

In July 2023, the German government updated its National Hydrogen Strategy (**NHS**), initially adopted in 2020. The NHS is not directly enshrined in law, but is rather a political statement of intent, setting out general objectives and the fundamental pathways to achieving them. The update aims to further develop the NHS and to adapt it to the changing political and economic conditions in the energy markets, resulting in particular from the war in Ukraine, as well as from more ambitious emission reduction targets. The updated strategy places particular importance on reducing dependencies by strengthening production within the EU and diversifying imports from third countries. It emphasizes Germany's ambitious plan to play a leading role throughout the entire value chain.

Ensuring domestic hydrogen capacity and access to imports

According to the estimates underlying the NHS, Germany will have a total demand of 95-130 TWh for hydrogen and hydrogen derivatives such as methanol, ammonia and jet fuel by 2030. Part of this demand is to be met by domestic capacity, which is why the German government has announced in the NHS a target of 10 GW of electrolysis capacity by 2030 instead of 5 GW.

In contrast, the government expects the vast majority of hydrogen demand to be met by imports from EU countries and third countries. The German government intends to publish a hydrogen import strategy in 2023, which will cover hydrogen imports by ship and pipeline. Short-term instruments include the funding of IPCEI projects on hydrogen exchange within the EU, government support for imports through platforms such as H2Global, and the definition of common "good governance" standards for hydrogen imports, i.e. ESG standards, in forums such as the G7 or G20. In the medium term, the German government aims to strengthen cooperation between EU countries on imports from non-EU countries and to establish and deepen strategic hydrogen partnerships with non-EU countries.

Expansion of transport and storage infrastructure

The update emphasises the need to expand the transport and storage infrastructure for hydrogen, both within Germany and across the EU. This concerns both pipeline transport and transport via ships, roads, etc. Within Germany, the existing natural gas transport and storage infrastructure is to be repurposed for hydrogen wherever possible.

Regarding the national infrastructure, in the short term, pipeline projects with more than 1,800 km of pipeline length with subsidies from the IPCEI ("important projects of common European interest") for hydrogen are, according to the NHS, ready for use in 2027/2028. The government also aims to quickly develop the regulatory framework for the hydrogen network and start planning the national hydrogen network. The network development also includes the accelerated construction of import terminals for ship transports of hydrogen and its derivatives. The construction of new LNG terminals is to be approved only if repurposing ("H2-readiness") is easily possible later.

In addition to the development of a national network, the Federal Government commits to support the development and expansion of an EU hydrogen network consisting of 4,500 km of pipe length (so-called Hydrogen Backbone) to be completed by 2030. It is meant to serve the community-wide distribution of hydrogen imports and hydrogen produced within the EU. As part of this, a Norway-Germany pipeline is to be realized by 2030.

Establishment of hydrogen applications

Given the limited availability and high production costs of hydrogen in the medium term, the draft provides for a sector-dependent prioritised use of hydrogen: By 2030, hydrogen is envisaged to be used primarily in sectors where decarbonisation by other means is not yet an option. Priority is therefore given to the industrial sector – especially the steel and chemical industries – as well as to the transport sector (in particular aviation and shipping).

In order to enable a timely conversion in the industrial sector without limiting Germany's competitiveness as a business location, the draft provides for various financial subsidies in the short term. This applies in particular to carbon contracts for difference, for which the government has recently published a draft funding guideline. In addition, the draft NHS considers it crucial to increase demand for zero-emission products, starting with steel and cement. Possible measures include standardised labelling of such products, preference for them in public procurement, and quotas for climate-neutral raw materials in manufacturing industries. In this respect, the NHS partly sounds like a rendition of the coalition agreement of 2021 (see our [blog](#)).

As for the electricity sector, the draft also provides for financial support for the testing and market ramp-up of hydrogen power plants, both so-called “sprinter plants” and local “hybrid plants”. These are considered an important component for stable power supply in times of low supply from renewable energy sources. In addition, the draft states that the construction of new combined heat and power plants as well as biomethane plants and other gas-fired power plants is only to be approved if they can easily be converted to running solely on hydrogen operation.

Creating an effective regulatory framework

The updated NHS recognises the importance of accompanying the operational measures with adjustments to the regulatory framework to allow for an effective market ramp-up, on a national, European and international level. On a national level, according to the NHS, planning and approval procedures are to be simplified and made more efficient. In addition, at least EU-wide uniform sustainability standards and certification systems for the production and import of hydrogen are to be created, internationally harmonised and recognised.

In this context, the NHS notes that the German government it will advocate the definition of uniform criteria for green hydrogen within the EU on the basis of delegated acts already adopted under Articles 27(3) and 28(5) of REDII. The relevance of such a definition is not entirely clear. The delegated acts apply directly only to Renewable Fuels of Non-Biological Origin (**RFNBOs**) used for transport, including hydrogen and its derivatives. Indirectly, however, the delegated acts already have a much wider scope: the guidelines on State aid for climate, environmental protection and energy (**CEEAG**), which are the most relevant provisions for hydrogen-related State aid law, already provide a definition of renewable hydrogen that essentially refers to the delegated acts. State aid for green/renewable hydrogen projects must therefore already comply with this definition. Moreover, Article 22a of the draft Renewable Energy Directive III provides for a quota for RFNBO-compliant hydrogen used in the industrial sector. Again, there should be no need for a further definition of green hydrogen as the requirements for RFNBO compliance already follow from the draft REDIII and its reference to delegated acts. However, a broader definition of green hydrogen could be relevant under the unfair competition laws of EU Member States, as advertising hydrogen as a molecule with green attributes would then probably require compliance with such a definition.

In addition to green hydrogen, the German government is also committed to promoting the establishment of international standards for the production of blue hydrogen, including a threshold for greenhouse gas emissions.

Bottom line: big announcements - yet to be delivered

It is clear from the NHS that the German government wants Germany to become a hydrogen nation and sees hydrogen as a key element in managing the transition. It is therefore pursuing ambitious goals and is focusing in particular on cross-border trade. Whether these announcements will become reality will also depend on how concretely and practically policymakers will implement their still very abstract aims in the coming years. The clock is ticking.