Federal Ministry
for Economic Affairs
and Climate Action

BILATERAL CLIMATE AND ENERGY PARTNERSHIPS

CROSS-CUTTING THEME: HYDROGEN

GERMAN IMPORT STRATEGY FOR HYDROGEN AND HYDROGEN DERIVATIVES

On July 24, 2023, the Federal Cabinet adopted the Import Strategy for hydrogen and hydrogen derivatives. The Import Strategy makes an important contribution to increasing **investment security** for hydrogen projects and thus to a **reliable supply** of hydrogen as a raw material and energy source.

Important signal for partner countries and international market development

The German government intends to **build and expand hydrogen partnerships** to meet its needs for imports of hydrogen and its derivatives and diversify the sources of supply as widely as possible. The German government supports a **diversified product range** for the import of hydrogen, including low-carbon hydrogen and its derivatives to meet demand. However, the long-term goal is a supply of green, sustainable hydrogen and derivatives. In addition to molecular (i.e. gaseous or liquid) hydrogen, various hydrogen derivatives (e.g. ammonia, methanol, naphtha, electricity-based fuels) and liquid-organic hydrogen carrier (LOHC) can be considered.

The German government is pursuing the **parallel development of import infrastructures** for pipeline and ship-based transportation. While a large part of the import demand is expected to be met by pipeline, ship-based imports are also considered sensible in the long term, especially to meet the demand for hydrogen derivatives.

Germany as one of the largest hydrogen importers in the world

The German government assumes a national **demand for hydrogen and its derivatives of 95 to 130 TWh in 2030**, of which around 50 to 70 % will have to be imported from abroad. The BMWK further assumes that the import share will continue to rise and that demand will increase to 360 to 500 TWh of hydrogen and around 200 TWh of synthetic hydrocarbons and other hydrogen derivatives by 2045. Five offtake sectors drive the demand for hydrogen and its derivates in Germany:

- **The Steel Industry** has the demand for molecular hydrogen, as coking coal-based blast furnaces must be replaced by hydrogen-based direct reduction plants.
- **The Basic and Petro-Chemical Industry** have the demand for molecular hydrogen, naphta, methanol and ammonia. Fossil hydrogen being used as raw material must be replaced.
- **Shipping** has a demand for green ammonia, methanol and liquid hydrogen, as fossil crude oil must be replaced by electricity-based fuels.

Depending on the electricity-based fuel, other propulsions may also be necessary.
- **Aviation** has a demand for E-kerosene, as fossil kerosene must be replaced.
- **Electricity** has a demand for molecular hydrogen, as H2-ready gas-fired power plants and H2-only power plants must newly be established in the electricity system in order to assume a seasonal balancing function.

A mix of measures along the entire supply chain supports the Import Strategy

Strengthening demand: By strengthening a reliable demand market in Germany, security of supply improves on the production side and investment decisions are made easier. The instruments include the Carbon Contracts for Difference (CCfDs), the federal funding for industry and climate protection, the IPCEI hydrogen, the Power Plant Safety Act and the quotas of RED III.

Transport infrastructure: The import of hydrogen and its derivatives is made possible by the construction of pipelines (for imports from Europe and neighbouring countries) and terminals (for imports from more distant regions by ship). The hydrogen core network, which will gradually come into operation by 2032, will be closely linked to a trans-European hydrogen network and ports. This will create the basis for transporting the imported hydrogen within Germany.

Certification and standards: EU certification and product requirements apply to imports to Germany. In addition, the German government is internationally committed to ambitious, practicable and, where possible, harmonized sustainability standards to ensure that the ramp-up of the international hydrogen market does not have a negative impact on the global energy transition and sustainable development of partner countries.

Promotion of supply: In addition to H2Global as a central funding instrument, the German government supports international hydrogen production through the further development of the European Hydrogen Bank, the establishment of the PtX Development Fund and foreign trade promotion instruments (export credit guarantees, investment guarantees or untied financial loans).

International cooperation: The international market ramp-up and the establishment of hydrogen import routes are flanked by various formats (e.g. climate and energy partnerships, just energy transition partnerships, H2-agreements, import corridor dialogs) of international and intra-European cooperation and over 40 partnerships.

Targeted research and development measures also contribute to the international market ramp-up.

Implications

The import Strategy provides a framework for hydrogen cooperation and private-sector hydrogen imports to Germany. It is an integral part of the updated National Hydrogen Strategy and is therefore also subject of regular monitoring of the National Hydrogen Strategy.

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