

The German-Norwegian energy alliance

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Over the past twelve months, there has been a clear political rapprochement between the German and Norwegian governments, both of which took office at the end of 2021. During this period, Olaf Scholz, Germany's chancellor, and Robert Habeck, the vice-chancellor and minister for economic affairs and climate action, have met the Norwegian prime minister Jonas Gahr Støre a total of five times during bilateral visits. Their main topics of discussion have been energy cooperation, in the context of the crisis triggered by Russia's aggression against Ukraine, and the strengthening of the long-term partnership between Berlin and Oslo in the field of energy transition.

The culmination of their negotiations over recent months was the signing of two joint declarations on 5 January during Vice-Chancellor Habeck's visit to the Norwegian capital. The first concerns 'strategic partnerships' in the areas of climate policy, renewable energy sources (especially offshore wind power), carbon capture and storage (CCS) projects, the raw materials sector, the decarbonisation of maritime transport, and microelectronics & electromobility. The second document deals with deepening bilateral cooperation in the hydrogen sector. In it, Berlin and Oslo declare their willingness to launch large-scale hydrogen exports from Norway to Germany by 2030. The first shipment would mainly consist of so-called blue hydrogen (extracted from natural gas using CCS), which would be gradually replaced over time by green hydrogen (produced by electrolysis with renewable electricity). There are plans to examine the viability of an offshore hydrogen pipeline; a feasibility study of the project will be presented this spring by the Norwegian transmission system operator Gassco and the German Energy Agency (Dena), in cooperation with industry representatives from both countries. In addition, the parties have declared their intention to test the feasibility of building a separate pipeline to transport carbon dioxide (in the opposite direction); it will be captured through CCS technology at German industrial plants, and then stored commercially in reservoirs under the Norwegian seabed.

In addition, in the presence of Habeck and Støre, the CEOs of RWE and Equinor signed an agreement on strategic cooperation in the hydrogen sector. Among other things, the companies agreed to cooperate in transporting first blue and later green hydrogen from Norway to Germany, and to jointly develop projects to build gas-fired power plants with a total capacity of 3 GW in Germany. When operational, these plants would be capable of co-firing a mixture of hydrogen (at least 50%) with natural gas, and pure hydrogen in the longer term. Both fuels for the plants would be supplied by Equinor. The corporations also intend to make joint investments in offshore wind farms, the energy from which would be used to produce green hydrogen. They emphasise that these joint projects have been agreed upon

under the assumption that the undersea hydrogen pipeline planned by the two governments will be built.

During his visit to Norway Habeck, in the presence of numerous media representatives, toured a cement plant owned by Norcem (a subsidiary of Germany's Heidelberg Materials), which is implementing one of the first industrial-scale CCS projects as part of the Oslo-funded Longship programme. He also visited the Norwegian green hydrogen plant manufacturer NEL, and in his presence a preliminary agreement was signed to purchase 120-MW electrolyzers for the German HH2E project in Brandenburg.

Commentary

- Norway has become a key partner for Germany during the current energy crisis: since Germany was cut off from Russian gas supplies in mid-2022, it is now their largest source of gas imports. Last December, up to 42% of Germany's imports came from Norway, half as much as in January (28%). In addition Berlin, with Oslo's support, leased two Floating Storage and Regasification Units (FSRUs) from the Norwegian shipowner Høegh in the spring of 2022; these will serve as LNG terminals in the coming years (one of them has been operating in Wilhelmshaven since December, the other in Brunsbüttel since January). Following the sabotage on the Nord Stream pipelines, the two countries have also stepped up their cooperation on energy infrastructure security.
- Berlin and Oslo are supplementing their existing energy partnership, which has hitherto been mainly based on their trade in raw materials (in addition to gas, Germany also imports Norwegian oil), with new, forward-looking plans which fit into the processes of energy transition and the decarbonisation of their economies. In this way they are opening up the prospect of long-term strategic cooperation, in preparation for a time when fossil fuels play ever less of a role in their economies. The interests of Germany and Norway in these areas are characterised by a high degree of complementarity. In the next stages of the *Energiewende*, Germany's demand for low-carbon hydrogen – which the country will not be able to meet from its own sources – will rise: Berlin estimates that in the long term, indigenous production will meet about 30% of German demand. For its part Norway, which has favourable conditions for the production of both blue (its own natural gas deposits and its CCS capabilities) and green hydrogen (high availability of renewable electricity), wants to expand the hydrogen sector as a new, future-oriented area of its economy. Moreover, Norway has been developing CCS technology since the 1990s, as it sees this as a promising business model which fits in with the decarbonisation process: the country has favourable geological conditions for storing CO₂ under the seabed (for example, in the reservoirs left empty when the gas has been used up, or in oil fields). For Oslo, Germany is both an attractive destination for hydrogen exports and a potentially substantial customer for the storage of industrial-origin CO₂. From a political perspective, Berlin is also an important ally for Oslo when it comes to pushing for favourable regulations at the EU level for the technologies mentioned above. After Germany's close cooperation with Russia ended in failure, Norway is an ideal energy partner for Germany due to its membership in the same alliances, its greater predictability, and its adherence to common values.

- The German-Norwegian agreements show a realignment in Berlin's previous approach to the way it obtains the hydrogen which it is using in the transition phase, as well as greater openness to the so-called blue variant of this raw material. The hydrogen strategy Germany adopted in June 2020 was explicitly focused on supporting the use of green hydrogen alone, and at most only allowed the import of other types (see '[The German hydrogen strategy: green hydrogen in the spotlight](#)'). However, the alliance with Oslo offers political (and presumably also financial) support for projects that involve the use of blue hydrogen for an unspecified transitional period, and only then their gradual replacement with green hydrogen. Moreover, the German-Norwegian partnership – as well as a greater openness to blue hydrogen in general – could become an important impulse to accelerate the development of the hydrogen sector in Germany. The question of whether this energy carrier will be available on an industrial scale in the future is one of the most important (along with those concerning infrastructure, regulation, financial support) being asked by representatives of industries such as steel, chemicals and petrochemicals. They are considering investing in technologies which would involve replacing coal and natural gas with hydrogen to reduce the carbon footprint of production. Industry associations have long lobbied for the use of blue hydrogen in Berlin, pointing out that it could be available on a large scale much more quickly than green hydrogen would be. In doing so, they have criticised what they see as the government's overly ideological and principled attitude, which is effectively limiting the speed at which the hydrogen economy is being developed in Germany.
- The strategic cooperation agreement between RWE and Equinor fits neatly into both the energy alliance agreed between Berlin and Oslo and Germany's further plans for the transformation of its electricity sector. As part of an agreement between RWE and the authorities in Germany and North Rhine-Westphalia last autumn, the conglomerate is to accelerate the decommissioning of all the lignite power plants in the Rhineland by eight years, to 2030 (see '[Germany: the crisis is driving a renaissance for coal](#)'). In their place, the company has announced it will construct new gas-fired units with a total capacity of 3 GW, which would be capable of co-firing hydrogen, as well as the full conversion to the use of this resource from 2035. RWE's partnership with Equinor is an important step towards realising these intentions, especially as it would secure potential supplies of both natural gas and hydrogen. Replacing coal-fired units with gas-hydrogen units is – together with the intensive expansion of the RES and transmission networks – one of the key elements in the transformation of Germany's electricity sector.
- The idea of building a hydrogen pipeline from Norway to Germany is a strategically important project for both governments. The announcement to check the feasibility of such a project was first made during Habeck's visit to Oslo in March 2022, and preparatory work has been underway since then. The results of the feasibility study of the project, which is backed by state agencies and the industries interested in the project, are due this spring, and they would seem to be a foregone conclusion for political and economic reasons. However, a number of issues remain to be resolved, including how the pipeline's construction is to be financed. There are many indications that this will not be possible without external support, for example from the state or the EU.

- The partnership between Berlin and Oslo also reveals a change in Germany's previous stance on the use of CCS technology. Previously, the federal government had omitted it from its plans to decarbonise industry because of the controversy it had stirred up for years in Germany, especially among the environmental organisations which are influential there (the main issue is the possible negative consequences for the environment of storing CO₂ underground). The biggest opponents of CCS among the political parties are the Greens. Meanwhile, both the industry and numerous domestic & foreign experts dealing with the issue of the sector's decarbonisation have indicated that some industries will find it impossible to eliminate greenhouse gas emissions completely, and the use of CCS will be indispensable for them. Norway, for its part, has long lobbied Germany and the EU at both the political and business levels for the technology. In recent months a number of German companies have announced they are undertaking joint projects with Equinor in this area; these include a pipeline planned with Wintershall Dea, Germany's largest mining company, to transport CO₂ from Germany to Norway. Recently, there have been increasing indications that Berlin will not only allow the export and storage in other countries of carbon dioxide (which is currently prohibited by law), but it may also allow CCS projects to be built under the bottom of the German part of the North Sea. Consultations on the issue have already begun, and these are expected to culminate in the formal adoption of a German carbon management strategy in 2023. Much will depend on what position the Greens adopt in response. On the occasion of Habeck's visit to Norway he launched a media push, targeted mainly at his electorate and the party's base, under the slogan 'Better CO₂ in the ground than in the atmosphere,' with the aim of convincing them that CCS is a safe and thoroughly tested technology.