



Federal Ministry
for Economic Affairs
and Energy

The German National Hydrogen Strategy (NWS)

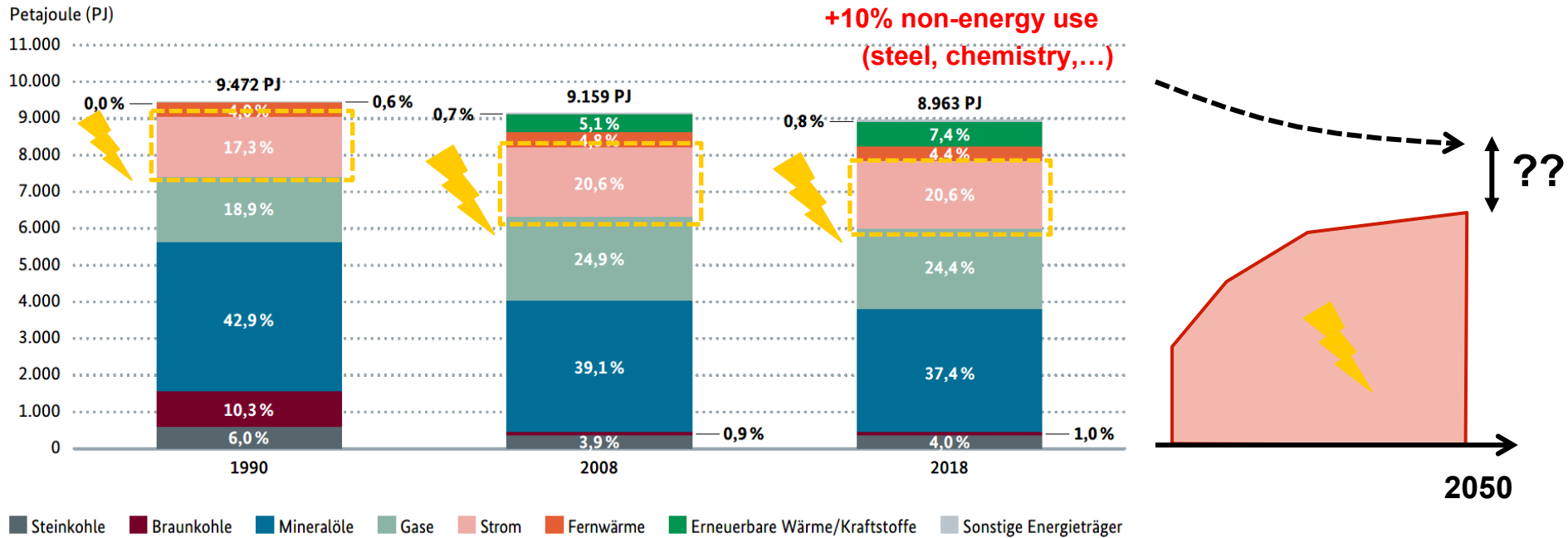
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Federal Ministry for Economic Affairs and Energy (BMWi)

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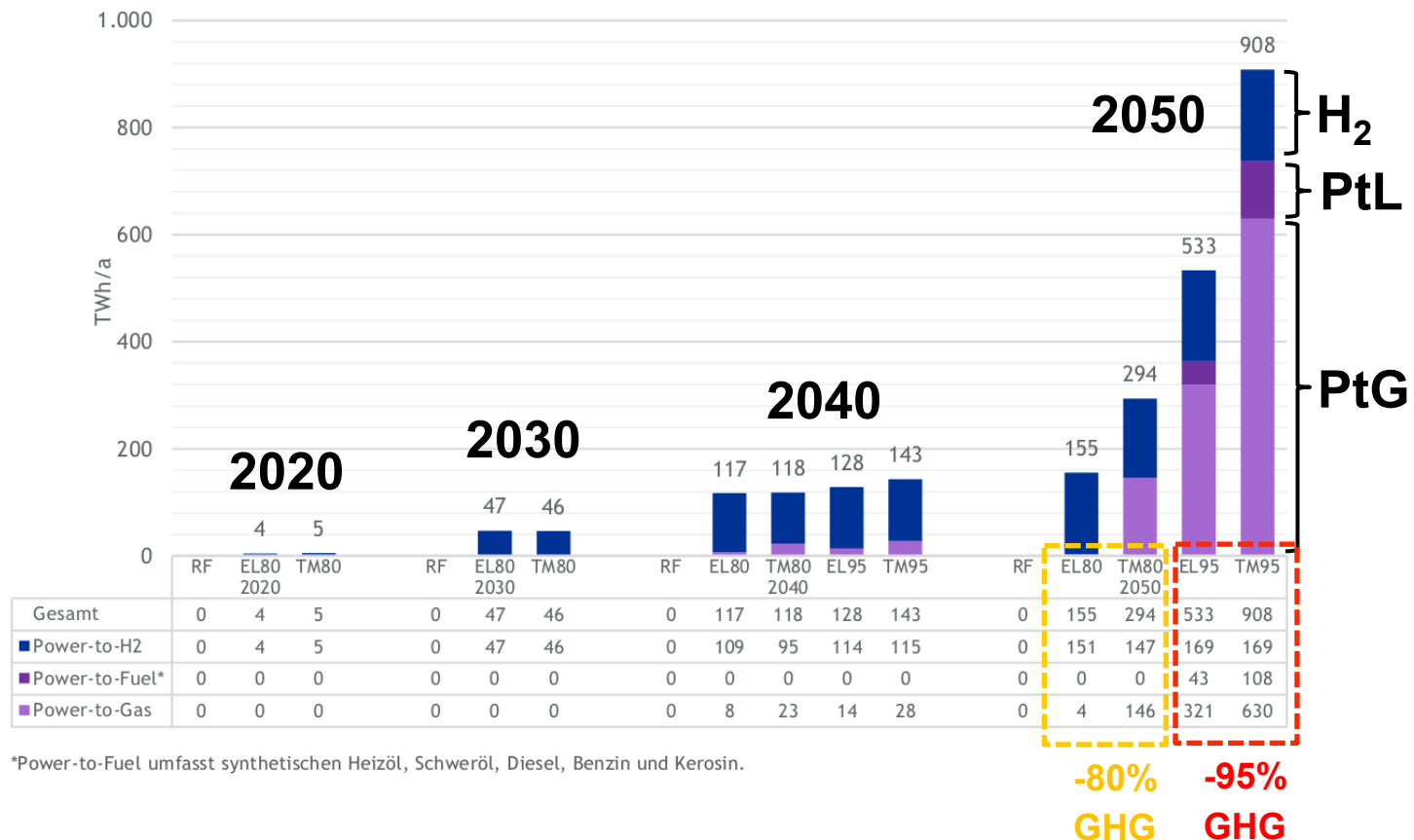


Final energy demand (FED) – Germany 1990, 2008, 2017





Relevance of H₂ with increasing climate ambitions





Strategic objectives of the German H₂ strategy

Establishing H₂ as
an alternative energy
carrier (esp. industry,
mobility)

Develop a
domestic market

Transport and
distribution
infrastructure

Making “green” H₂
and related tech
competitive

Promoting R&D

Establishing
international
markets and
cooperation

Transparent
certification,
guarantees of origin



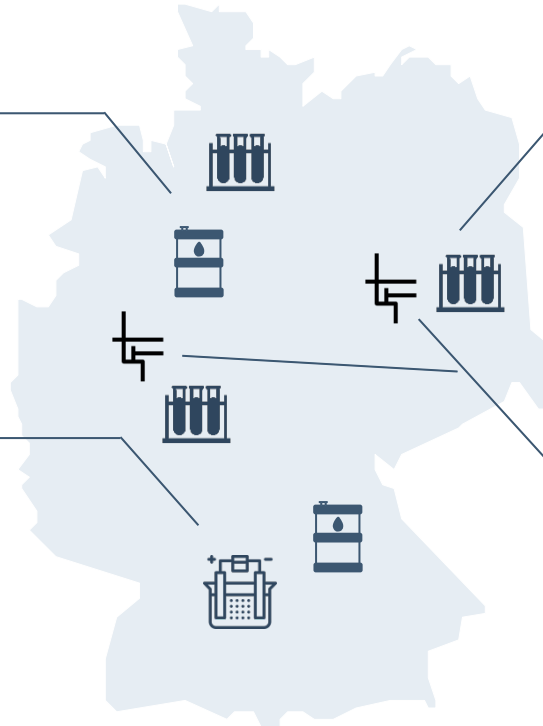
Hydrogen in Germany: state of play

Total yearly production:
ca. 55 TWh mainly
„grey“ H₂

mainly used for **ind. processes**, e.g.
production of
ammonia, methanol,...

3,85 TWh of hydrogen
are produced via
electrolysis

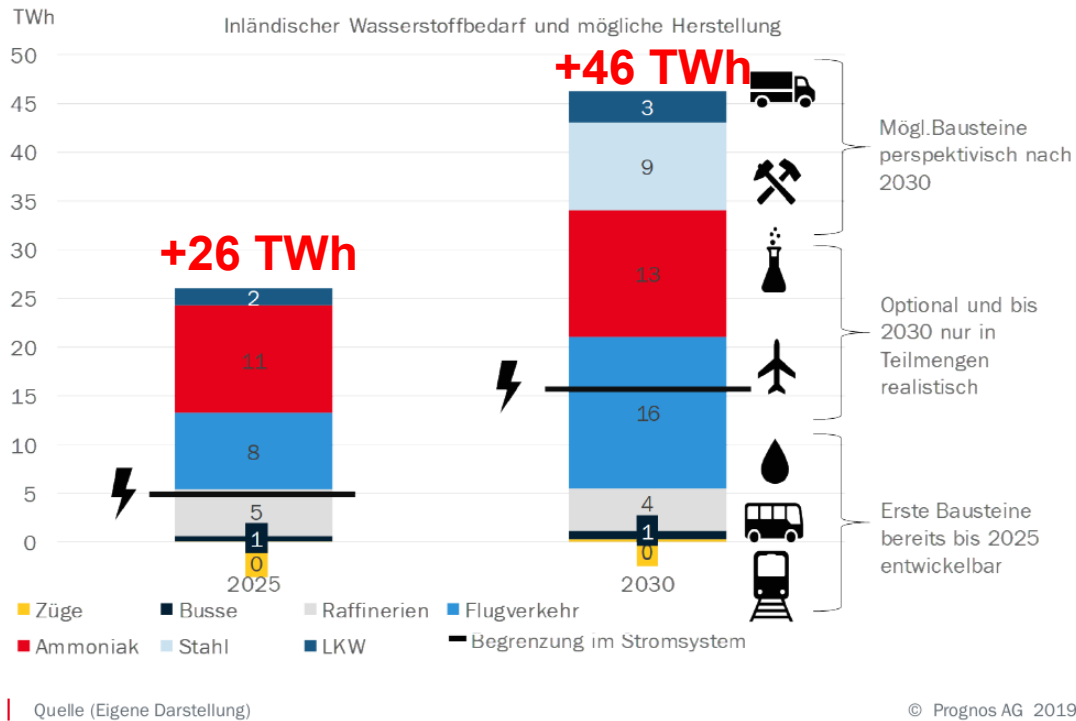
H₂-infrastructure:
Private networks
operated by Air Liquide
(>250 km) and Linde
(90 km)





Additional H₂-demand GER 2025, 2030 ?

Abbildung 34: Bausteine möglicher Transformationspfade





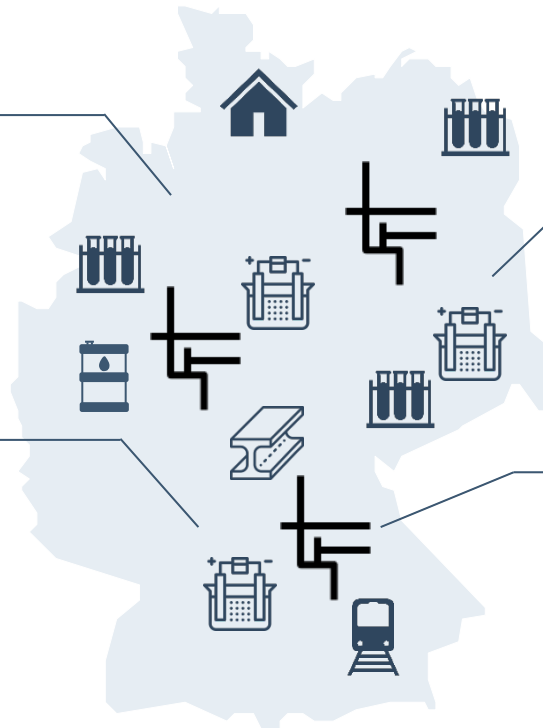
Future of hydrogen in Germany

Total hydrogen
demand in 2030
90 to 110 TWh

Growth in H₂ demand
at first mainly in
**industry and
transport**

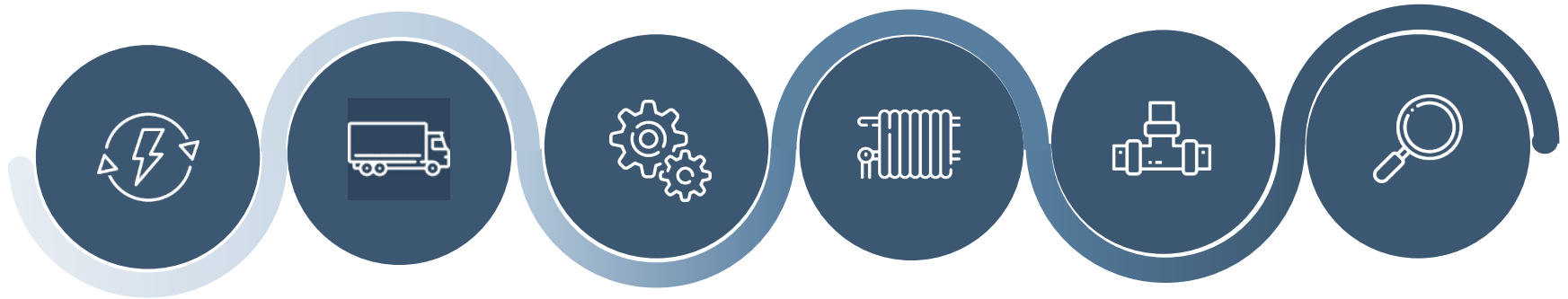
“Green” production capacity
of
up to 5 GW added until 2030
and 5 GW more at least in 2040

Build-up of needed
transport infrastructure





NWS-Action Plan: Necessary steps to success



- **9 bn €** from German recovery plan
- Focus on **integrated projects** along whole value chain
- Use where gap to **profitability** smallest or **no other alternative**
- **European** approach (esp. via IPCEI)



H₂-production

- Improve framework conditions (RED II implementation, CO₂-pricing,...)
- Fair design of state induced price components for electricity (esp. EEG-surcharge)
- Transparency on CO₂-footprint of production (need for a European methodology)



Infrastructure

- initiating possibilities for reconversion/use of existing structures
- Transitional regulatory framework for future H₂-infrastructure (EnWG revision)
- promoting the integration of electricity, heat and gas infrastructures

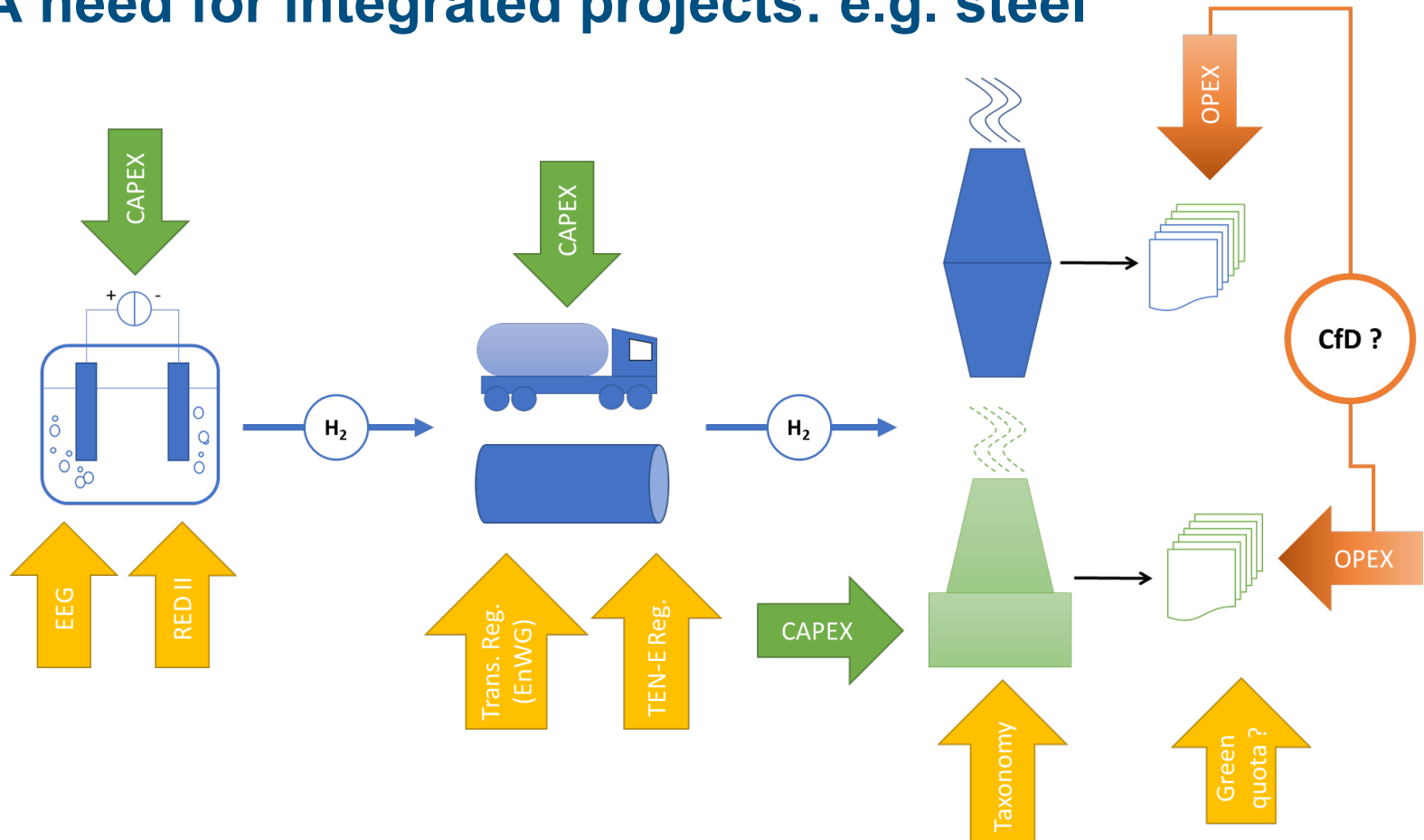


Industry & mobility

- CAPEX: dedicated programs, IPCEI
- OPEX: where needed, new pilot program for Carbon Contracts for Difference (CfD)
- sector-specific dialogues (steel, chemistry)
- Ambitious implementation of the EU Renewable Energies Directive (RED II)
- A push on H₂-refuelling stations



A need for integrated projects: e.g. steel



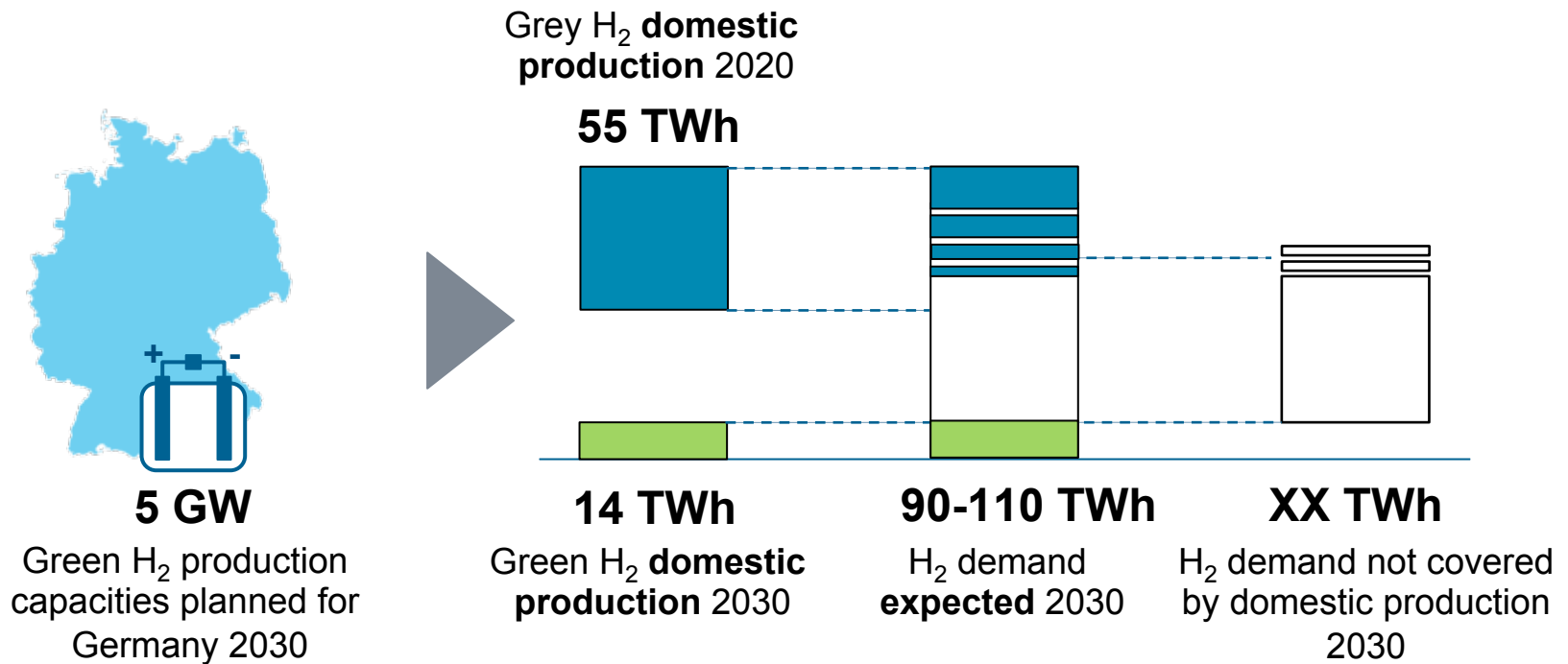


H₂ on the EU-level 2020-2021

- EU-H₂-strategy
- H₂ has been a focus of GER presidency of the EU council
 - develop common understanding of hydrogen as an element of **climate and industrial policy**
 - promote the development of an internal market for hydrogen, i.a. by facilitating the development of **European standards** for hydrogen
 - **Council conclusions** on 11.12.2020 and **Manifesto on IPCEI H₂** on 19.12.2020
- **IPCEI projects** along the whole value chain in order to promote H₂ technologies (GER call for expression of interest: 14.01.-19.02.)
- Critical year 2021:
 - Delegated acts on electricity and renewable energy carrier criteria (RED II)
 - Revision TEN-E Reg.
 - Taxonomy Reg.
 - Revision of Monitoring Reg. (CCU under EU-ETS ?)

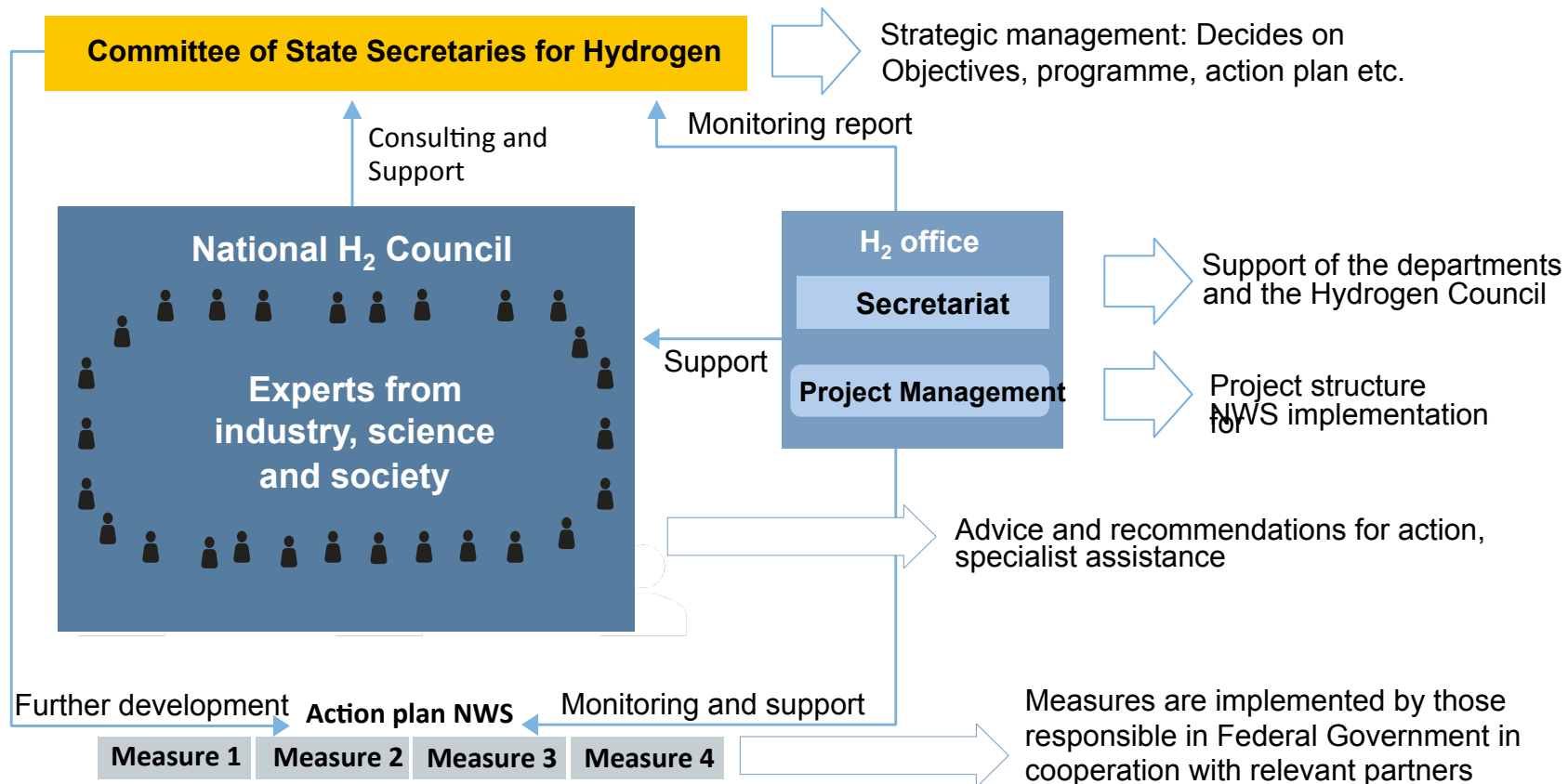


A large part of the hydrogen needed in Germany will have to be imported





Governance of the H₂ strategy





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Thank you for your attention.

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