

Carbon capture utilization and storage (CCUS) – it’s happening now! However, are there still any challenges?

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Abstract. These days we see a growing interest and more concrete project plans for CCS in many European countries but with a pathway to “Net Zero”, we are far from on-track! This definitely implies a stronger push for CCS in Europe.

Although we can show 26 years of permanently stored CO₂ in deep geological formations offshore Norway, heavily studied and monitored, there are still many questions about whether CCS is a safe and viable technology. Based on this experience and many years of research and development, we can conclude that this is a viable and safe technology.

We know that we have a large storage capacity for CO₂ on land and offshore in Europe, and we have large CO₂ emissions that need to be captured. If CCS is to achieve the economies of scale necessary to reduce costs and develop technology, cooperation is needed. Like other technologies that are expensive at the start, CO₂ capture needs to be more efficient and by that less expensive and we need an effort to speed up the mapping and characterization of safe CO₂ storage capacity.

However, CCUS is the lowest cost, or only, option for many industries to decarbonize, and these industries will be fully exposed to the carbon price by 2023, so CCUS is essential to deliver large-scale and permanent removal of CO₂.

To contribute to the development of technology for capture, transport, and storage of CO₂, with the ambition of achieving a cost-effective solution, the Norwegian government decided in 2020 to develop a full-scale carbon capture and storage project, called Longship.

As a result of this decision, we now see that the next phase for CCS is already underway with a growing interest in new areas for CO₂ storage and more industrial demonstration projects for emission reductions. For Longship to be a success for the future, other countries must make use of the technology and learn from the project.

On the Norwegian continental shelf, three licenses for offshore storage of CO₂ have been awarded in recent years, these involve 5 companies, and new license applications and new companies are on the way. These companies have presented clear projects involving the entire business chain.

We have the knowledge and the technology is ready, so why isn't the CCUS flying? Perhaps it is about setting clear political goals, transporting CO₂ across national borders, removing potential regulatory barriers and developing new business models. Easy? Let's talk about it and cooperate.

Keywords: CO₂ storage, CCUS, business models, cross-border cooperation.