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ON THE PATH TO NET ZERO

# CCS: INDISPENSABLE FOR MANY INDUSTRIES!

To successfully combat climate change, we will need all available technologies and collectively have to make huge efforts to reduce emissions. Carbon capture and storage (CCS) can particularly be used to permanently and safely sequester unavoidable CO<sub>2</sub>. Science and research have confirmed that capturing and storing CO<sub>2</sub> emissions is absolutely essential and will make a major and favourable contribution to climate protection. Furthermore, the International Energy Agency (IEA) and the Intergovernmental Panel on Climate Change (IPCC) assume that the EU will not be able to achieve its climate targets without CCS. For these reasons, and thanks to its in-depth expertise in energy, subsurface reservoirs, offshore technology and pipelines, Wintershall Dea is committed to the increased and responsible use of this technology throughout Europe.

## Effective climate protection in Europe

Although Germany needs this technology more urgently than other countries owing to its many heavy industries there are still several obstacles for CO<sub>2</sub> storage in this country's offshore areas. At the same time, Norway, Denmark and the Netherlands have emerged as the leaders in this field of technology. In addition, the European Commission has also acknowledged the technology's potential and provides financial support. For example, both Kadri Simson, the European Commissioner for Energy, and Frans Timmermans, European Commission Executive Vice-President for the European Green Deal, are in favour of the "climate-protection instrument CCS".

## Germany must play its part

Various studies have shown CCS's potential to contribute to achieving the EU's climate targets. Nevertheless, German policymakers continue to have reservations. For example, the transport of CO<sub>2</sub> to countries like Norway, Denmark and The Netherlands is dependent on the ratification of Article 6 of the London Protocol. This is a topic that the IEA has been criticising for more than a decade<sup>1</sup>. The London Protocol came into force in 2006 and aims to protect the marine environment<sup>2</sup>. Especially Norway has much experience in dealing with offshore CCS, and Wintershall Dea has been directly involved in safely storing CO<sub>2</sub> underneath the seabed in Norway for over a decade.

## On the path to "Vision Net Zero" with a safe technology

CCS is the permanent underground storage of CO<sub>2</sub> in geological structures, such as depleted offshore gas and oil reservoirs. Deep saline aquifers (i.e. rock layers with a high salt-water content), which are also found under the North Sea, are well suited for the permanent storage of CO<sub>2</sub>. CCS can reliably and cost-effectively decarbonise sectors of the economy in which CO<sub>2</sub> emissions are difficult or even impossible to avoid. And utilising CCS in the production of hydrogen from natural gas is an additional way to decarbonise the industry.



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A significant part of Germany's total greenhouse gas emissions, which amount to roughly 760 million tonnes annually<sup>3</sup>, cannot be further reduced even by using avoidance measures. Especially in the energy-intensive industries that are of great importance to Germany – such as steel, chemicals and cement, but also in agriculture – there are processes that will not be able to be made emission-free in the foreseeable future. One realistic and credible solution to decarbonise these industries in an affordable way – and thus preserve Germany's business competitiveness – is the storage of residual emissions.

## Having the right policy framework will result in more climate protection and create markets of the future

These unavoidable emissions can already be stored offshore. Especially Norway, but also Denmark, are offering its services as a reliable partner with sufficient capacities and expertise. The capacities in the North Sea alone are equivalent to 50 times the EU's emissions in 2019. Although Germany and Norway agreed in a joint statement<sup>4</sup> in March 2022 to strengthen their energy partnership and to jointly develop infrastructures for pipelines, hydrogen and explicitly also CCS, the implementation of the London Protocol is not yet being advanced with the requisite drive.

## What we are calling for

- #1 To unlock the potential of CCS, we need an appropriate legal framework.** Bilateral agreements between Germany and other European countries that conform with the London Protocol are necessary in order to be able to export CO<sub>2</sub> and to enable the storage of CO<sub>2</sub> in partner countries.
- #2 In order to store CO<sub>2</sub> safely in the long term, it must also be possible to conduct CCS-related research and development in Germany.** German industries need this support for the energy transition. What's more, in order to maintain their competitiveness, Germany and Europe should make every effort to assume a pioneering role on the international level in the development of climate-friendly key technologies.
- #3 Allow and support a variety of technologies because carbon management is a market of the future:** Experts believe that demand for avoiding and reducing CO<sub>2</sub> will skyrocket as soon as the technology is available across Europe. This will have two positive impacts: The technology will become more scalable and consequently more competitive, and markets of the future will emerge – including in the hydrogen sector. In this way, industry, research and politics will be able to make their contribution to helping Europe to become the first climate-neutral continent in the world while safeguarding its economic prosperity at the same time.

<sup>1</sup> Source: Carbon Capture and Storage recommends that international legal obstacles associated with global CCS deployment be removed by 2012 – including the prohibition on transboundary CO<sub>2</sub> transfer under the London Protocol. (<https://www.iea.org/reports/carbon-capture-and-storage-and-the-london-protocol>)

<sup>2</sup> Source: Article 6 of the London Protocol fundamentally prohibits Contracting Parties from exporting wastes or other matter – including CO<sub>2</sub> – to other countries for dumping or incineration at sea. Art. 6 para. 2 of the London Protocol, as amended in 2009, provides for an exemption for CO<sub>2</sub>, but this has not yet entered into force. A "provisional application" of the 2009 amendment for CO<sub>2</sub> exports, which has been possible since 2019, requires that the countries involved agree on the modalities of the export in bilateral agreements – but Germany has yet to conclude any such agreements.

<sup>3</sup> Source: <https://www.umweltbundesamt.de/en/data/environmental-indicators/indicator-greenhouse-gas-emissions#assessing-the-development>

<sup>4</sup> Source: 20220316-joint-statement-norway.pdf (bmwk.de)

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