PRESS RELEASE

WINTERSHALL DEA HELPS SHAPE THE WILHELMSHAVEN ENERGY HUB

- Hydrogen and CCS: working in tandem to decarbonise German industry
- Major project aims to produce 5.6 TWh hydrogen a year using green electricity and Norwegian natural gas
- Safe, scalable offshore storage of carbon dioxide from industrial emissions planned
- Federal Minister Dr. Robert Habeck visits the planned EnergyHub in Wilhelmshaven on 05 May 2022

Wilhelmshaven / Kassel / Hamburg. Wintershall Dea, Europe's leading independent gas and oil producer, is planning a major new project to produce clean hydrogen in Germany and store carbon dioxide underground in the North Sea. The reason: industry and households continue to need a flexible and secure energy supply, and CO2 emissions must be reduced at the same time. And these goals need to be achieved in a way that strengthens Europe's energy security, independent of global dynamics.

Wintershall Dea's project, BlueHyNow, will be developed on the German North Sea coast at Wilhelmshaven. Wilhelmshaven already boasts strong, networked infrastructure: two nearby landing points for gas from Norway, the possibility of hydrogen storage in neighbouring facilities, and a direct link to the planned German hydrogen network. It has a deep-water port where large tankers can also dock. And CO_2 can also be transported from Wilhelmshaven. Work on setting up a first LNG terminal in the coastal town in Northern Germany is now also beginning.

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With the BlueHyNow project, Wintershall Dea aims to produce eco-friendly hydrogen from natural gas at the Wilhelmshaven energy hub. The project aims to produce over 200,000 cubic metres of hydrogen per hour. That equates to 5.6 TWh per year or – by way of comparison – around three times the energy consumption of the Volkswagen plant in Wolfsburg, Germany, in 2019. The plant at Wilhelmshaven is to be operated using green wind power from the North Sea.

The produced hydrogen will be fed into the pipeline network and supplied to industrial customers, who by using the decarbonised fuel will reduce their CO_2 emissions. CO_2 separated off during the production of hydrogen will be shipped by sea to offshore locations in in Norway and Denmark and stored under the seabed in underground reservoirs. By setting up this CO2 storage infrastructure, the project will also enable storage of unavoidable CO_2 emissions from energy-intensive industries. It could even facilitate negative emissions if bioenergy is used with carbon capture and storage (BECCS).

Mario Mehren, Wintershall Dea's Chief Executive Officer, is convinced: "Our project stands for progress. For Germany's net zero emissions targets, for Germany's industrial competitiveness, and for a safe, secure and flexible energy supply. With this project we will strengthen the existing Wilhelmshaven energy hub and take a major step towards a clean, climate friendly future."

Meeting growing hydrogen demand

Hydrogen is regarded as a key element of a climate-neutral energy supply. But Germany faces a looming and significant capacity gap without new projects like BlueHyNow.

According to recent forecasts the country's hydrogen needs will rise from a current 55 TWh per annum to between 90 and 110 TWh by 2030. That projected demand could even rise further,

as a result of current European initiatives such as REPowerEU or the new gas package. The current plans in the German government's coalition agreement will add around 28 TWh a year. If green hydrogen imports increase in the long term, BlueHyNow will be enabled to respond flexibly to production outages and secure the supply of hydrogen.

"Industrial customers need certainty that they will be able to obtain sufficient quantities of hydrogen in the near future. Otherwise, there is the risk that Germany's national hydrogen strategy will become futile. We need hydrogen from diverse sources, with competitive production. Climate friendly hydrogen from natural gas is an essential part of the solution," states Mario Mehren.

CCS – a vital component of the future energy matrix

In studies by Germany's Öko-Institut and Agora Energiewende[1], CCS is explicitly cited as a necessary technology, if we want to meet climate policy targets. It has huge potential. It is believed that the North Sea could store 50 times more CO_2 than was emitted in the entire EU in 2020.[2]

While Norway has been using CCS safely for around 40 years[3], Denmark and the Netherlands are now also pushing CCS technology. Cross-border transport of CO_2 from Germany to these countries is technically feasible. However, inter-governmental agreements based on the London Protocol must first be created. Intensive efforts are under way to achieve that.

[1] Klimaneutrales Deutschland 2045 ("Climate-neutral Germany in 2045"; German only) (page 3), from the Öko-Institut, Prognos & Wuppertal-Institut (2021). Commissioned by Agora Energiewende and the foundation Stiftung Klimaschutz.
[2] https://wintershalldea.com/de/newsroom/ccs-ein-wegbereiter-fuer-die-vision-net-zero
[3] Norwegens Ministerpräsident in Berlin: CCS macht den Unterschied – BusinessPortal Norwegen ("Norway's Prime Minister in Berlin: CCCS will make the difference"; German only) (businessportal-norwegen.com)

There are however also highly promising CO_2 reservoirs off the German North Sea coast, outside Germany's territorial waters, but within its own exclusive economic zone. Studies put the total CO_2 storage potential in the German North Sea at around 2.9 billion tonnes.[4] Wintershall Dea is therefore in favour of modernising the legal framework so that offshore CCS can also be implemented in Germany.

Wintershall Dea has already identified suitable locations, for establishing hydrogen production and with a view to links with the port in Wilhelmshaven so that CO_2 can be shipped. The company is also involved in Greensand project in the Danish North Sea. There, up to 8 million tonnes of CO_2 a year are to be stored in geological formations below the North Sea's bed. The company is also very active in Norway and is moving forward with its first CO2 storage licence application. By undertaking these projects and through other measures, Wintershall Dea wants to achieve its goal to save 20 to 30 million tonnes a year by 2040. That's equivalent to the CO_2 emitted by around 20 million midrange cars.

"Wilhelmshaven is an ideal location for BlueHyNow and can also be expanded into a logistics collection point for CO_2. Unavoidable CO_2 emissions from all over Germany can be pooled there and shipped from Wilhelmshaven to be stored safely. That would make a significant contribution to decarbonisation in Germany," states Klaus Langemann, Head of Carbon Management & Hydrogen at Wintershall Dea. "Agora Energiewende estimates that in 2045, there will still be unavoidable CO_2 emissions of 63 million tons in 2045. CCS is a feasible solution for these emissions."

For Wintershall Dea, BlueHyNow is part of an extensive portfolio of energy efficiency and climate protection projects. Hydrogen and CCS have a key role in the portfolio.

[4] Source: acatech (German Academy of Science and Engineering)

About Wintershall Dea

Wintershall Dea is Europe's leading independent natural gas and oil company with more than 120 years of experience as an operator and project partner along the entire E&P value chain. The company with German roots and headquarters in Kassel and Hamburg explores for and produces gas and oil in 13 countries worldwide in an efficient and responsible manner. With activities in Europe, Russia, Latin America and the MENA region (Middle East & North Africa), Wintershall Dea has a global upstream portfolio and, with its participation in natural gas transport, is also active in midstream business. ***More in our Annual Report.***

As a European gas and oil company, we support the goal of the EU to be climate-neutral by 2050. To this end, we have set ourselves ambitious targets. Our target is to reduce Scope 1 and Scope 2 greenhouse gas emissions by 2030 in all self-operated and partner-operated exploration and production activities in line with our share to net zero. In addition, Wintershall Dea aims to reduce it methane intensity to below 0.1% by 2025 and to continue to maintain zero routine flaring of associated gas. The climate targets should be achieved through optimising the portfolio, reducing emissions, increasing energy efficiency, investing in nature-based mitigation solutions and forward-looking technologies such as hydrogen and CCS. ***More on this can be found in our Sustainability Report.***

Wintershall Dea was formed from the merger of Wintershall Holding GmbH and DEA Deutsche Erdoel AG, in 2019. Today, the company employs around 2,500 people from over 60 nations.

More information on the Internet at **www.wintershalldea.com** or follow us on **Twitter**, **Facebook**, **LinkedIn**, **YouTube** and **Instagram**.