

Foreword

The International Energy Agency (IEA) has long highlighted that there are no single or simple solutions to reaching international energy and climate goals. Doing so requires a wide range of technologies, some more mature than others. Our revamped *Energy Technology Perspectives* series, of which this special report is a key part, has done important work in illuminating the contours of the major energy technology challenges we face today – and how to overcome them. The analysis shows that one of the key technology areas for putting energy systems around the world on a sustainable trajectory will be carbon capture, utilisation and storage (CCUS).

In a path towards meeting international goals, CCUS is the only group of technologies that contributes both to reducing emissions in key sectors directly and to removing CO₂ to balance emissions that cannot be avoided. This is a critical part of reaching “net” zero targets.

Today, there are only around 20 commercial CCUS operations worldwide – nowhere near the amount required to put global emissions on a sustainable path. But momentum is growing – and through smart policies, investments and international co-operation, governments and companies across the globe can give CCUS the boost it needs.

The United States has helped spur the development of CCUS facilities in its energy system through its innovative 45Q tax credits. And just before the launch of this special report in September 2020, Norway showed its leadership in Europe by making a major funding commitment to the Longship project. Longship will connect two different plants capturing CO₂ in Norway with the Northern Lights storage facility deep under the North Sea. Northern Lights will be able to receive CO₂ captured in neighbouring European countries, as well, thereby playing an important role in meeting not just Norway’s ambitious climate goals but those of the entire region.

Plans for more than 30 commercial CCUS facilities have been announced in the last three years – mainly in Europe and the United States, but also in Australia, the People’s Republic of China, Korea, the Middle East and New Zealand. Projects now nearing a final investment decision represent an estimated potential investment of around USD 27 billion – more than double the investment planned in 2017.

Co-operation – across borders, and between government and industry – is critical if CCUS is to grow at the pace needed to meet energy and climate goals. The IEA is committed to playing a leading role in those efforts, as demonstrated by this special report and the ongoing work of the Agency’s team of CCUS analysts.

Markets alone will not turn CCUS into the clean energy success story it must become. But governments and industry today have the chance to combine their forces to realise the environmental and economic benefits that CCUS offers. Without it, our energy and climate goals will become virtually impossible to reach.

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