



CCUS

Insight Report

December • 2022

Executive summary

In the global effort to reduce emissions in the atmosphere, carbon capture, utilisation and storage (CCUS) has been called to arms to aid the energy transition. The wonders of carbon capture lie in its applicability across all emitting industries and the harmonies the technology has to oil and gas infrastructure and expertise. What is required next for the sector is wide-spread scalability. With over 200 carbon capture developments announced worldwide since 2020, the renewed momentum for the industry is undeniable. This is primarily being driven by strengthened climate



commitments, prompted by the targets set by the 2015 Paris Agreement and the 2018 IPCC Special Report on 1.5°C in the movement to tackle the climate emergency. It has caused mitigation interests to go further than renewables and power generation, to a focus on technologies that can reduce emissions in not only the energy sector. There is still some uncertainty lingering around the carbon capture market, with its chequered history and the effectiveness of technology in mitigating climate concerns being called into question. However, the market has been developing since the 90s and offers up proven expertise and R&D efforts to demonstrate it as a viable technology to decarbonise hard to abate sectors.



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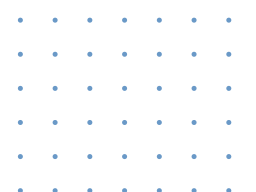
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'Transition' is a key term in this pivotal era towards a more sustainable future. As energy security is called into question, the use of oil and gas (O&G) has been put back on the agenda. Through the use of carbon capture technology, O&G operations can be undertaken in a greener fashion, creating some longevity in the sector whilst supporting the world's changing energy system. Majors from the sector are also able to bring investment and knowledge share for carbon capture developments. Many CCUS proposals are being delivered by a mixture of industry specialists emphasising the collaborative thinking needed to make the projects a reality. Similarly, as the world aims to phase out coal and gas fired power plants, carbon capture is able to support this move away especially in developing countries where the reliance is much greater. Besides mitigating emissions, carbon capture is able to deliver negative emissions in the form of bioenergy with carbon capture (BECCS), direct air capture (DAC) and natural resources (carbon sinks).

As an accepted technology to aid the energy transition, several agendas need be accomplished in tandem to achieve regional and global net zero goals. To ensure the market is kept competitive and profitable, policies and business models need to be published urgently to support the developing supply chain and encourage companies of all size and expertise to move into the sector. Standardisation of materials and equipment is also a key priority as it will prevent further silos being created across the sector. Increased investment from public and private entities will help attain cost effective net zero emissions in four main ways: achieving deep carbonisation in hard-to-abate sectors, enabling the production of low-carbon hydrogen at scale, providing low carbon dispatchable power and delivering negative emissions. As the CCUS market will have to compete with other growing sectors, like offshore wind, the delivery of the projects is a matter of urgency. It is important to build upon the growing momentum for the sector and deliver on the value carbon capture has to offer.

This report will look at the strengths and needs of the supply chain. Key regions will be explored and the policies in place to support the growing carbon capture market. EIC's supply chain analyst, Christopher Shirley, and his team undertook a supply chain mapping exercise for the UK of which the results are shared within this document.



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