

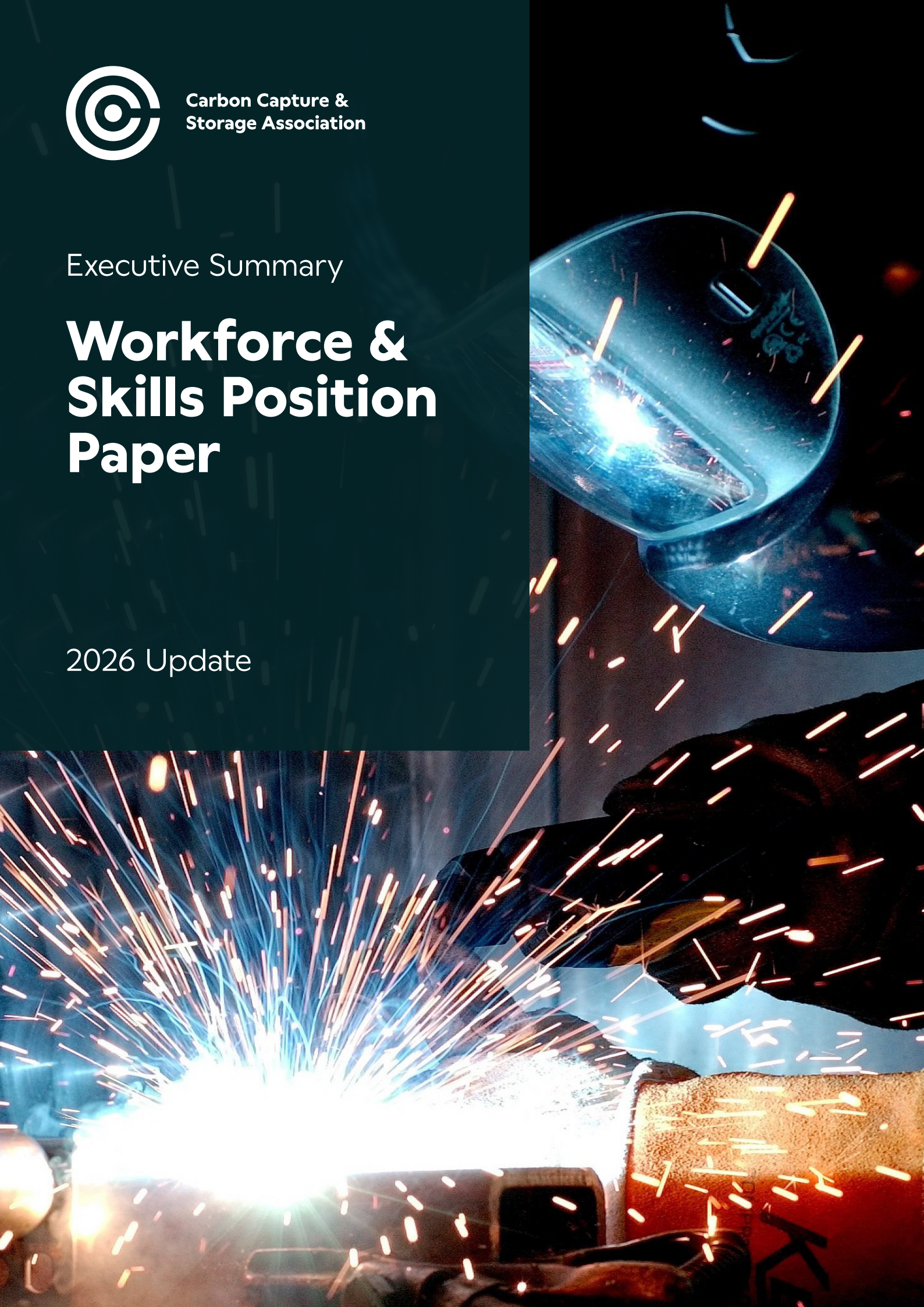


Carbon Capture &
Storage Association

Executive Summary

Workforce & Skills Position Paper

2026 Update





Executive Summary

The UK's Carbon Capture, Utilisation and Storage (CCUS) sector is at a pivotal moment.

Since the publication of the Carbon Capture & Storage Association (CCSA) Workforce and Skills Position Paper in July 2023, government, industry, and stakeholders have made major strides towards deploying CCUS in the UK. The government committed £21.7 billion in funding over 25 years to support initial projects, and five CCUS projects across two clusters have now reached final investment decisions and have moved into construction.

Despite this success, the sector faces significant pressures. Delayed policy decisions across multiple governments have meant that many projects, especially those outside of the committed clusters, still lack clarity on their route to market. The result has been a noticeable impact on expected project delivery dates and investor confidence. As detailed in the CCSA UK Delivery Plan Update 2025, if positive momentum stalls, restrictions on project development funding may follow, risking the loss of a fully self-sustaining CCUS industry and the substantial economic benefits it could deliver.

With the first projects entering construction, focus now inevitably turns

to delivery of these projects on time and on budget. One of the key factors affecting project delivery is the availability of a workforce which is able to bring projects through initial design, to fabrication and construction, and eventual operations.

Since 2024, the government has placed skills system reform and workforce planning at the top of their policy and legislative agenda – reflected in the wide variety of publications and strategies that have been published to date. We commend the government's focus on this, support the progress made to date, and offer our reflections throughout this update to the Workforce and Skills Paper to highlight where further progress is still needed.

This work has been developed by members of the CCSA Workforce and Skills Working Group. We thank all the members for their contributions.

The full Workforce and Skills Position Paper 2026 Update will be available separately, along with a case study report detailing the various interventions CCSA members are undertaking to tackle workforce challenges and develop complimentary skills initiatives.



The Opportunity

CCUS projects and clusters offer tremendous employment opportunities.

Research in 2024 by the Green Jobs Delivery CCS Task and Finish Group showcased the job opportunities and workplace roles that will be needed for the transport and storage (T&S) activities of CCS operations. This analysis indicates these T&S roles could account for 20-30% of direct labour demand for the CCUS sector as a whole, suggesting a total industry peak of 15,000 direct roles in a single year, through to 2030 (figure 1 and 2).

This analysis also highlights that almost 50% of the workforce, associated with CCS T&S projects, is in onshore construction, with many required skillsets common to

other infrastructure projects associated with net zero. Subsea/offshore construction, civil engineering, project management, and the operations workforce comprise the majority of the remaining workforce requirements.

National level CCSA analysis shows that if policy development can effectively stimulate the industry to achieve its full capability, deployment of CCUS could create 50,000+ new jobs across the UK's industrial clusters and their supply chains by 2050. This will also protect tens of thousands of jobs in existing industries, with the majority of these jobs being in regions such as Yorkshire & Humber, Wales, and the Northwest of England.

The Prize

Collaborative action needs to be taken by government, industry and other stakeholders to ensure that the benefits to the UK economy and the workforce are maximised. The aim is to ensure that:



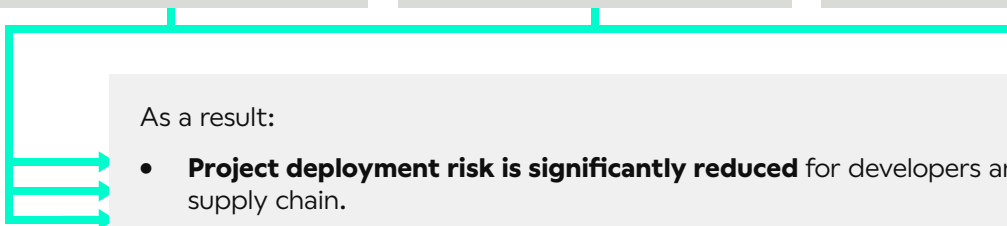
People with **the right skills are available** in the right places and at the right time.



Job and career opportunities are **embedded in local areas**, building pride in place.



The skills system is agile and is able to flex to demand – with skills transferability enabled across regions and sectors.



As a result:

- **Project deployment risk is significantly reduced** for developers and the supply chain.
- **Cost-effective and targeted interventions** can be planned across all levels of the skills system - with accurate information on timing and skills/jobs needs.
- **Financial and social benefits can be captured;**
 - by reducing costs associated with not having critical skills available at the right time;
 - the social return on investment for well targeted training programmes that transitions workforce's from an industry in decline into new opportunities;
 - and improved inclusion through well-directed training, for instance for veterans or women returning to work.



Alongside the five projects that have reached final investment decisions in 2024 and 2025, there are a large number of additional clusters and projects in the pipeline looking to deploy over the coming decade, with considerable associated job opportunities.



Scottish Cluster

- Create **15,500** development, construction and operation jobs.
- Safeguard **18,800** jobs across the UK by 2050, including 12,100 across Scotland.

EAST CO₂ EAST CLUSTER

East Coast Cluster

- Generate **9,400** direct and **12,300** indirect construction jobs per year.
- Support an average of **25,000** jobs per year across Teeside and the Humber



Viking CCS

- Enable **20,000** new jobs at the peak of construction, with **4000** permanent jobs after 2035.
- **20,000** high value industrial jobs safeguarded in the region.

HyNet

HyNet

- Create **6,000** new employment opportunities and safeguard existing jobs across the region.



Morecambe Net Zero | Peak Cluster

- Peak Cluster will safeguard **2000** jobs at the cement and lime operations, and create an additional **1500** roles during construction.
- The MNZ | Peak Cluster partnership could create and safeguard **13,000** jobs across Derbyshire, Staffordshire and Cumbria.



South Wales Industrial Cluster

- The SWIC, which encompasses a range of industries including CCS, represents over **113,000** Wales based industry and manufacturing jobs that would be preserved and secured.
- There would be a net gain of **5000** jobs in supporting industries and clean energy infrastructure.

****Please note:** We do not include all the CCUS clusters that are currently in development in the UK. We also only include publicly available cluster-level estimations of jobs (which are subject to different accounting methodologies and assumptions).



Figure 1:

Sector modelling demonstrating the total direct T&S jobs (across asset owners and tier 1 EPCm companies) for four cluster projects; one project entering FEED by 2030; and a medium number of capture projects per cluster.

- Onshore Construction
- Operations
- Subsea and Offshore Construction
- Engineering, Project Management & Misc. Roles
- Subsurface and Wells

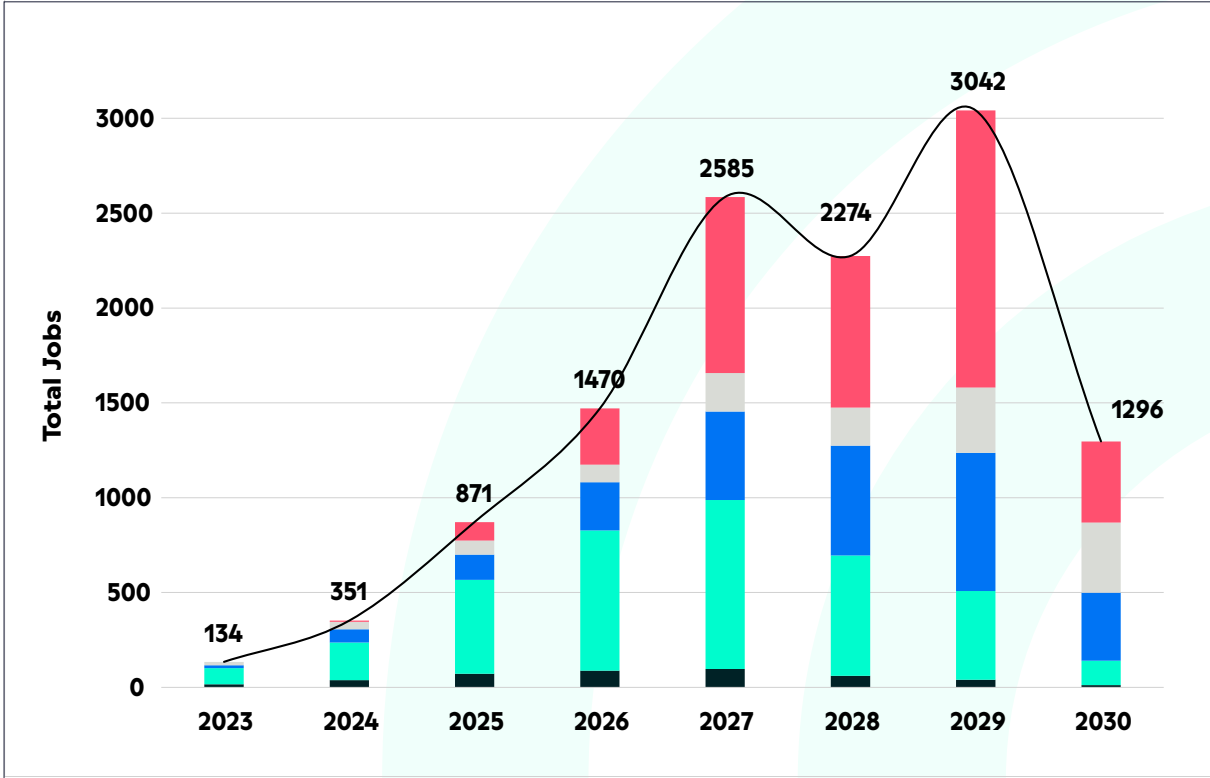
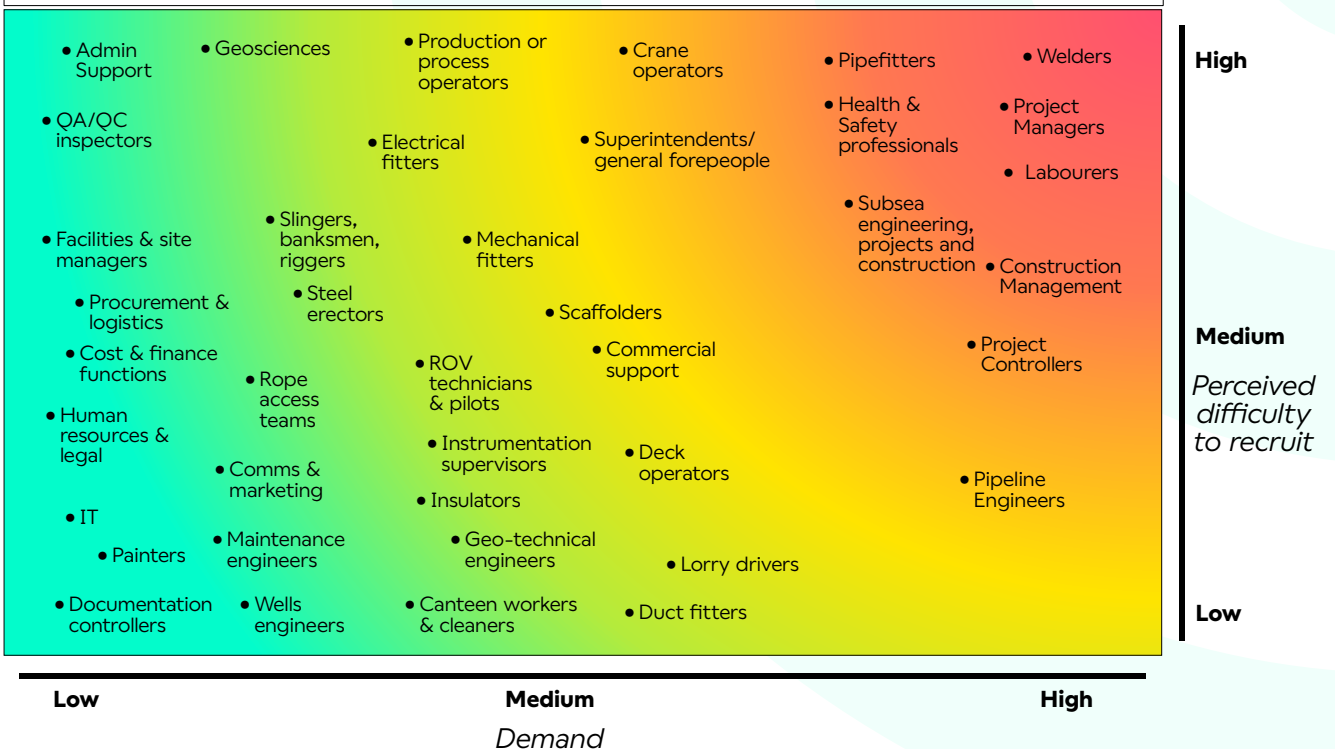


Figure 2:

Occupational heat mapping analysis demonstrating the perceived difficulty to recruit specific roles required by CCUS projects against the level of demand for those roles.





Challenges

The CCSA has identified several key workforce and skills challenges facing the CCUS sector. Some are unique to CCUS; others are applicable across sectors involved in the net zero transition and beyond. Without action to address them, the challenges are likely to be exacerbated, and opportunities for growth could be missed.

The six critical challenges that must be addressed to enable CCUS projects to deploy where and when they are needed are:

- 1** Lack of CCUS **project pipeline certainty**
- 2** **Lack of skills provision & uptake** in a number of critical areas which are vital for a competent CCUS workforce, such as engineering, construction and geosciences
- 3** **Limited awareness** of the specific skillsets & routes to competency needed for CCUS or the employment opportunities created by CCUS
- 4** International and domestic **workforce competition**
- 5** The **complexity** and flux of the UK skills and education system
- 6** An ageing & **declining pool** of existing workers

In addition to these critical challenges, we highlight six additional challenges:

- 7** Economic, geographical & social mobility barriers to training, reskilling
- 8** Shortages of trainers & mentors with the right expertise
- 9** Difficulties with recruiting workers in high demand low supply areas
- 10** Low levels of diversity and inclusion
- 11** Lack of skills transfer programmes
- 12** Inconsistent jobs accounting



Recommendations

The CCSA propose a number of key recommendations for government, industry and stakeholders to take forward in partnership; in light of recent reforms and policy development. **Every stakeholder has a role to play in delivering of these recommendations.** They are grouped into **four principles** (Certainty, collaboration, Clarity and Creativity) **with three key actions underpinning each principle.**

Recommendation Principles

Recommendation Actions

Certainty of job prospects and continued careers is the clearest mechanism to attract people to CCUS. Consistent policy and clear market signals will enable the skills system to more effectively rise to the challenge

1. Provide long-term policy, project pipeline, and funding clarity for the CCUS sector
2. Provide clear workforce standards and defined competency pathways for CCUS roles
3. Publish clear, forward-looking CCUS workforce demand projections and labour market intelligence insights

The skills challenges facing the UK economy can only be tackled by collective **collaborative** actions, delivered in strategic partnership across value chains and stakeholders

4. Facilitate cross-cluster and cross-sector knowledge and best practice sharing to avoid costly duplication
5. Co-design employer-led training, apprenticeships, and reskilling schemes
6. Coordinate place-based CCUS skills delivery, including across clusters and regions

The UK skills system is highly complex, has undergone significant reform in recent years, and will need to change further (with employers helping to shape its design) to adapt to demand. **Clarity** on the policy direction, and how new initiatives will interact is essential to ensure that all stakeholders are working to shared goals

7. Bring CCUS opportunities and careers to life
8. Simplify and clarify the education & skills system
9. Continue with apprenticeship system reform in England in partnership with employers, and make apprenticeships more attractive and accessible

Developing the skills required for a future UK economy, which is able to tackle key challenges such as delivery of net zero and continued economic prosperity, will require **creatively** combining established training practices with new ways of thinking

10. Consider a whole-of-government approach to address wider factors, beyond direct job or training creation, which affect retention
11. Use innovative levers to expand workforce supply at pace
12. Explore novel approaches to training provision and trainer availability



About the CCSA

The CCSA is the lead trade association accelerating the commercial deployment of CCUS, with offices in the UK and Belgium. We work with members, governments and other organisations to ensure Carbon Capture Utilisation and Storage (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 represents more than 120 member companies engaged across the full carbon management value chain - including carbon capture and removal technologies, CO₂ transportation by pipeline and ship, utilisation, and geological and other permanent storage solutions. Our membership spans power generation, industrial production, waste management, fuels and hydrogen producers, as well as engineering, construction, supply chain specialists, and legal and financial advisers.

www.ccsassociation.org

