



Department for
Energy Security
& Net Zero

Cluster Sequencing for Carbon Capture Usage and Storage (CCUS)

Track-2 guidance

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

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CCUS Track-2 guidance

Transitioning to an environmentally sustainable and resilient net zero economy is a key pillar of the government's economic strategy to achieve strong, sustainable and balanced growth. CCUS will play a key role in achieving this, as well as the levelling up of our industrial regions, supporting the development of, and UK leadership in, a globally significant technology.

The progression of the Track-1 CCUS clusters is an important first step in building our CCUS industry and decarbonising our economy. These initial clusters are not the extent of our ambition; Government is committed to further development of CCUS, including through the Track-2 process which will establish two new clusters.

Track-2 objectives and eligibility criteria

Government objectives for Track-2 of CCUS cluster sequencing are to:

1. Select two new CO₂ clusters that together have the potential to store at least 10 megatonnes per annum (Mtpa) of CO₂ by 2030 through a range of carbon capture projects.
2. Ensure that Track-2 is affordable and represents the best possible value for money, consistent with the lowest cost pathway to meeting Carbon Budget 5 and 6 and net zero objectives, by enhancing competition and optimising delivery.
3. Set a foundation to grow CCUS beyond Track-2 and maintain and increase the economic value of key industries associated with CCUS (for example job creation in industries that interact with CCUS and foreign direct investment as a result of the establishment of CCUS clusters).

To achieve these objectives through Track-2, the UK Government is at this stage seeking two transport and storage (T&S) systems¹ that meet the following eligibility criteria:

- The T&S system must be located within the UK.
- The T&S system must be able to credibly demonstrate that it has a clear pathway to rates of injection consistent with the at least 10Mtpa ambition by 2030.
- The T&S system must not form part of the HyNet or East Coast Cluster (ECC) Track-1 cluster proposals.
- The T&S system must be able to credibly demonstrate that it can connect via pipeline to at least two projects for an initial phase of capture and non-pipeline transport (NPT) in future phases.

¹ In this context, a T&S system means fields/ potential stores within a (prospective) licensed area.

Located within the United Kingdom

This criterion reflects the UK Government's commitment to supporting decarbonisation across the UK.

As well as the UK-wide net zero commitment, CCUS deployment can support Northern Ireland, Scotland and Wales in meeting their respective net zero targets. We will continue to engage with each of the devolved administrations to develop our approach to the delivery of CCUS across the UK. To facilitate this work, we continue to be open to CCUS T&S systems in all parts of the UK identifying themselves to us.

10 Mtpa by 2030

This criterion has been included to reflect Government's commitment to support the deployment of CCUS in four clusters by 2030. Deployment in this decade is considered to be valuable to Government for the following key reasons:

- Foundation for net zero: it is estimated that the UK could require 100 stores² in order to meet our net zero commitment. CCUS projects have long lead times, so de-risking, learning and gaining cost certainty through the 2020s will be crucial to meeting these longer-term aims. This is reflected in our ambition to capture 20-30 Mtpa by 2030.
- Near-term carbon budgets: further CCUS deployment by 2030 and operation in the 2030s is expected to make an important contribution to the UK's emissions reduction targets under Carbon Budgets 5 and 6.
- Maximising opportunities: the UK is well-positioned to capture a significant share, worth up to £10bn³, of the growing global CCUS market. Moving quickly on deployment will allow us to remain competitive with other countries making material progress on CCUS, such as Norway, the European Union and the United States.

To meet this criterion T&S systems must:

- Have a clear pathway to rates of injection consistent with the at least 10Mtpa ambition by 2030.
- Have an existing licence for Carbon Dioxide Appraisal and Storage (or have bid into the North Sea Transition Authority's (NSTA) 2022 carbon storage licensing round⁴) and a roadmap to Storage Permit award ahead of project final investment decision (FID) consistent with the at least 10 Mtpa ambition by 2030.
- Have a provisional pre-FID schedule which considers all necessary planning, consenting, assessment, front end engineering design (FEED) and procurement activities and a provisional post-FID schedule accounting for the execute period

² Carbon capture and storage – the road to net zero (Feb 2023)

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

³ Pale Blue Dot: Progressing Development of the UK's Strategic Carbon Dioxide Storage Resource (2016).

⁴ In this case to remain eligible the store would need to be awarded a licence at the conclusion of the NSTA 2022 carbon storage licensing round.

activities up to commercial operational date (COD) for both onshore and offshore elements of the T&S system.

- We would expect the minimum of two capture projects identified for the first phase of deployment to be at a similar level of progression as T&S i.e., have a provisional pre-FID schedule which considers all necessary planning, consenting, assessment, front end engineering design (FEED) and procurement activities and a provisional post-FID schedule accounting for the execute period activities up to COD.
- Have relevant agreements and commitments in place between the potential T&S and capture parties to progress the cluster.

Not included in Hynet or East Cost Cluster (ECC) Track-1 cluster proposals

This criterion supports Government's ambition to deploy CCUS in at least four CCUS clusters by 2030. Through Track-2, Government aims to bring additional T&S systems into operation to deliver our four clusters ambition and provide an opportunity for further areas and industries across the UK to benefit from deploying CCUS to further their competitiveness.

The further usage and expansion of Track-1 clusters beyond their initial deployments will be explored through the T&S systems development plans and a process to identify and select additional capture projects. In addition to Track-2, we will launch a process later this year to enable further expansion of Track-1 clusters.

Can connect to at least two capture projects via pipeline for an initial phase of capture

We will set out the process, including eligibility criteria, by which capture projects for Track-2 will be selected in due course. However, T&S systems will be required to have access to initial capture projects as part of the commissioning process. For the purposes of T&S system eligibility, in addition to hydrogen, industrial, waste and power projects, this can include engineered greenhouse gas removals (GGRs).

To meet this criterion T&S systems must:

- Have an agreement, such as a memorandum of understanding, in place with at least two capture projects included in the initial phase of capture.
- Have a provisional pre-FID schedule for projects included in the initial phase of capture which considers all necessary planning, consenting, assessment, front end engineering design (FEED) and procurement activities and a provisional post-FID schedule accounting for the execute period activities up to COD.
- Have high-level expansion plans in place for additional projects beyond the initial phase of capture and be able to demonstrate how they could receive and store CO₂ through NPT in a timeline consistent with the Track-2 objectives.
- Have a clear pathway to rates of injection consistent with the 10 Mtpa ambition by 2030.

- We expect, in the first stage, to consider only those projects that can connect by pipeline as the initial projects (i.e., those that could be operational by 2030). We expect T&S systems participating in Track-2, however, to be able to demonstrate the potential to receive and store CO₂ through NPT in a timeline consistent with the Track-2 objectives.
- We recognise the importance of NPT in meeting net zero. It is Government's view that it is for industry to develop the necessary physical NPT infrastructure such as handling terminals/facilities and transportation methods. However, we intend to progress development of NPT in due course to allow projects and clusters reliant on NPT to connect in a timeline consistent with the Track-2 objectives, subject to factors including due diligence and value for money assessment. This development will incorporate necessary changes (where relevant) to business models and CCS Network Codes taking into account, for example, cost allocation (including development costs, capital expenditure and operating expenses), metering requirements, liabilities, cross-chain risk analysis etc.

Next steps

Based on our market engagement to date, including through Track-1 cluster sequencing, Government views the **Acorn and Viking T&S systems as able to meet the Track-2 eligibility criteria, and best placed to deliver on the Government's objectives for Track-2.**

We will now open a four-week expression of interest (EoI) period for other T&S systems that believe they meet the eligibility criteria set out in this document.

To be considered for Track-2, a (prospective) carbon storage licensee, that meets the eligibility criteria set out in this document, must submit an EoI to the Department for Energy Security and Net Zero (DESNZ). The EoI form can be found on the Track-2 landing page, and the deadline for completing it is 28 April 2023. The Acorn and Viking T&S systems are not required to submit an EoI. Government reserves the right to request further information from stores submitting an EoI form, as well as the Acorn and Viking T&S systems, to demonstrate compliance with the Track-2 eligibility criteria, after the EoI process has been completed.

If no other T&S systems come forward in this time period, Government will commence a value for money and due diligence assessment with the Acorn and Viking T&S systems. We will set out the process by which capture projects for Track-2 will be selected in due course.

If additional T&S systems that meet the eligibility criteria do come forward, Government expects to request further evidence and information from all T&S systems, including Acorn and Viking, and progress to an assessment and selection stage. The information requested at such an assessment stage is likely to be similar, in terms of detail and breadth, to the Track-1 Cluster Sequencing for CCUS deployment: Phase-1 process. We expect any Track-2 assessment process to be streamlined, building on lessons learned from Track-1.

In developing the initial Track-2 process and future rounds of expansion, Government is considering the Review of Net Zero chaired by Chris Skidmore MP, which included a recommendation that Government should take a pragmatic approach to cluster selection. This means allowing the most advanced clusters to progress more quickly. The Government response to the Review was published on 30 March 2023.

This publication is available from: www.gov.uk/government/publications/cluster-sequencing-for-carbon-capture-usage-and-storage-ccus-track-2

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