearly set out the **specific scenarios** you believe are not adequately covered.

This includes explaining why those scenarios are relevant to your project and what the potential implications could be if they are not addressed. Clear and detailed feedback will help ensure that policy development is informed by material considerations and evidenced to ensure we can assess necessity accurately.



Outline – CO₂ quality proposal

- This risk is when CO₂ which does not meet the compositional, temperature or pressure conditions standard required for it to be is provided to next entity in the chain (leading to equipment damages, loss of business and potential ETS liabilities).
- The CCS Network Code currently sets out the procedure for handling off-spec CO₂ for piped projects. For injection of NPT volumes into the T&S network, we expect CO₂ quality risk to similarly be governed by the CCS Network Code.
- In pipelines, it's hard to test CO₂ in real time, so strict rules apply - out-of-spec CO₂ must stop flowing, and the capture project bears the cost.
- In NPT chains, CO₂ passes through multiple points, each with its own quality risk. But because NPT uses batch transport, it may be easier to test CO₂ before delivery, and blend up to spec.

Our proposal

NPT Project to address any residual CO₂ quality risk through commercial arrangements.

Government will not cover any costs related to damages within the NPT chain; any penalties and damages are expected to be managed through commercial contracts between the capture project and NPT service providers.

We intend to allow capture projects to select their own delivery partners. This approach will allow entities to manage CO₂ quality risk between themselves, leveraging their existing expertise and operational capabilities. By allowing entities to choose their own delivery partners, we anticipate implementation of robust quality control measures to ensure the integrity of CO₂ throughout the transport process.



Outline – Timing mismatch proposal

- This risk refers to an event or circumstance that prevents or delays the construction and/or commissioning of NPT infrastructure, which prevents or delays in others exporting CO₂ through the infrastructure.

Our proposal

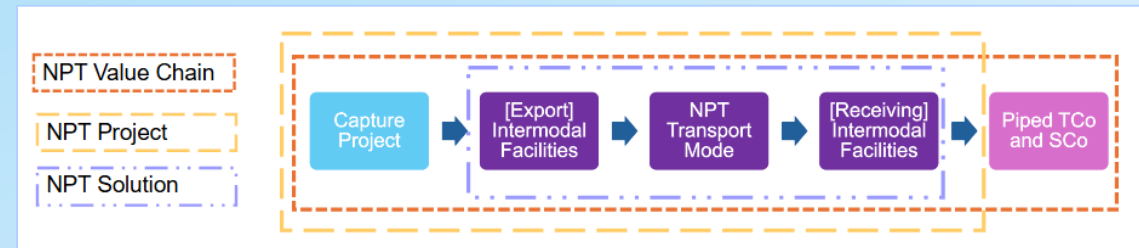
The NPT project (i.e. the capture project and NPT solution) is responsible for managing construction schedules commercially between entities.
We intend to create an NPT solution readiness operational condition precedent (OCP) within the capture contracts which will see the NPT project as a single entity, making it their responsibility to manage schedules between themselves.

Alongside an OCP, we expect there to be additional Initial Conditions Precedents (ICP) and technical evaluation criteria, ahead of commercial deployment that will need to be satisfied, similar to what currently exists in capture contracts, though these may differ in form for NPT entities.

As NPT value chains will be allowed to self-organise, government believes responsibility for managing timing mismatch risk should rest with the NPT project. These entities should ensure that the elements of the NPT solution are developed in lockstep, as they are likely better positioned to coordinate and align their operations to mitigate such risks.



Chapter 4: Regulatory Environment for the NPT solution



Consultation position and rationale

We will not propose introducing any new economic licensing or economic regulation for the NPT solution.

We believe doing so would cause disruption, be burdensome, and stifle investment whilst the NPT market is embryonic.

- The conduct of market participants can only be fully assessed once the NPT market has formed.
- We believe the existing competition regulatory framework will be capable of addressing and mitigating concerns related to monopolies and the NPT solution, should they arise. This framework, provided by the Competition Act 1998 and the Enterprise Act 2002, establishes a system to address anti-competitive practices and maintain fair competition.
- We intend to keep this position under review and may consider future interventions based on the behaviour of market participants, should concerns be raised to the CMA.

High-level Principles

- Ex-post Regulation
- Behaviour Based Regulation
- Leveraging Existing Frameworks
- Competition Law as a Foundation

Other topics in this chapter

Regulated T&SCos and NPT solution services

To help us understand whether there are any views on competition if NPT terminals were operated on the RAB (subject to individual approval by Ofgem).

Intermediate storage of carbon dioxide

Some NPT infrastructure may interact with existing carbon storage licensing requirements.

We are interested in views on whether this regime remains appropriate for all types of intermediate storage, or if the requirement should be adapted only for certain types of intermediate storage.

This could include taking into account the location, size, or type of intermediate storage facility.

Third Party Access for NPT infrastructure

This section explores whether access rights and obligations should apply to onshore intermediate CO₂ storage facilities, particularly those within NPT value chains. It seeks views on whether access obligations should be introduced for onshore interim storage and what the implications might be for industry.



Chapter 5: Standardisation and operational issues

Outline - Standardisation

What this section discusses:

- The importance of interoperability in NPT to enable flexible CO₂ transport across various CO₂ sources and storage sites.
- The role of standardisation in reducing technical risks and ensuring compatibility across the CCUS value chain.
- Key areas where standards may be needed include CO₂ specifications (composition, pressure, temperature), impurity limits, monitoring and metering, intermodal operations, and alignment with international standards.

Proposal:

- A market-led approach to standardisation, where industry and regulators, not government, develop and agree on technical standards.
- Existing bodies like BSI and CEN to lead standard development, avoiding UK-only standards and promoting pan-European alignment.
- Government will not establish new NPT standardisation principles but will monitor developments and remain adaptable.

We will seek views on:

- Whether there is agreement with the proposal for an industry and regulator-led approach.
- Potential issues with how NPT standardisation is evolving in the UK and Europe.
- Identification of existing international standards relevant for UK adoption.

Outline – CO₂ specification and monitoring

CO₂ specification defines acceptable compositional limits to protect the integrity and safety of the T&S network.

T&SCos are responsible for setting and enforcing these specifications, based on infrastructure impact assessments and regulatory requirements.

The CCS Network Code outlines measurement requirements, monitoring frequencies, and procedures for handling off-spec CO₂.

NPT may offer advantages in characterising and managing CO₂ quality before entry into the T&S network, including potential for batch mixing to remediate impurities.

The chapter seeks evidence and views on how NPT infrastructure might support better CO₂ quality control.

It also explores whether batch-wise delivery in NPT could help manage impurity variability and support compliance with T&S specifications.

Government is particularly interested in understanding how NPT-specific operational processes might influence CO₂ quality assessment and specification setting.

We will seek views on:

- Confidence in the NPT value chain's ability to characterise CO₂ quality reliably and promptly.
- Whether NPT operating processes should influence how CO₂ quality is assessed at the T&S entry point.
- How batch transfer in NPT affects testing requirements and whether it can help remediate non-compliant CO₂ before delivery.

Outline – Network capacity

This section discusses the concept of registered capacity in the licenced T&S network, which gives Users the right to flow CO₂ at a fixed rate over a set period.

While the current pipeline model assumes continuous flow, a more flexible approach may be better suited to the nature of NPT infrastructure. NPT could enable variable delivery rates from interim storage, potentially improving network utilisation.

This raises questions about who should hold Registered Capacity within the NPT value chain.

The chapter recognises the need to review the CCS Network Code to allow greater flexibility in capacity allocation and flow management. This recognises that NPT may require a different approach to capacity booking and flow control compared to pipeline-based systems.

We will seek views on:

- Which entity in the NPT chain should hold Registered Capacity and why.
- Whether NPT service providers can vary flow rates, and what is needed to enable this technically, commercially, and operationally.
- Suggestions for new or alternative capacity products that accommodate NPT's flexibility.

Closing remarks

Thank you for your continued engagement throughout the NPT policy development process. Your contributions, through post-session formal responses and discussions during sessions have been valuable in shaping the consultation.

Your insights have played a critical role in refining our approach, and we appreciate the time and effort invested in providing thoughtful feedback and fostering constructive dialogue.

We remain on course to publish the consultation in the second half of this year and look forward to receiving your responses.

If you have further input or questions ahead of publication, please get in touch via the NPT inbox:
NPTandCrossBorderCO2@energysecurity.gov.uk.



Annex



Definitions

- **NPT project:** This includes the capture project deploying via NPT, and the NPT solution.
- **NPT solution:** The infrastructure and transport mode vehicles within an NPT value chain between the exit point of the capture project and the entry point to the T&S network.
- **NPT fee:** Aims to enable investment into NPT solutions by covering their eligible NPT costs. The calculation and subsequent payment of the fee should incentivise economically efficient transport of CO₂ from capture project to store, providing value for money for HMG.
- **NPT service provider:** An entity which provides a service in the transfer and/or processing of CO₂ with the NPT Solution e.g. providers of liquefaction, temporary storage, intermodal facilities, transport modes.

