Deutsche Gesellschaft
für Internationale
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SUMMARY AUGUST 2023

KEY POINTS OF THE GERMAN HYDROGEN STRATEGY-UPDATE

The German government has presented a long-expected update to its National Hydrogen Strategy with the aim of speeding up the creation of a global market for hydrogen. The update doubles the 2030 target for domestic capacity of green hydrogen but says that Germany will have to import most of the hydrogen to meet demand (45 to 90 TWh). It also emphasizes that direct state support on the production side will only be available for green hydrogen but highlights that applications using hydrogen made from fossil fuels where CO2 is captured and then stored – so-called blue hydrogen – could also receive state support.

1. Ensuring the availability of hydrogen

a) Domestic production

The German Federal Government places special focus on the **expansion of domestic electrolysis capacities** on an industrial scale: Germany is doubling its target from **5 GW to at least 10 GW** of green hydrogen production in 2030.

The backbone of domestic green hydrogen production is the **expansion of renewable power generation capacity** which Germany seeks to advance substantially.

For this purpose, the **Renewable Energy Sources Act (EEG)**, the **Wind-Energy-at-Sea-Act** and other laws will be substantially amended. Further measures, regarding **planning and approval procedures** also aim at picking up the pace of renewable deployment.

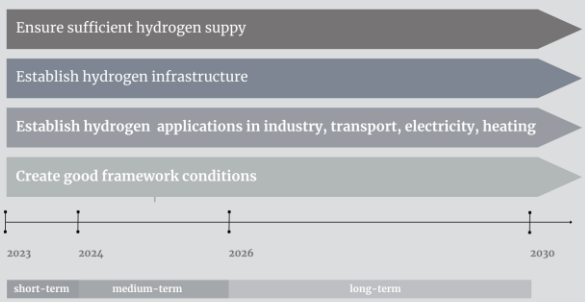
b) Import-Strategy

According to the Federal Government around **50 to 70 percent (45 to 90 TWh) of the 95 to 130 TWh** hydrogen demand by 2030 will have to be **met through imports** from abroad (in the form of **hydrogen and hydrogen derivatives**).

The import share to cover the hydrogen demand will likely continue to rise after 2030.

Thus, the aim will be to develop **broadly diversified** import channels and **avoid new dependencies**. The import strategy therefore sends the signal to European and international partner countries that the German government wants to **enter cooperative ventures worldwide**, establish secure, **sustainable supply chains to Germany** as well as **sustainable standards**, and be available as a **technology partner**. The **import strategy** provides the framework for action to ensure that the required quantities of hydrogen are available in the long term.

Fields of action for the 2023 update of Germany's National Hydrogen Strategy



Existing and, if necessary, new **support instruments** for imports will be examined and further developed: In the short and medium term, government support to cover the cost gap will likely be necessary. Therefore, continuation and further development of the existing funding instruments (**H2Global**, funding guidelines for international hydrogen projects, **PtX platform** with PtX development fund **H2Uppp**) is aimed at. Within H2Global, **regional forms of cooperation** are to be developed. New funding instruments will be developed according to needs.

Imports should meet **minimum standards** (environmental and/or social) and, if possible, be subject to a common or recognized certification system for hydrogen. The import strategy should also consider **sustainability criteria of the 2030 Agenda** (SDGs) and local value creation, as well as the issues of transporting hydrogen and hydrogen derivatives. In the case of development cooperation partner countries, maximum synergies will be sought with the goals of the 2030 Agenda, in particular **the advancement of local energy transitions** in terms of **socio-ecological** and **economic transformation** and Sustainability Goal (SDG) 7.

The **market ramp-up** is to be supported through **international forums** such as IEA, IRENA, CEM/MI, IPHE and G7/20. At the G7/G20 level, **"good governance" standards** for the hydrogen market ramp-up should be defined. These should include guidelines for **minimizing environmental impacts**, promotions of **local social-ecological societal and economic transformations** and energy transitions, recommendations regarding possible repercussions on the respective national energy transition, **labor market standards**, **protection of human rights**, approaches to **increase value creation** levels in developing and emerging countries in the sense of a green industrialization or "best practice" examples to increase the acceptance of projects. Likewise, **regional cooperation**, especially in transport solutions for hydrogen and derivatives, should be **supported**.

European cooperation for non-European imports will be strengthened, as Europe will continue to rely on hydrogen imports from regions outside Europe. To procure the required quantities and reduce costs in the **face of global competition**, cooperation between European member states will be sought.

Existing bilateral hydrogen, energy and climate partnerships are being used as a **political framework** for the **development of cross-border hydrogen value chains**, and the "Strategic Research and Innovation Agenda Green Hydrogen" to drive research collaborations on this in Europe and beyond; including launch of port alliances to link import and export ports.

International lighthouse projects will be supported and implemented **within the framework of the Climate, Energy and Hydrogen Partnerships**. A central aim is to develop large-scale economic projects in countries with high renewable energy potential and existing industrial infrastructure. These projects will aid the development of **sustainable local economic structures** as well as **enable imports into the EU and Germany**.

NB: Later **this year**, the German government will publish a **separate import strategy** which will be **more detailed** than the small impressions given here.

2. Development of an efficient hydrogen infrastructure

In addition to the availability of hydrogen, the strategy also provides updates on hydrogen **infrastructure**. By 2027/2028, a hydrogen launch network with more than **1,800 km** of converted and newly built hydrogen pipelines will be installed in **Germany**. Around **4,500 km** will be added **across Europe** (European Hydrogen Backbone). By **2032**, all major **generation**, **import and storage centers** will be **connected** to the relevant customers.

To meet the **infrastructure demand of hydrogen/ hydrogen derivates produced outside of the EU**, Germany is in the process of **establishing shipping lanes** and **building import terminals until 2030**. To this end, currently build LNG-terminals are constructed to be “hydrogen-ready”.

3. Establish Hydrogen Applications

According to the strategy, hydrogen and its derivatives will be predominantly used in the **industrial sector**, e.g. in **the chemical and steel industries**, and in **transport** for use in **fuel cells** or as a **renewable fuel** by **2030**.

There will be **no broad application of hydrogen in the heating sector until 2030**, although the conversion of gas distribution networks to hydrogen and the use of decentralized H2 boilers is to be made legally and technically possible.

In the **power sector**, electrolysis on the consumption side will serve as a variable **system-serving stabilizer**. On the other hand, in times of high electricity demand and low electricity generation hydrogen can be converted back into electricity.

4. Create effective framework conditions

The target for 2030 is to have **coherent legal conditions** for sustainable production, transport, storage, and import, as well as use of hydrogen and its derivatives at national, European and, if possible, international level to support the market ramp-up. The goal is to have **uniform standards and certification systems for hydrogen and derivatives for domestic production and largely coherent systems for their import and supply**. These standards should be coherent but also **ambitious in terms of sustainability**.

For all immediately necessary construction of the hydrogen production, transport, and import infrastructure, **legal requirements are being simplified**, **accelerated, and regulatory obstacles are being removed**. It is also important to **strengthen the performance of the administration in the hydrogen-field** through the expansion of sufficient resources and competencies to meet the increasing requirements in the hydrogen sector. Dialogue with industry with the aim of achieving a sustainable and at the same time efficient market ramp-up is of particular importance.

The strategy further highlights that **German technology developers** are **leading suppliers** and **hydrogen technologies** "Made in Germany" are in demand internationally.

Furthermore, **CO2 pricing** as a guiding instrument, including effective carbon leakage protection is being continuously developed to improve investment security and incentives.

German Hydrogen Strategy Update in its German original:

https://www.bmwk.de/Redaktion/DE/Publikationen/Energie/fortschreibung-nationale-wasserstoffstrategie.pdf?__blob=publicationFile&v=3.

IMPRESSUM

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