



Partenariat de l'Energie
Energiepartnerschaft
TUNISIE - ALLEMAGNE



Ministère de l'Énergie, des
Mines et de la Transition
Énergétique

Supported by:



Federal Ministry
for Economic Affairs
and Energy

on the basis of a decision
by the German Bundestag



FACTSHEET

THE NATIONAL HYDROGEN STRATEGY OF GERMANY

In June 2020, the German Federal Ministry for Economic Affairs and Energy (BMWi) released the Government's National Hydrogen Strategy. Tying in with the economic stimulus package that had been released, the strategy considers hydrogen along its value chain, from production, to infrastructure and transport, to storage and use. The hydrogen strategy underlines Germany's commitment to its ongoing clean energy transition and global responsibility for reducing greenhouse gas emissions.

The role of hydrogen in Germany

Hydrogen (H₂) is a key element of Germany's decarbonization strategy and Germany's energy transition. It plays an essential role in decarbonizing sectors such as steel and chemical industries as well as the transport sector. Gaseous and liquid energy carriers are essential to the German energy system and an important feedstock for industry, like the production of ammonia or methanol, or of conventional fuels.

Only H₂ produced with renewable energy (green H₂) considered to be sustainable in the long term. However, carbon-free, blue or turquoise, H₂ will be traded temporarily.

Currently, most of the 55 TWh of H₂ used annually in Germany is produced from fossil fuels ("grey H₂"). The Federal Government of Germany expects a H₂ demand of about 90 to 110 TWh until 2030. In order to cover part of this demand, generation plants with a total capacity of up to 5 GW, including the necessary energy production, are to be built in Germany by 2030. This corresponds to a green H₂ production of up to 14 TWh and required renewable electricity of up to 20 TWh. It is the Government's goal to ensure that the electricity demand of electrolysis plants does not result in an increase in CO₂ emissions. By 2040 at the latest, a further 5 GW of "green H₂" capacities are expected to be added. However, most of the hydrogen needed will have to be imported.

Germany will ensure that local markets and the energy transition in the partner countries are not impeded but are fostered by the production of H₂.

Goals of the hydrogen strategy

With the H₂ strategy, the German Government aims to:

- Make H₂ competitive
- Develop a domestic market, ready for imports
- Establish H₂ as an alternative energy carrier
- Make H₂ sustainable as a basic material for industry
- Develop transport and distribution infrastructure
- Promote research and innovation
- Establish international markets and cooperation for H₂

Overall, the strategy aims to create a framework for private investments in the economic and sustainable production, transport and use of H₂. It distinguishes between two phases: The initial market ramp-up (2020-2023) and the consolidation of the national market in light of international market developments (2024-2030).

Governance Structure

The German Government envisages a Committee of State Secretaries on H₂, which will continuously monitor the implementation of the strategy's action plan. A National Hydrogen Council, consisting of 26 high-ranking experts from industry, science and civil society, will advise this Committee. A coordination office supports the implementation of the strategy.

Action Plan: Application Areas and Measures

Focusing on the first phase, the strategy provides 38 measures along the hydrogen value chain, for example:

Hydrogen production

- Improving the regulatory framework for the efficient use of renewable power
- Investigation of removing taxes and levies from power used for H₂ production
- Support for electrolyzers in industry
- Making investments in offshore H₂ production worthwhile

Transport

- Timely implementation of the EU Renewable Energies Directive (RED II)
- Market activation for H₂-powered vehicles
- Support for renewable kerosene
- Funding a refuelling station network for (heavy-duty) vehicles and public transport

Industry

- Support industry switchover to H₂ as a base substance
- Pilot a programme for Carbon Contracts for Difference (CfD) in the steel and chemical industry
- Boost markets for climate-neutral and recycled products in energy-intensive industries
- Sector specific dialogue formats on decarbonisation

Heat market

- Possibly expanding support for highly efficient fuel cell heating systems to promote H₂-readiness in the heating sector

Infrastructure

- Assess the use of existing H₂ structures, re-dedication as well as the promotion of new ones
- Target both individual users and operators of large H₂- or fuel-cell powered fleets
- Continue efforts to link electricity, heat, and gas infrastructure

Research, education, innovation

- Research activities on key H₂ technologies in the research offensive "hydrogen technologies 2030"

European and international level

- Set sustainability and quality standards for PtX products at European level
- Exploring the establishment of a European hydrogen company with joint production capacities
- Envisioning a joint EU hydrogen strategy and alliance
- Integrating or fostering the topic of H₂ in existing and new energy partnerships of Germany
- Prepare potential atlases for green H₂
- Implementation of pilot projects in partner countries

BEYOND THE STRATEGY



Hydrogen in Germany's Economic Stimulus Package

On 3 June 2020, the German Government released a historic economic stimulus package. Thereof, 7 bn € are dedicated to the market ramp-up of H₂ technologies in Germany and a further 2 bn € for international partnerships. The final allocation of funds is determined by the respective budget estimates of the ministries.

The European Hydrogen Initiative

In September 2018, the German Government, together with the European Commission and 27 European countries, decided on a European hydrogen initiative and defined hydrogen technologies and systems as a value-added chain of strategic interest. The German Government plans to use this dynamic and further promote H₂ in the context of the upcoming German EU Council Presidency in 2020.

European Clean Hydrogen Alliance

As part of its New Industrial Strategy, the European Commission plans to launch a new European Clean Hydrogen Alliance bringing investors together with governmental, institutional and industrial partners.

This factsheet bases on the National Hydrogen Strategy of the Federal Government of Germany. The full version can be found [here](#).

Publisher

Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH

Registered offices
Bonn and Eschborn

Bilateral Energy Partnerships
Head of Programme: Torsten Fritsche
Köthener Str. 2-3
10963 Berlin
energypartnerships@giz.de

Contact

Nada Baklouti
nada.baklouti@giz.de

Editorial office

Luise Dahmen, Stephan Poth,
Farhanja Wahabzada, Katarzyna Rezza Vega

Design

Edelman, Berlin

Date and place of publication

June 2020, Berlin

GIZ is responsible for the content of this publication.

On behalf of the Federal Ministry for Economic Affairs and Energy (BMWi)