Bundesministerium
für Wirtschaft
und Energie

Wasserstoffhochlauf in Deutschland: Politische Maßnahmen und Strategien

Online-Konferenz des Deutsch-Französischen Büros für die Energiewende (DFBEW)
am 6. Oktober 2026

Dr. Alexander Raubold
Federal Ministry for Economic Affairs and Energy
Division for Hydrogen and Natural Gas Networks; Hydrogen Policy Coordination

Hydrogen is a key pillar for Germany's future

- Hydrogen plays a key role in the **resilience** of the German energy system and economy as a whole.
- Hydrogen is a key component of the **energy transition**, as it, with its transport and storage characteristics, can make a significant contribution to security of supply and cost efficiency in the energy system.
- Renewable and low-carbon hydrogen enables a significant reduction in **greenhouse gas emissions** of industry, transport, and the energy and makes the German economy more **climate-friendly**. This ensures that Germany remains a competitive industrial hub for the future.
- Germany has some **technologically advanced companies in the hydrogen sector**. We want to build on this lead.

Bundesministerium
für Wirtschaft
und Energie

Where should hydrogen be used in Germany?



Industry

Replacement of fossil raw materials, e.g. in the chemical and steel industries, with the aim of **defossilisation**.



Transport

Use in parts of **the heavy commercial vehicle sector** and increasingly in **aviation and shipping.**



Electricity

Hydrogen significantly contributes to **security of supply** and the **cost-efficiency** of the energy system (power generation from hydrogen and hydrogen storage)



Buildings

No widespread use in the heating sector; however, the conversion of gas distribution networks for hydrogen is being enabled both legally and technically.

Bundesministerium
für Wirtschaft
und Energie

What is needed for a successful ramp-up of the hydrogen market?

The ramp-up of the **hydrogen market** requires the development of the entire **value chain**:

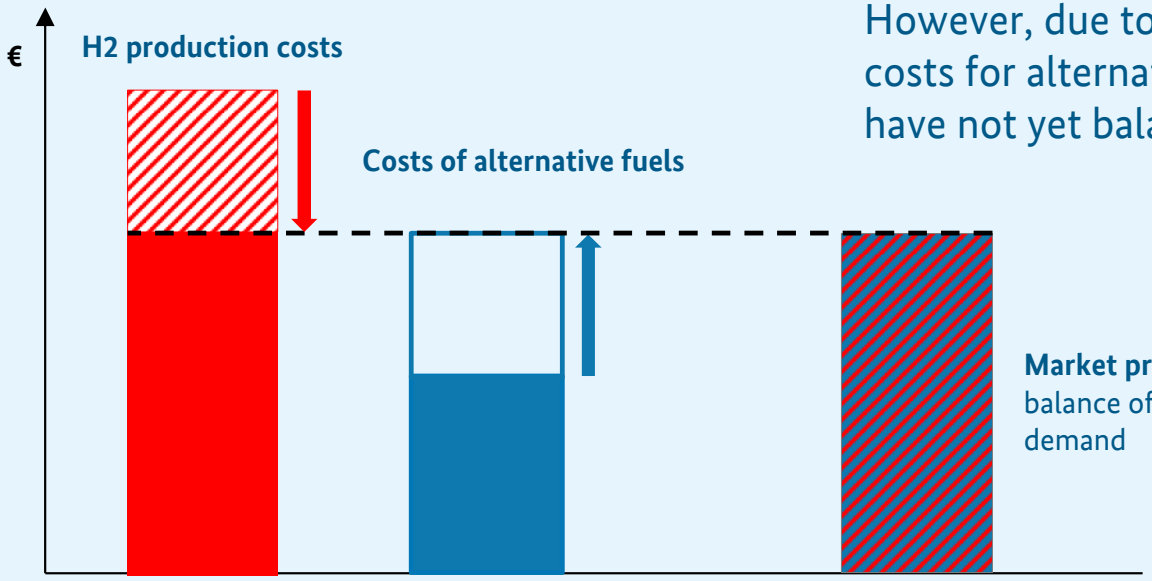
- Research and development of technologies
- Standards and certification, regulatory framework
- Domestic production and imports
- Infrastructure (including transport networks, import corridors, storage)
- Demand from industry, transport and the energy sector
- Financing and (further) development of business models



Bundesministerium für Wirtschaft und Energie

Hydrogen production costs and the costs of (fossil) alternatives are still (far) apart.

The goal is to establish a **functioning market** with convergence between hydrogen production costs and the costs of (fossil) alternatives, to which rising CO2 prices under the ETS contribute significantly.

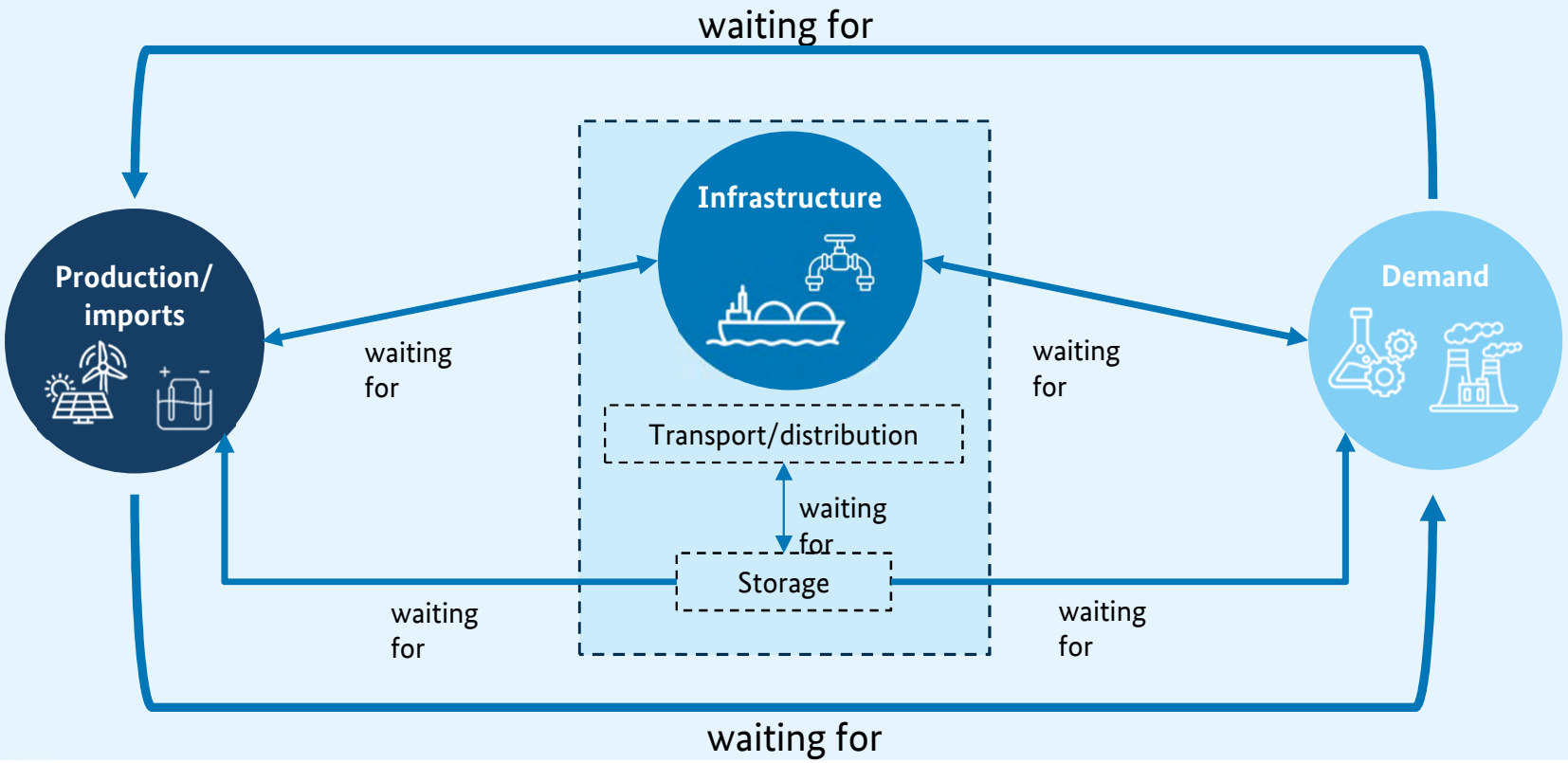


However, due to high hydrogen production costs and low costs for alternative fuels, supply and demand for hydrogen have not yet balanced out.



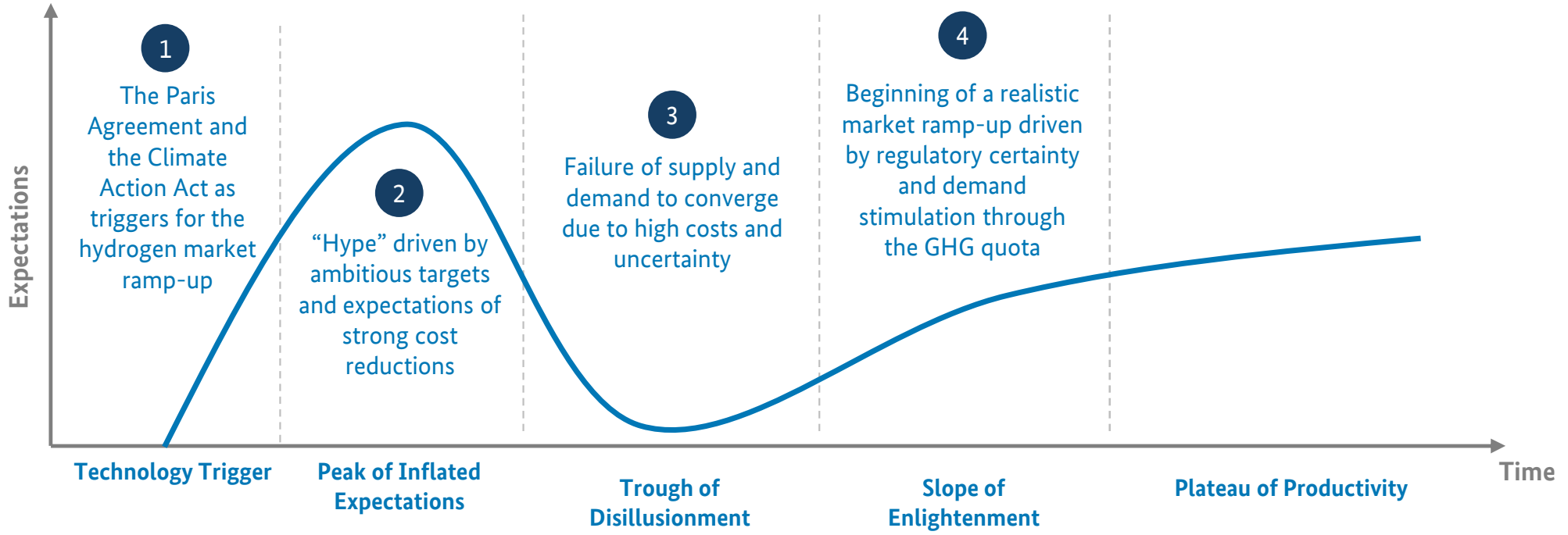
Bundesministerium für Wirtschaft und Energie

Several chicken-and-egg challenges must be addressed simultaneously.



Bundesministerium für Wirtschaft und Energie

Will the hype and disappointment now be followed by a phase of realism? - Gartner Hype Cycle

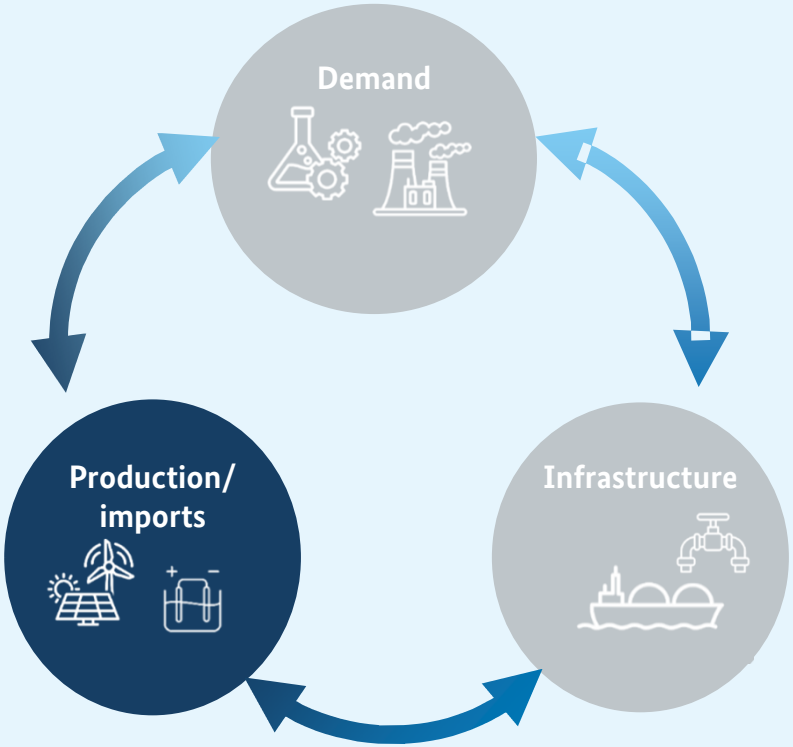


Bundesministerium für Wirtschaft und Energie

Supply and infrastructure development should be more closely aligned with hydrogen demand.

Developing / strengthening the supply side through:

- Reduction of production costs, including through simplification of criteria for renewable hydrogen
- Creating supply through support for domestic electrolysis (including IPCEI) as well as development and support of import routes (including H2Global, EHB)



Demand stimulation through:

- Carbon contracts for difference (CCfDs)
- GHG quota
- Lead markets

Developing an efficient and future-oriented infrastructure:

- Scenario-based and demand-driven core network
- Import corridors
- Enabling the transformation of distribution networks
- Hydrogen storage

Bundesministerium für Wirtschaft und Energie

Production / imports > Infrastructure > Demand

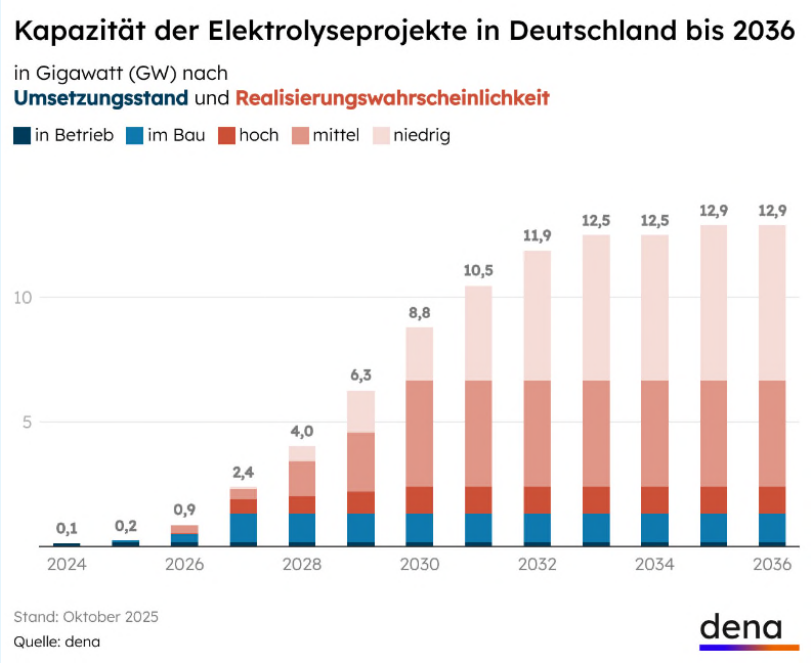
Expansion of domestic electrolysis capacity

Installed electrolysis capacity in Germany increased almost sixfold between 2020 and 2025, but: many projects delayed or abandoned due to high costs and insufficient demand

Conclusion from the monitoring report: **flexible expansion** geared towards demand

Key levers:

- Regulatory relief (RFNBO DA / Low Carbon DA)
- Exemption from network charges
- Electricity price compensation
- Secured demand

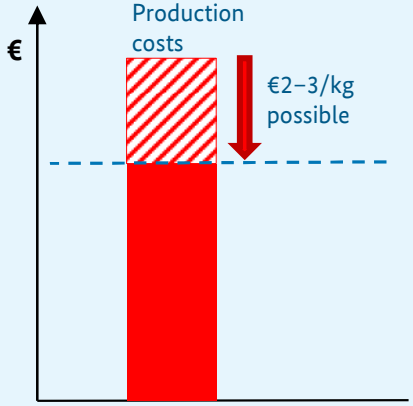


Bundesministerium für Wirtschaft und Energie

Production / imports > Infrastructure > Demand

Regulatory adjustments: RFNBO DA

Objective: Implementation of the RED III reduction target: 70% GHG reduction



Criteria:

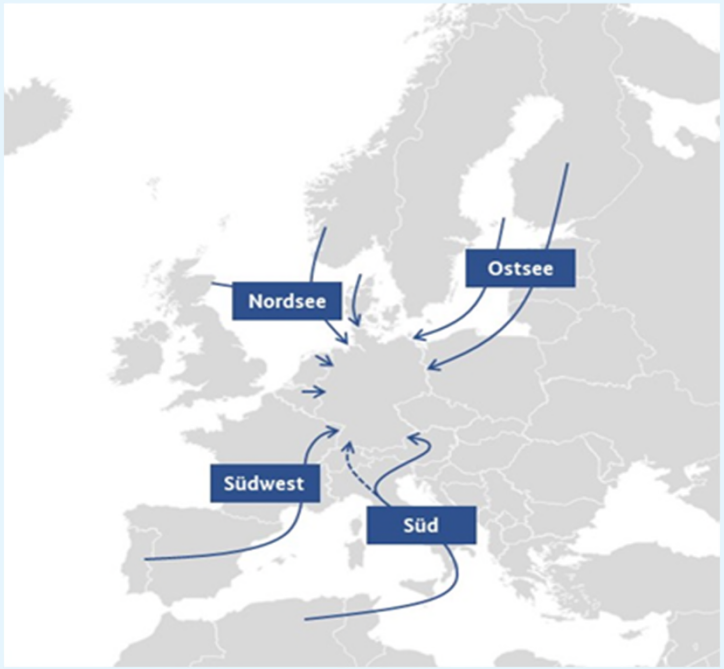
1. Additionality: applies from 2028 → extension until 2035?
2. Temporal correlation: until 2029: monthly, from 2030: hourly → extension until 2035?
3. Geographic correlation: generation within the same bidding zone

Exceptions:

- Renewable energy share within the bidding zone at least 90%: criteria 1 and 2 do not apply → adjust to X%?
- GHG emissions in the bidding zone below 18g CO2-eq./MJ: criterion 1 does not apply

Cooperation with **other EU Member States** to **adjust overly restrictive criteria** during the market ramp-up: joint letter with the Netherlands, Austria, Spain, Poland, Slovenia and Portugal
European Commission: Proposal in June 2026, comments from MS by autumn 2026. Revision in 2028?

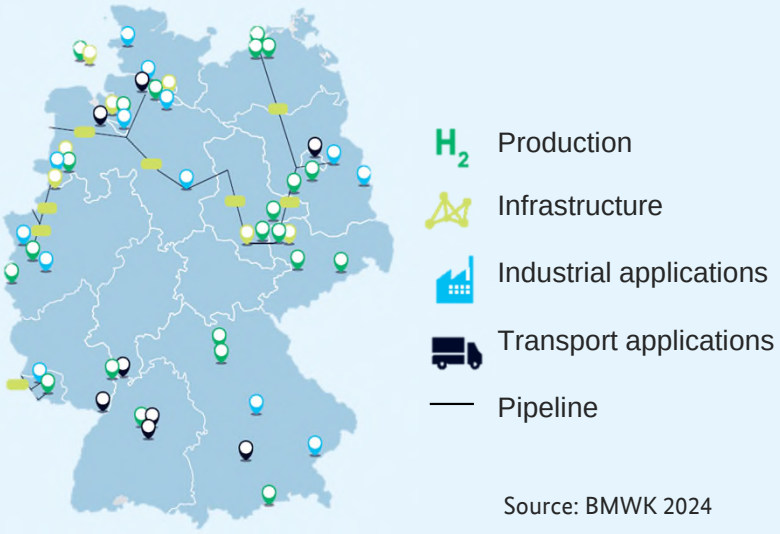
Development of pipeline-based import corridors and shipping-based import routes



- The **North Sea Corridor** comprises several infrastructure projects, including projects involving Denmark, Norway, the UK, the Netherlands and Belgium
- The **Baltic Sea Corridor** comprises two pipeline projects:
  - Offshore pipeline through the Baltic Sea ("Baltic Hydrogen Collector")
  - Onshore pipeline through the Baltic states and Poland ("Nordic Baltic Hydrogen Corridor")
- The **Southwest Corridor (H2Med + Hy-FEN)** connects (Morocco) – Portugal – Spain – France – Germany
- The **Southern Corridor (SouthH2)** connects Algeria – Tunisia – Italy – Austria – Germany
- **Shipping-based import routes** planned with countries including Egypt, Canada and Australia

IPCEI Hydrogen supports the initial market ramp-up

IPCEI: 62 pre-selected projects in Germany



Source: BMWK 2024

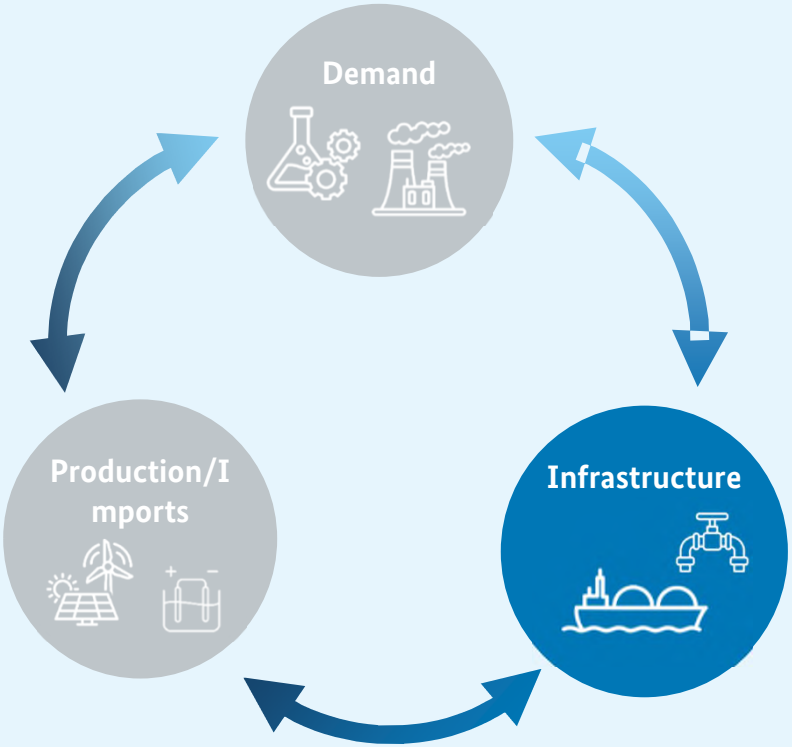
- Supports the first **large-scale projects** across the entire hydrogen value chain that are of common interest to EU Member States
- IPCEI Hydrogen comprises **several waves**: Hy2Tech, Hy2Use, Hy2Infra, Hy2Move
- In July 2023, **23 German projects** received around €4.6 billion in funding **for the development of hydrogen production capacities** under the IPCEI Hy2Infra funding wave
- The funding aims to support the development of **electrolysis capacity of up to 1.4 GW**, **2,000 km** of cross-state **hydrogen pipelines and storage facilities** with a **total capacity of at least 370 GWh**

Bundesministerium für Wirtschaft und Energie

Supply and infrastructure development should be more closely aligned with hydrogen demand.

Development / strengthening of the supply side through:

- Reducing production costs, including by simplifying criteria for renewable hydrogen
- Creating supply by promoting domestic electrolysis (including IPCEI) and establishing and promoting import routes (including H2Global, EHB)



Stimulating demand through:

- CO2 difference contracts
- GHG quota
- Lead markets

Development of an efficient and future-oriented infrastructure:

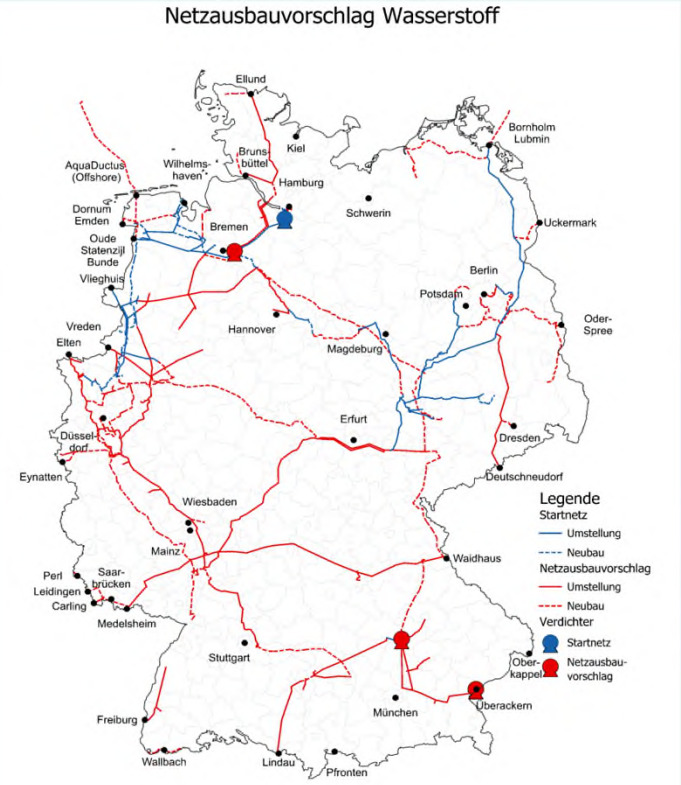
- Scenario-based and demand-oriented core network
- Import corridors
- Enabling the transformation of distribution networks
- Hydrogen storage

Bundesministerium für Wirtschaft und Energie

Production / imports > Infrastructure > Demand

Hydrogen Core Network as cornerstone

- **The aim of the core network:** Connecting key hydrogen locations for production, storage, imports, and demand in Germany.
- **The core network** is currently planned with **9,241 kilometers of hydrogen pipelines** (2nd draft NDP 2025), 56% of these include conversions of existing natural gas pipelines.
- Ongoing adjustments of the core network as part of the **integrated Network Development Plan (NDP) 2025** and **2027**.
- **Financing through network tariffs** with intertemporal cost allocation, a government-guaranteed amortization account, and a core network ramp-up fee of 25 EUR/kWh/h/a set by the Federal Network Agency (BNetzA) in July 2025.
- By 2025, core network pipelines with a total length of **more than 500 km had already entered service**.



Source: FNB Gas e.V.

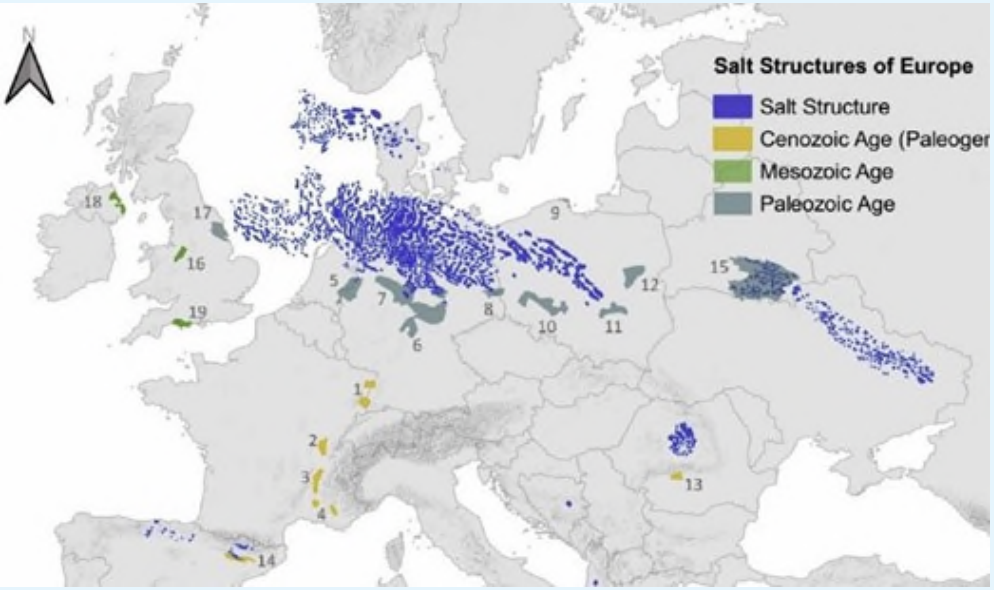
Bundesministerium
für Wirtschaft
und Energie

Gas and hydrogen distribution networks

- The draft legislation implementing the EU Gas/H2 Internal Market Package regulates such aspects as the future of gas and hydrogen distribution networks.
- The planned introduction of **distribution network development plans** is intended to provide network operators with flexibility regarding the future use of gas distribution networks or their conversion to hydrogen distribution networks.
- Planning is based on demand as well as local and regional conditions.
- With regard to **financing,** the EU Gas/H2 Internal Market Package does not establish specific mandatory requirements; conceptual approaches are currently under review as part of an expert assessment process.

Hydrogen storage as a key element

- Hydrogen storage serves as a **key flexibility option** between variable generation and fluctuating demand, and as a measure to strengthen security of supply
- **Initial underground hydrogen storage facilities** are currently **under construction** in Germany, including two pilot projects with a capacity of 0.2 TWh (IPCEI-funded)
- **Challenges for commercial operation** arise from the lack of long-term utilisation contracts, resulting in uncertainty of the business model



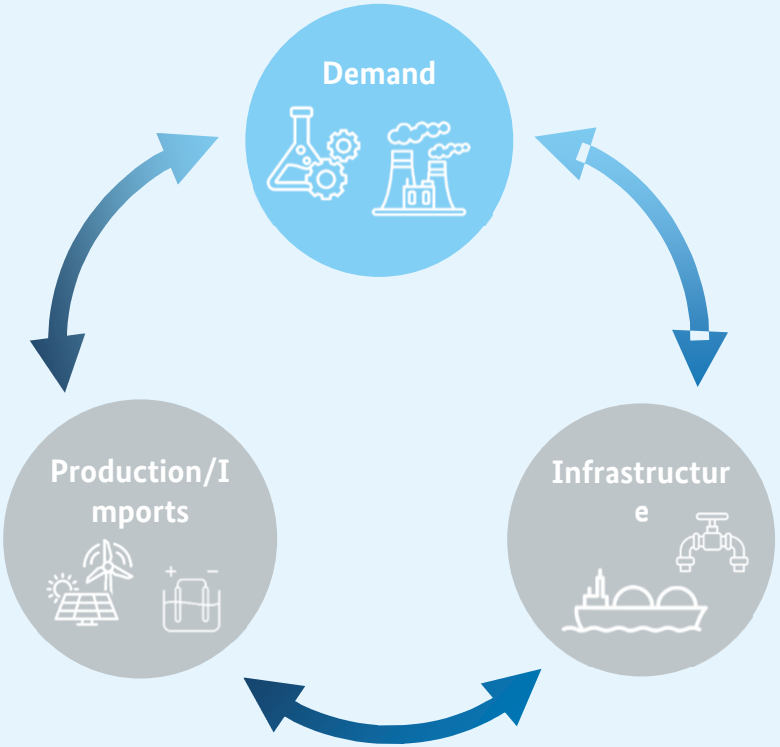
Germany plays a key role in Europe thanks to favourable geological conditions

Bundesministerium für Wirtschaft und Energie

Supply and infrastructure development should be more closely aligned with hydrogen demand.

Development / strengthening of the supply side through:

- Reducing generation costs, including by simplifying criteria for renewable hydrogen
- Creating supply by promoting domestic electrolysis (including IPCEI) and establishing and promoting import routes (including H2Global, EHB)



Stimulating demand through:

- CO2 difference contracts
- GHG quota
- Lead markets

Development of an efficient and future-oriented infrastructure:

- Scenario-based and demand-oriented core network
- Import corridors
- Enabling the transformation of distribution networks
- Hydrogen storage

Bundesministerium für Wirtschaft und Energie

Production / imports > Infrastructure > Demand

Demand in industry: support measures

- **Support for transformation projects** in the steel industry, in particular thyssenkrupp, Salzgitter and Saarstahl (especially CAPEX support)
- **Carbon Contracts for Difference (CCfDs)**: support for energy-intensive industrial companies in the investment and operation of low-carbon production facilities; compensation for additional costs through a funding programme; in the first funding round, five industrial projects planning the use of hydrogen were selected
- **Federal Funding for Industry and Climate Protection (BIK):** Funding for climate-friendly investment, research, development and innovation projects in industry

Demand in the transport sector: GHG quota

- The **Greenhouse Gas Reduction Quota** (GHG quota) **in transport** implements **RED III.**
- Obligation for fuel suppliers (refineries) to reduce their GHG emissions, including through the use of **renewable fuels;** no extension to aviation and maritime transport
- **The RFNBO** (Renewable Fuels of Non-Biological Origin) **sub-quota** creates predictable demand for **renewable hydrogen:**
  - 2026: 0.1% → < 1 TWh
  - 2030: 1.5% → ~ 8 TWh
  - 2040: 10% → ~ 30 TWh
  - Until 2036: triple counting of RFNBOs towards the GHG quota will remain in place.

Demand in the energy sector: Power Plant Strategy

- Following the agreement in principle with the European Commission in January 2026: **tender for 12 gigawatts (GW)** of new dispatchable generation capacity
- Implementation through the **Electricity Supply Security and Capacity Act (StromVKG)**: Draft bill adopted by the Federal Cabinet on 13 May 2026.
- All gas-fired power plants constructed under the Power Plant Strategy are intended to be **H2-ready** and **operated on a climate-neutral basis by 2045** at the latest**.**
- **Additional measures** for an early transition to hydrogen: support for hydrogen use through CfDs planned for 2 GW of generation capacity in 2040 and a further 2 GW in 2043.

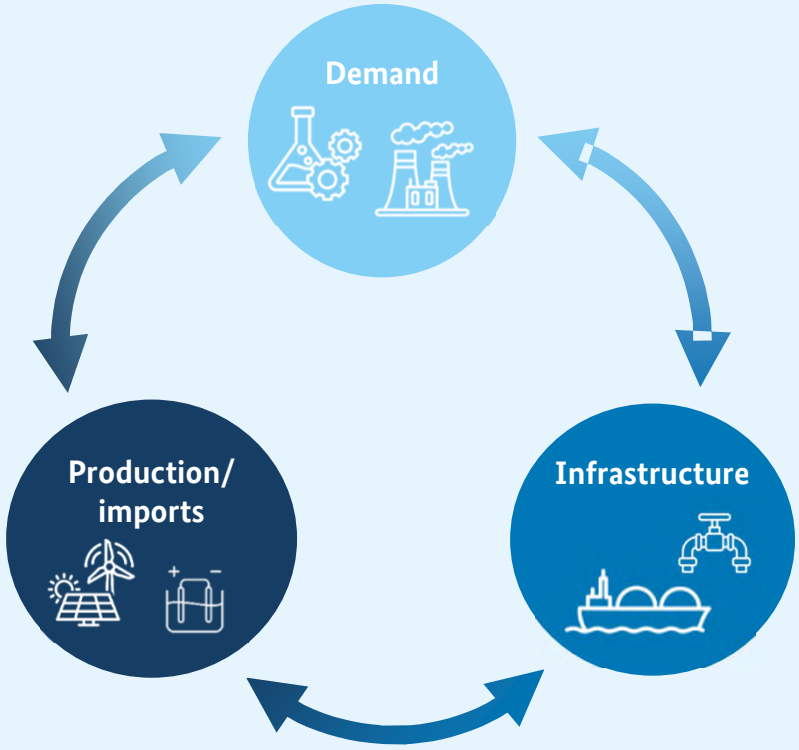
Further (potential) instruments to support the hydrogen ramp-up

- **Hydrogen Acceleration Act:** approval and procurement procedures for the entire hydrogen infrastructure will become simpler, more digital and significantly faster (entered into force in April 2026)
- **Lead markets for low-emission products:** strengthening demand for climate-friendly basic materials such as steel, ammonia, and ethylene through public procurement and quotas (currently being implemented)
- **Quotas, such as a green gas quota:** green gas quota with a hydrogen sub-quota (under consideration)
- **Additional (funding) instruments,** such as risk mitigation instruments or hydrogen contracts for difference to reduce the cost gap compared with other energy sources during the market ramp-up phase (under consideration)

Achievements in the hydrogen ramp-up

- Steelworks: transformation supported through DRI facilities with around €6 billion in funding
- Refineries: high willingness to pay driven by GHG quota

- 190 MW of installed electrolysis capacity in Germany, with additional capacity under construction
- EHB auction for the implementation of the German-Danish import corridor



- More than 500 km of core network pipelines in operation, including the world's longest hydrogen pipeline in eastern Germany
- 62 IPCEI projects representing €8 billion in investment currently being implemented, including 23 Hy2Infra projects receiving €4.6 billion in funding

Production / imports > Infrastructure > Demand

Thank you.



Bundesministerium
für Wirtschaft
und Energie