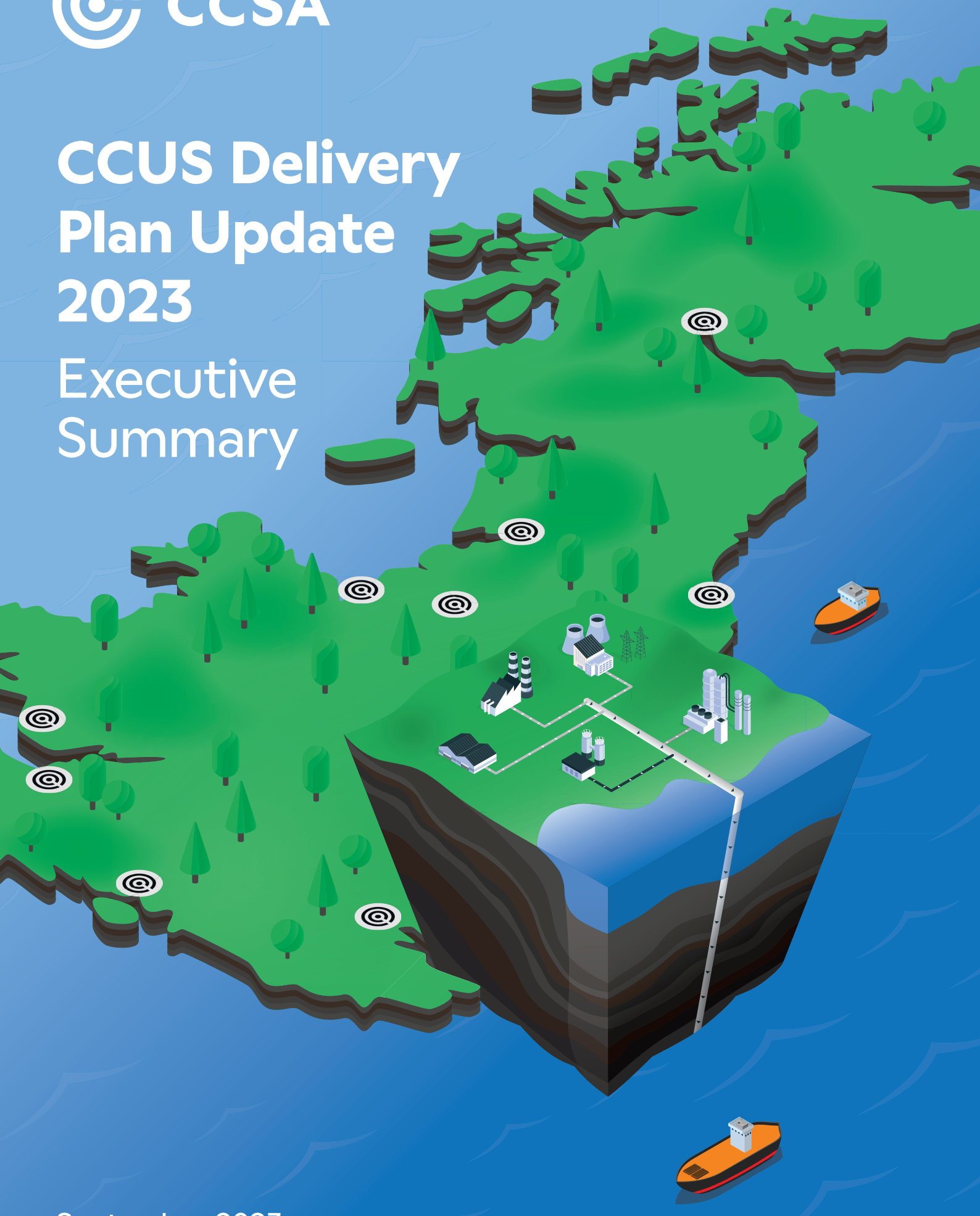
CCSA

CCUS Delivery Plan Update 2023

Executive Summary



September 2023

Foreword

This has been a critical year for the future of carbon capture, utilisation and storage (CCUS) in the United Kingdom.

Significant strides forward have been taken as the Government allocated £20 billion of revenue support to the industry. It also selected eight carbon dioxide (CO_2) capture projects from the first two Track-1 clusters to enter into negotiations, and chose the next two Track-2 clusters that will deploy before 2030.

The response of business has been positive. As this *CCUS Delivery Plan Update* sets out, the number of carbon capture and storage projects planned for the UK has grown from 55 projects to over 90, with enough schemes now in the pipeline to capture around 94 million tonnes (Mt) of CO_2– up 29% from 73 Mt last year. Collectively, these plans could make significant steps on net zero and deliver the government's target of capturing 50 MtCO_2/yr by 2035, if they come to fruition. There is tangible progress on supply chain engagement and an increased focus on skills within and between businesses.

The reward is clear. A vibrant CCUS industry could unlock almost £40 billion in direct investment to our country, deliver 70,000 new jobs and protect 77,000 more in existing carbon-intensive industries. This technology will not only secure the future of many of our UK-based industries, but also help to secure our energy supply in the long term with low carbon power, all whilst helping transition our expertise as an oil and gas producer, re-using the pipelines and underground stores which held carbon-based fuels for millions of years.

But as our *CCUS Delivery Plan Update* also sets out, the risks to successful deployment in the UK are just as clear. Almost a third of the potential projects told us they would consider relocating outside the UK if they cannot progress here, particularly as other countries begin to catch up and move ahead on support, regulation and licensing. At the time of publication, the UK has still not passed its Energy Bill – critical to enabling CCUS business models – into law, or set out a timeline for when the promised £20 billion will be spent and how it will be allocated across different sectors, nor set out the deployment plan called for in the government's Net Zero Review, necessary to drive investment in both the capture project pipeline and recently licensed storage facilities.

Many countries are interested in securing investment from CCUS innovators and not every country will win the chance to become an international hub for this new technology. Only a few places will secure the tens of thousands of jobs and export potential that can come from harnessing widespread global CCUS deployment. The United States has its Inflation Reduction Act acting as a global magnet for investment, and we can see Northern Europe and the Middle East all developing industrial strategies that are attracting international investors.

The opportunity is in our hands, which is why this autumn the Carbon Capture and Storage Association (CCSA) is launching a manifesto for the upcoming General Election year. We are inviting UK politicians on all sides to accelerate the execution of the first four clusters and build on this momentum to develop a world-leading UK CCUS industry.

Ruth Herbert
CEO, CCSA

Key achievements since our last Delivery Plan

Since our last delivery plan, published in March 2022, industry and government have worked together to progress towards enabling investment in large-scale CCUS towards the government's CCUS deployment and net zero targets.

There is still a lot to do to ensure delivery of CCUS, but significant highlights and achievements include:

Government has led on:

- ✓ allocating up to £20 billion in revenue support for early stage CCUS deployment
- ✓ selecting eight Track-1 Phase-2 CO_2 capture projects
- ✓ naming two Track-2 transport and storage (T&S) systems
- ✓ introducing the primary legislation needed for CCUS in the Energy Bill
- ✓ awarding 21 new CO_2 storage licenses
- ✓ working with industry to progress business models across the CCUS landscape
- ✓ working with industry to develop CCUS network codes
- ✓ developing secondary legislation on the dispatchable power business model
- ✓ consulting on secondary legislation for the hydrogen producer and industrial business models

Industry has led on:

- ✓ growing the pipeline of CO_2 capture projects from 73 $MtCO_2$/yr to 94 $MtCO_2$/yr
- ✓ maturing the pipeline of CO_2 storage projects and accepting 21 new carbon storage licences
- ✓ producing a CCUS Supply Chain Strategy, including Good Practice Guidance
- ✓ committing to an ambition of achieving 50% UK content across manufactured components and, goods and services provided which underpin CCUS
- ✓ publishing a Workforce & Skills Position Paper with recommendations to address shortages in the availability of skills for CCUS
- ✓ agreeing a strategic approach to communications for CCUS
- ✓ establishing and maintaining an effective dialogue with non-governmental organisations (NGOs)

* https://www.ccsassociation.org/wp-content/uploads/2022/03/CCSA-CCUS-Delivery-Plan-2035-MASTER-Final.pdf

Key findings from the CCUS Delivery Plan Update

Following the success of last year's *CCUS Delivery Plan 2035*, we have updated the key analysis and figures to reflect progress made by industry in the past year.

We updated the analysis on the project pipeline, to demonstrate and acknowledge the progress made by industry, and sent a survey to members. We hope this analysis will drive action from policy makers, in the aim of accelerating CCUS deployment including beyond the ongoing cluster selection process.

- **The carbon capture project pipeline has grown by approximately 30% since 2022, with over 90 projects now in development across the UK**
- CO_2 capture project developers have invested an estimated £814m in developing projects

- With only eight capture projects in Track–1 negotiations, the majority of this pipeline remains at risk
- **Government must increase the frequency of contract allocation rounds to meet targets and unlock further investment into the UK**

- There are now **12 clusters in development in the UK**, and following the latest NSTA licensing round, data collected for the Delivery Pan indicates that **licensed storage capacity may have increased by over a factor of 4**
- However, **developers of almost half the UK's storage capacity are unlikely to continue to invest without clarity on future support**

- Transport and storage (T&S) developers face uncertainty over the commercial frameworks for their stores. **The Government must publish a clear deployment plan for CCUS to 2035, with a vision to 2050 and beyond**
- This would incentivise investment now in the development of CO_2 stores that will be required post-2030 Government

- **Around a third of sites planning to retrofit carbon capture, and almost half of the T&S capacity in development, require non -pipeline transport (NPT)**

- **Government must define commercial models for NPT, particularly crucial for dispersed sites, if it wishes to meet mid-to-long long-term CCUS targets** and take advantage of a £30bn per year CO_2 storage export industry*

- 77% of project developers do not envisage deploying CCUS based on Emission Trading Scheme (ETS) pressure alone
- **29% of capture project developers consider relocating abroad if they cannot access T&S infrastructure and are unsuccessful in obtaining CCUS revenue support**

- **Attractive and accessible subsidy schemes overseas are competing for UK investment**, and action from policy makers is required to prevent critical growth industries leaving the UK

* CCSA analysis: assumes that government support package is available and volume of allocation rounds is sufficient to drive private sector investment in storage site development. Based on exploiting 2/3 of 78 Gt CO2 storage potential at an average long-run cost of £20/t. Value of onshore industrial inward investment not captured.

2023 data at a glance

UK Achievements

Up to **£20 billion** revenue support committed by UK Government

50% industry's ambition for local content

8 CO_2 capture projects in negotiation with government

21 new storage licenses, bringing the total up to **27**

4 clusters in negotiation with government

Global Developments

85 $/tonne subsidy for CO_2 storage

Target for **50 million tonnes** per year of CO_2 injection capacity by 2030

The CCSA has identified...

CO_2 capture project pipeline has grown from **73** to **94** $MtCO_2$/yr in **2022** $MtCO_2$/yr in **2023**

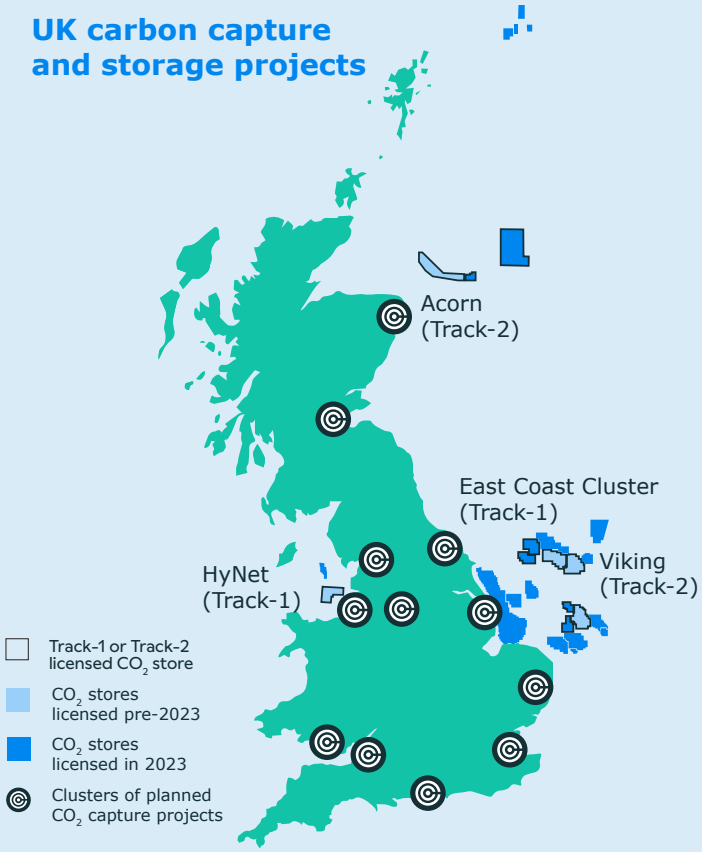
12 clusters in development

Over **90** CO_2 capture projects in development

Over £1 billion estimated investment to date by CO_2 capture project and cluster developers

CCUS will **create** over **70,000** new jobs and help **protect** up to **77,000** existing jobs

UK carbon capture and storage projects



Policy makers must take action...

1/3 of projects surveyed are **considering relocating their developments overseas** if they cannot access CO_2 infrastructure and are unsuccessful in obtaining CCUS support

1/3 of emitters currently planning to use carbon capture may need **non-pipeline transport** to access CO_2 storage

Updated project pipeline profile

The change to the profile of the CO_2 capture project pipeline since March 2022 indicates that the number of projects aiming to commission pre-2030 has reduced, but there is an increase in projects that are planning to commission in the 2030s.

This change in profile may be a reaction to the delays to the government's CCUS cluster programme as shown in figure 2, however there remains a healthy pipeline pre-2030 sufficient to meet the government's 2030 targets whilst ensuring competitive tension.

The government has committed £20bn of revenue support to help deliver CCUS projects. This will unlock similar levels of industry investment, front-loaded over the next few years, once contracts are signed. Over £1bn of industry investment into CCUS so far is just the tip of the iceberg – if the government can stimulate the industry to achieve its ambitions, total industry investment could reach around £40bn by 2030.

Figure 1:
Projects in negotiation and Projects at risk against Government 2035 ambition

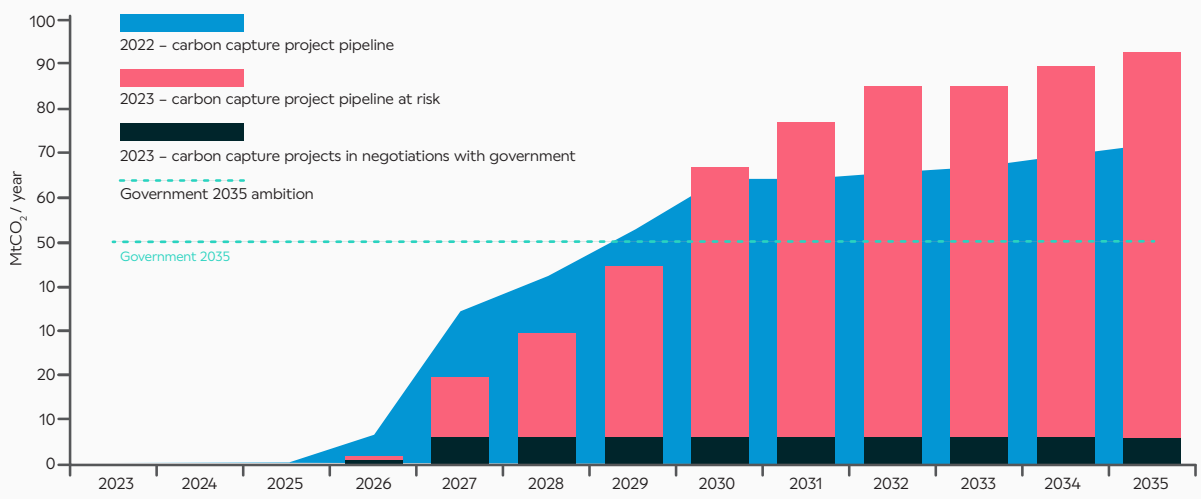
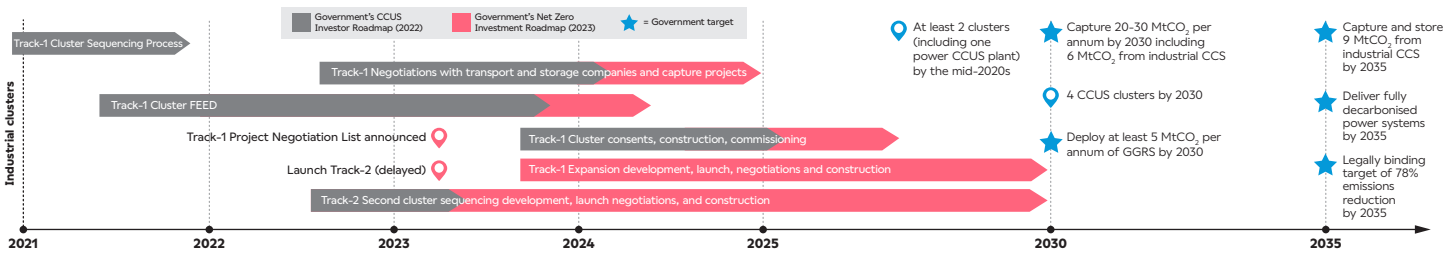


Figure 2:
Changes to the Government's Investor Roadmap timelines between 2022 and 2023



Update on 2022 Delivery Plan actions

This scorecard revisits the 10 most urgent actions that we identified in last year's delivery plan. Work is in progress across all actions, although some are falling behind schedule, making achievement of CCUS targets more challenging.

Not started

1. Hold regular funded contract allocation rounds

Since the last delivery plan, government has announced up to £20bn in funding for early stage CCUS deployment[1]. However, industry still needs certainty how this will be allocated amongst the first projects and what capital and revenue support that will be available for subsequent clusters and projects, and the timing and process for selecting them.

Behind schedule

2. Finalise business models across the value chain

The Transport and Storage Regulatory Investment model (TRI), Dispatchable Power Agreement (DPA), Industrial Carbon Capture business model (ICC) and Waste ICC are near completion, and the Low Carbon Hydrogen Agreement (LCHA) is well advanced. Whilst negotiations are continuing alongside business model development, it is increasingly urgent that outstanding issues are resolved swiftly so that the models can be finalised, to allow the clusters and projects to take final investment decision (FID). Greenhouse Gas Removals (GGRs) and Power Bioenergy with CCS (BECCS) are at earlier stages of development and will be needed for subsequent clusters and projects, including Track-1 Expansion and Track-2. Commercial models for non-pipeline transport, particularly crucial for dispersed sites, and CO_2 utilisation, are also yet to be defined[2].

Completed (late)

3. Launch the next cluster selection process in the first half of 2022

Government selected the first eight capture projects to connect to the Track-1 clusters in March 2023[3] and identified the two Track-2 Transport and Storage clusters in July 2023[4] (originally set out for Q3/4 and Q2/3 2022 respectively in Government's Investor Roadmap 2022), when it also announced the intention for a Track-1 expansion programme[5]. Investors are now waiting for the launch of the process to select Track-1 expansion and Track-2 capture projects, as the next opportunity for projects not successful to date.

Behind schedule

4. Legislate a policy framework to enable projects to develop at pace

The Energy Bill[6] provides the enabling legislation for the business models – Contracts for Difference (CfDs) for CO_2 capture projects and economic regulation for CO_2 transport and storage networks. Once this receives Royal Assent, it will need to be complemented by secondary legislation, which must be passed before CfDs can be signed.

On track

5. Gain consensus on UK strengths in product and skill areas to prioritise for investment

Government and industry have identified areas of comparative UK strength within the CCUS supply chain, where targeted investment, if provided in a timely way, could enable scale up of capacity, increasing UK content in the government's CCUS programme and creating a strong base for future exports. There are also areas where there is a significant gap to achieve the required future UK capability and capacity[7]. Industry has begun to engage with suppliers and potential suppliers to gauge potential and desire to move into the space.

Behind schedule

6. Incentivise UK content in the supply chain

Industry has published a strategy and committed to annual benchmarking and reporting on supply chain performance, to continually identify where future capability and capacity need to be addressed. This includes a voluntary holistic approach to defining and reporting UK content[8], particularly in supply chain procurement – due to be implemented by clusters by end of 2023. Government is yet to respond with targeted supply chain support to maximise UK content.

On track

7. Accelerate entry into the workforce to meet demand

The CCSA's Workforce & Skills position paper[9] has identified the need to consider transition pathways for the existing workforce as well as encouraging new entrants into the industry. While there are pockets of good practice, coordinated national action now needs to be taken across all sectors of the economy to address the skills gap for the net zero transition, both by encouraging new entrants and re-training existing workers.

Behind schedule

8. Accelerate permitting and consenting

The CCSA has worked with industry and regulators on potential solutions to permitting challenges related to provision of the infrastructure and capture projects. A clear permitting framework with associated guidance, taking into account devolved and local government responsibilities, needs to be published and adequately resourced.

On track

9. Rapidly bring additional storage capacity to a commercial level of readiness by 2030

Despite significant progress over the past year with the CO_2 storage licensing round accelerated by the NSTA and 21 licenses awarded[10], the lead time for development of licensed stores remains a lengthy 5-7 years[11], so new sites must be developed quickly to remain on track to meet expected UK demand for storage in the 2030s. Store developers need clarity on when they can obtain an economic licence as well as when they can take CO_2 from emitters outside of the UK, given that the UK has a large proportion of Europe's storage capacity. The Offshore Wind and CCUS Co-Location Forum has identified interactions and issues between different uses of the seabed[12] and a commercial agreement has been reached in relation to one site in the North Sea where two leases were issued for competing uses[13]. A clear strategy for early resolution of these issues, which could cause delays to future deployment, is still needed.

On track

10. Establish strategy to support national, cluster and project-level communications

CCSA members have produced a communications toolkit and guidelines to support communications, including alignment of messaging, and raising awareness amongst industries of the benefits of CCUS. It now needs to be implemented and continually reviewed and updated, to build public support, which is crucial for the successful deployment of CCUS and achievement of net zero.

Summary of New Analysis

Growth of projects needing CCUS and global competition

The capture project pipeline has grown by 29% from 73 $MtCO_2$/yr to 94 $MtCO_2$/yr, since 2022 - the equivalent of 28% of overall UK emissions[14] - signalling the significant investment† made by industry to meet the UK's decarbonisation ambitions. However, almost a third of the projects surveyed are considering relocating their developments overseas, including critical growth industries such as hydrogen, sustainable aviation fuel (SAF) production and GGRs.

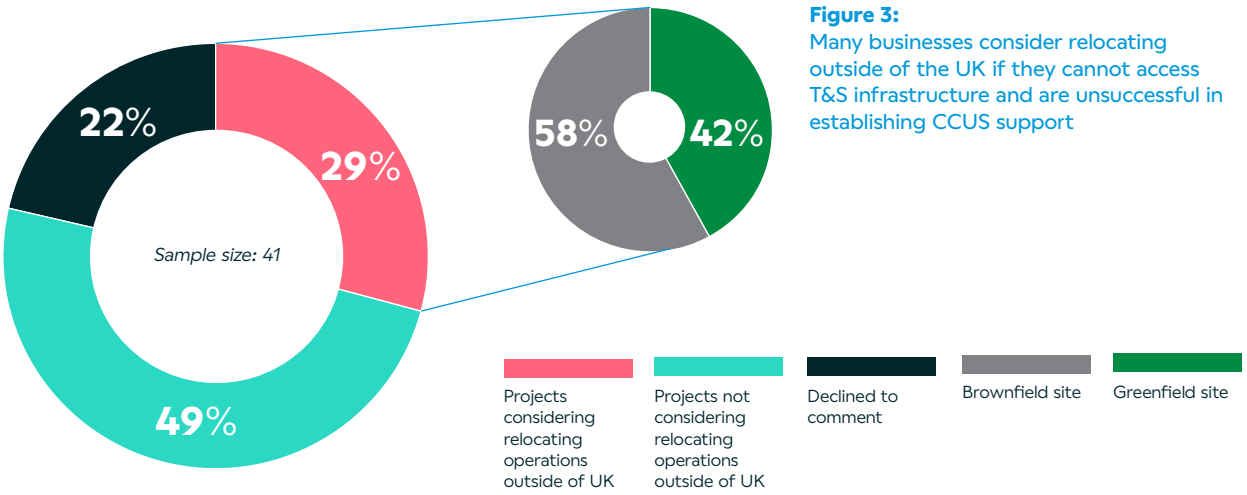


Figure 3:
Many businesses consider relocating outside of the UK if they cannot access T&S infrastructure and are unsuccessful in establishing CCUS support

New storage developments

The latest NSTA licensing round has significantly increased the pipeline of licensed storage and our data indicates that licensed storage volumes could now be sufficient to accommodate the current capture project pipeline out to 2050*. This may change as storage concepts are further appraised and developed. However, the commercial structure under which many of these storage sites will operate is currently unclear and without resolving this, not all licensed stores will reach operation. Only 31% of transport and storage (T&S) developers surveyed said they would continue to invest in their projects without clarity on government plans for future T&S systems beyond Track-2, in particular when they can obtain an economic licence and on what terms.

Development of non-pipeline transport (NPT)

Roughly one third of capture sites have indicated that they may require NPT - such as shipping, road or rail - to connect to CO_2 stores. As more projects emerge, particularly in dispersed locations, this proportion is expected to increase.

* Storage volume ($MtCO_2$) data used for this report is based on a combination of data collected through the CCSAs membership and announcements made by companies that were successful in the recent NSTA carbon storage licensing round.

† The calculated number from the survey of reported investment is £382m. If we extrapolate over the total pipeline of capture projects, the estimated investment could be as high as £1,042m.

Industrial emitters

The project pipeline of industrial and energy from waste (EfW) CCUS projects is around three times greater than the Government's 2035 ambition for industrial CCUS[15]. However, limited projects were successful in progressing to negotiations with the Government this year; one cement project, no refinery capacity, and in total only around a third of the required volumes for 2030[16]. If EfW is not counted towards the 2030 ambition, the projects that have progressed to negotiations with Government only account for a sixth of the required volumes.

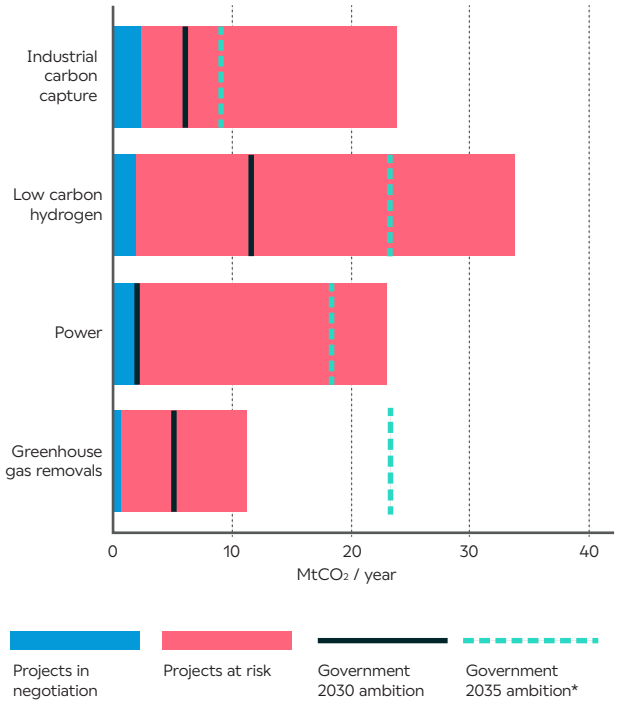
Energy security

The Government's target for a net zero power system by 2035[17] could require at least 10GW of power generation with CCUS, potentially requiring around 18 $MtCO_2/yr$** of carbon capture capacity – this contrasts with the 2030 goal of one power CCUS plant[18]. Similarly, the CCUS enabled hydrogen production projects currently in negotiation only correspond to a fraction (17%) of the Government's 2030 ambition of up to 5GW[19], and only around 5% of the total pipeline, which may be 'lifted and shifted' to other locations if investors do not see a clear strategy for the UK as a world-leading hydrogen economy.

Greenhouse gas removals

There is a greater than 10 $MtCO_2/yr$ pipeline of Greenhouse Gas Removals (GGRs) projects, more than double the Government's ambition of 5 $MtCO_2/yr$ by 2030[20]. There is an increasing demand from the aviation sector for these technologies, alongside Sustainable Aviation Fuel (SAF), however there is currently no clarity for these projects on access to CO_2 infrastructure within the first four clusters. This pipeline is at particular risk of leaving the UK as GGR technologies, such as bioenergy CCS (BECCS) and direct air capture (DAC), are more mobile and incentivised in other jurisdictions through attractive and accessible subsidy schemes.

Figure 4:
Updated CO_2 capture project pipeline by project type, compared to Government ambitions



* For information on the interpretation of government and CCC ambitions and estimated requirements, please see the Methodology section of this report. Energy from waste (EfW) emissions have been grouped with industrial carbon capture for illustrative purposes. For details on the categorisation of EfW in this report, please refer to the Methodology section.

** Captured CO_2 from power CCUS is highly dependent on plant efficiency and load factor assumptions. For information on the calculation used here, please see the Methodology section of this report.

Urgent action areas from 2023 onwards

There are five urgent actions that government and industry, with wider stakeholders, now need to take to deliver CCUS in a way that maximises the benefits to the UK and enables us to achieve net zero.

1. Enable timely cluster delivery

Now that the first four CCUS clusters have been selected, a clear focus must be on delivering them in a timely fashion: this must include allocating the £20bn from the 2023 Spring budget and committing to regular allocation rounds going forward. Government should set out clear processes and adhere to timelines to ensure all Final Investment Decisions (FIDs) can be taken in the next two years. Government and industry must work together to complete key actions, as any further delays or revised timelines will have a detrimental impact on delivery of targets by 2030.

2. Publish a clear deployment plan for CCUS to 2035

The first four clusters will establish the CCUS industry in the UK and their networks will need to continue to expand to meet demand, so the regulatory framework will need to enable investment now in expansion required from 2030. However, there are many other regions that will need to deploy CCUS if they are to decarbonise. In order to maintain investor confidence, prevent the loss of manufacturing jobs and meet net zero targets, government, working closely with industry, must publish a clear deployment plan for CCUS to 2035, with a vision to 2050 and beyond. This would need to include detailed plans to incentivise investment now in the development of CO_2 stores required post-2030, as well as in capture projects.

3. Accelerate permitting and consenting

Industry is still encountering challenges in permitting and consenting for CCUS deployment, both in terms of the time it takes, and the number of agencies involved. Government must take the lead in understanding, resourcing and streamlining the permitting and consenting pathway for projects and ensure that this is communicated to stakeholders. This includes engaging, funding and building capacity in regulators to implement CCUS legislation, as well as working with relevant agencies, regulators, devolved and local governments to provide a consistent approach to planning and permitting and improved coordination.

4. Deliver a healthy supply chain and skilled workforce

Industry now needs to implement annual benchmarking of local content delivery in line with CCSA's Good Practice Guidance. Increased engagement of the UK supply chain by CCUS developers will only be successful in driving up UK content if government also now provides some targeted support and intervention to supply chain companies in the high value opportunity areas identified, to increase capacity in areas where UK has comparative strengths. A cross-sector coordinating body for skills and training across the net zero transition needs to drive investment and ensure quality of jobs over the longer-term.

5. Build public support

The priority now is for government and industry to urgently work more closely together with academia and civil society to educate the public about CCUS. This includes local and national engagement to increase understanding and awareness, communicating the benefits of CCUS and addressing any areas of public concern.

Endnotes

1. HM Government (March 2023a) Spring Budget 2023. Available at: https://www.gov.uk/government/publications/spring-budget-2023 (accessed 19/09/23).
2. Details on all CCUS business models in development can be found at https://www.gov.uk/government/publications/carbon-capture-usage-and-storage-ccus-business-models.
3. HM Government (March 2023b) Cluster sequencing Phase-2: Track-1 project negotiation list, March 2023. https://www.gov.uk/government/publications/cluster-sequencing-phase-2-eligible-projects-power-ccus-hydrogen-and-icc/cluster-sequencing-phase-2-track-1-project-negotiation-list-march-2023 (accessed 19/09/23).
4. HM Government (July 2023), Update to industry on conclusion of the CCUS Cluster Sequencing Track-2 expression of interest. https://www.gov.uk/government/publications/cluster-sequencing-for-carbon-capture-usage-and-storage-ccus-track-2/update-to-industry-on-conclusion-of-the-ccus-cluster-sequencing-track-2-expression-of-interest (accessed 19/09/23).
5. HM Government (March 2023b) Cluster sequencing Phase-2: Track-1 project negotiation list. https://www.gov.uk/government/publications/cluster-sequencing-phase-2-eligible-projects-power-ccus-hydrogen-and-icc/cluster-sequencing-phase-2-track-1-project-negotiation-list-march-2023 (accessed 19/09/23).
6. UK Parliament (2023) Energy Bill. https://bills.parliament.uk/bills/3311 (accessed 19/09/23).
7. Arup (2023) 'A Remarkable New Infrastructure System': Opportunities for economic growth in the UK's Carbon Capture & Storage Industry. Available at: https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/1169222/ccs-supply-chain-uk-value-study-arup-pdfa.pdf (accessed 19/09/23).
8. CCSA (July 2023a) CCUS Supply Chain Good Practice Guidance Document. Available at: https://www.ccsassociation.org/wp-content/uploads/2023/07/CCSA-CCUS-Supply-Chain-Good-Practice-Guidance.pdf (accessed 19/09/23).
9. CCSA (July 2023b) Workforce & Skills Position Paper. Available at: https://www.ccsassociation.org/wp-content/uploads/2023/07/CCSA-Workforce-Skills-Position-Paper-1.pdf (accessed 19/09/23).
10. NSTA (September 2023) Net zero boost as carbon storage licences accepted. https://www.nstauthority.co.uk/news-publications/news/2023/net-zero-boost-as-carbon-storage-licences-accepted/ (accessed 19/09/23).
11. Based on figures from Exploration Task Force and CCSA stakeholder feedback.
12. The Crown Estate (2023) Offshore Wind and CCUS co-location. https://www.thecrownestate.co.uk/en-gb/what-we-do/on-the-seabed/energy/offshore-wind-and-ccus-co-location/ (accessed 19/09/23).
13. Buljan, A (June 2023) A win for coexistence in North Sea | BP and Ørsted reach agreement on offshore wind-CCS project overlap area. Available at: https://www.offshore-energy.biz/bp-and-orsted-reach-agreement-on-offshore-wind-ccs-project-overlap-area/#:~:text=%C3%98rsted%20and%20BP%20have%20reached%20an%20agreement%20on,they%20reached%20a%20commercial%20agreement%2C%20details%20remain%20undisclosed (accessed 19/09/23).
14. NSTA (September 2023) Net zero boost as carbon storage licences accepted. https://www.nstauthority.co.uk/news-publications/news/2023/net-zero-boost-as-carbon-storage-licences-accepted/ (accessed 19/09/23).
15. HM Government (October 2021) Net Zero Strategy: Build Back Greener. Available at: https://www.gov.uk/government/publications/net-zero-strategy (accessed 22/09/23).
16. HM Government (October 2021) Net Zero Strategy: Build Back Greener. https://www.gov.uk/government/publications/net-zero-strategy (accessed 22/09/23).
17. HM Government (October 2021) Net Zero Strategy: Build Back Greener. https://www.gov.uk/government/publications/net-zero-strategy (accessed 22/09/23).
18. HM Government (August 2023) The future policy framework for the delivery of power with CCUS: government response. Available at: https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/1179909/power-ccus-call-for-evidence-government-response.pdf (accessed 19/09/23).
19. HM Government (April 2022) British Energy Security Strategy. Available at: https://www.gov.uk/government/publications/british-energy-security-strategy (accessed 19/09/23).
20. HM Government (June 2023) Government response to the consultation on a GGR Business Model. https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/1164975/engineered-ggrs-government-response.pdf (accessed 19/09/23).

The Carbon Capture and Storage Association (CCSA) is the trade association focused on accelerating the commercial deployment of carbon capture, utilisation and storage (CCUS).

We work with our members, governments and other organisations to ensure CCUS is developed and deployed at the pace and scale necessary to meet net zero goals and deliver sustainable growth across regions and nations.

The CCSA has over 100 member companies who are active in exploring and developing different applications of carbon capture, CO_2 transportation by pipeline, ship and rail, utilisation, geological storage, and other permanent storage solutions, both end-users of the technology and those in the supply chain, as well as members from management, legal and financial consulting sectors.

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