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German-Norwegian cooperation on hydrogen

Germany and Norway are continuing the cooperation on evaluating an industry-driven and commercial large-scale supply of hydrogen from Norway to Germany. Industrial players are in the driver's seat for bringing the commercial and technical processes forward, while the authorities are looking into the processes required to set up the necessary regulatory framework for a hydrogen value chain. A Task Force is established to follow up the ongoing work.

"The strategic partnership on climate, renewable energy and green industry complements the long-lasting cooperative relationship between Germany and Norway, including in oil and gas, industry and security, that has given great benefit to both countries**.** Our strong cooperation shows our joint ambition to achieve a climate-neutral economy capable of securing jobs and sustainable energy solutions," says Minister Aasland

Robert Habeck, Federal Minister for Economic Affairs and Climate Action:

"Norway has been a long-standing and reliable partner of Germany in climate protection. We share the common vision of building a climate-neutral continent by 2050. Last year we committed ourselves to a closer German-Norwegian Hydrogen Cooperation. We are intensely pushing forward this essential project and work constructively together in order to assure important hydrogen imports from Norway to Germany. I am glad that there has been significant progress within the German Norwegian Task Force on hydrogen to jointly develop infrastructural, regulatory and economic issues since its formation less than seven months ago," says Minister Habeck.

Since our Joint Statement on hydrogen in January 2023, several milestones have been reached:

- **A joint Task Force between German and Norwegian authorities was established in August 2023.** The objective of the Task Force is to facilitate a common understanding of potential barriers for an industry-driven, commercial hydrogen value-chain between Norway and Germany, as well as addressing them. The industry actors in Norway and Germany are not part of the Task Force but serve as important discussion partners. The Task Force is engaging with the industry to address challenges and get input.

- **The industry-led feasibility study on a hydrogen value chain between Norway and Germany was published in November 2023.** The study was commissioned by the German and Norwegian governments and has been undertaken by Gassco, the operator of Norwegian upstream gas transportation system and the German energy agency, dena, on behalf of and in cooperation with the industry. The study shows that, given several assumptions, it is technically feasible, to establish a value chain for transporting large quantities of hydrogen from Norway to Germany. A study on a CO_2 transport from Germany or elsewhere in Europe to Norway has also been conducted.

- **An external project manager for the Task Force was appointed in January 2024.** The Project Manager is now fully operational and will guide the Task Force in its further activities. The project manager drives forward, oversees and coordinates the overall project progress in the Task Force. He ensures flow of relevant information between relevant industry stakeholders and the Task Force. His responsibility for driving the project forward is limited to the work on the governments' side.

In each of the Task Force meetings conducted to date, relevant topics related to establishing a hydrogen value chain have been reviewed to ascertain a common understanding of potential barriers, risks, and opportunities. The topics have included:

  - **Commercial barriers.** The Task Force has, through discussions with potential hydrogen producers and off-takers, gained a better understanding of potential commercial barriers. The Federal Ministry of Economic Affairs and Climate Action has, based on this, established a "Roadmap on expected hydrogen off-take in Germany" with an overview of financial instruments in support of German off-takers.

  - **Industry studies of hydrogen transport infrastructure.** Gassco and dena, on behalf of and in cooperation with industry, have in their feasibility studies outlined potential concepts for establishing hydrogen infrastructure from Norway to Germany, from re-use of existing pipelines to building of a new pipeline. These concepts will be further studied when the industry decides to enter into the next phase.

  - **Regulatory barriers.** The Task Force has identified first regulatory barriers that must be addressed by Norwegian and German authorities and facilitated development of the necessary regulatory framework aligned with the industrial processes. This is seen in connection with relevant regulatory development in the EU.

Moving forward, the focus of the Task Force remains on resolving regulatory barriers and understanding market inefficiencies to facilitate for a well-functioning hydrogen market.

Key upcoming milestones that will ensure further progress of the industry projects are the selection of an offshore transport concept and entering non-binding agreements for sales and purchase of hydrogen.

There is also a good dialogue between Gassco and Gascade to explore potential synergies between their projects.

"For all large and complex infrastructure projects, the maturing of technical and commercial aspects typically takes several years and need to pass several decision gates on the way. This is also the case for a groundbreaking project like this, where an entire value chain must be matured in parallel. A thorough step-by-step approach serves as a quality assurance and is required to assess the technical and economic viability of the value chain and to identify the best solutions", says Aasland.

Cutting emissions and scaling up new climate technologies require immense collaborative efforts and cross-border cooperation. Germany and Norway have many decades of close energy cooperation to build on, based on mutual trust and shared interests.

Through the establishment of the Task Force, Germany and Norway have again confirmed that working together is an effective way of achieving common goals. Going forward, the countries will continue the strong cooperation within hydrogen, carbon capture and storage, offshore wind and other green industries.