UNIVERSITÄT GREIFSWALD
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IFZO – Energy Transition in the Baltic Sea Region

Energy Transition in the Baltic Sea Region – Research Agenda

Perceptions of NordStream2

Acceptance and activation of citizens

Common energy market

Energy Transition in the Baltic Sea Region – Research Agenda

Energy Trilemma: Security, Equity and the Environment

Engagement and Community Acceptance

Energy Transition Challenges & Uprising markets

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Transnational Cooperation –

Mutuality in interests and uncertainties?

WORLD ENERGY COUNCIL

ENERGY SECURITY

Reflects a nation's capacity to meet current and future energy demand reliably, withstand and bounce back swiftly from system shocks with minimal disruption to supplies.

ENERGY EQUITY

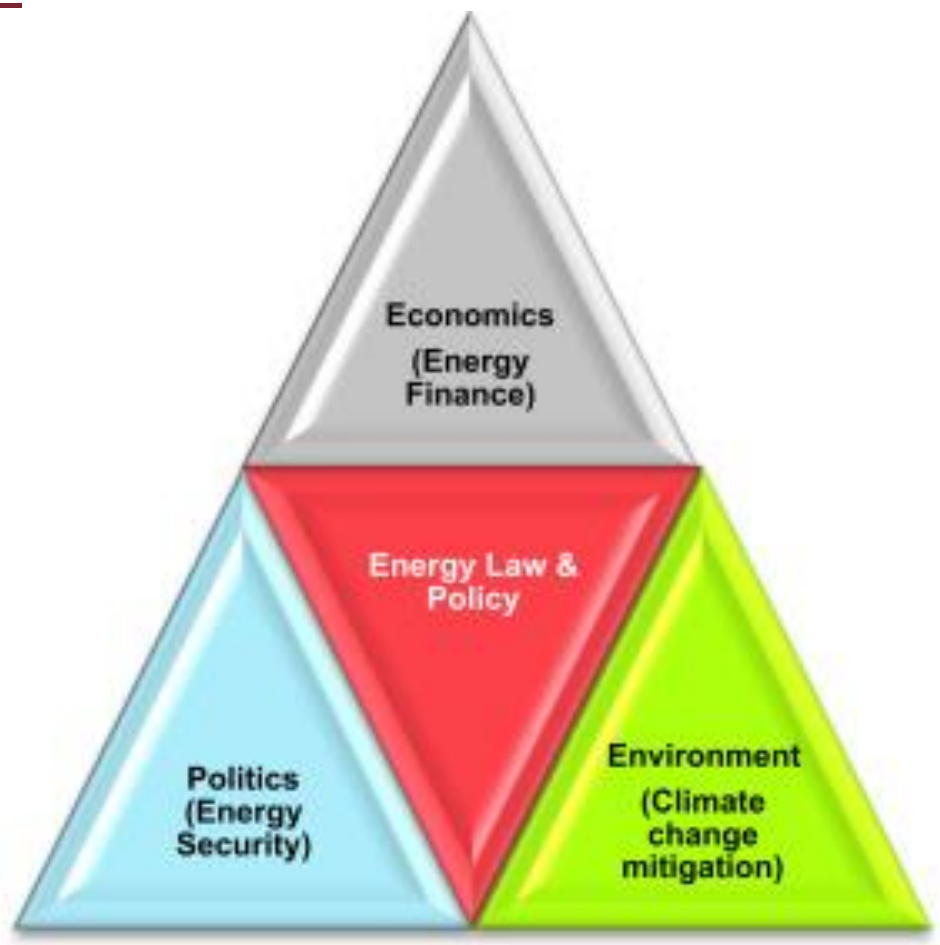
Assesses a country's ability to provide universal access to affordable, fairly priced and abundant energy for domestic and commercial use.

ENVIRONMENTAL SUSTAINABILITY

Represents the transition of a country's energy system towards mitigating and avoiding potential environmental harm and climate change impacts.

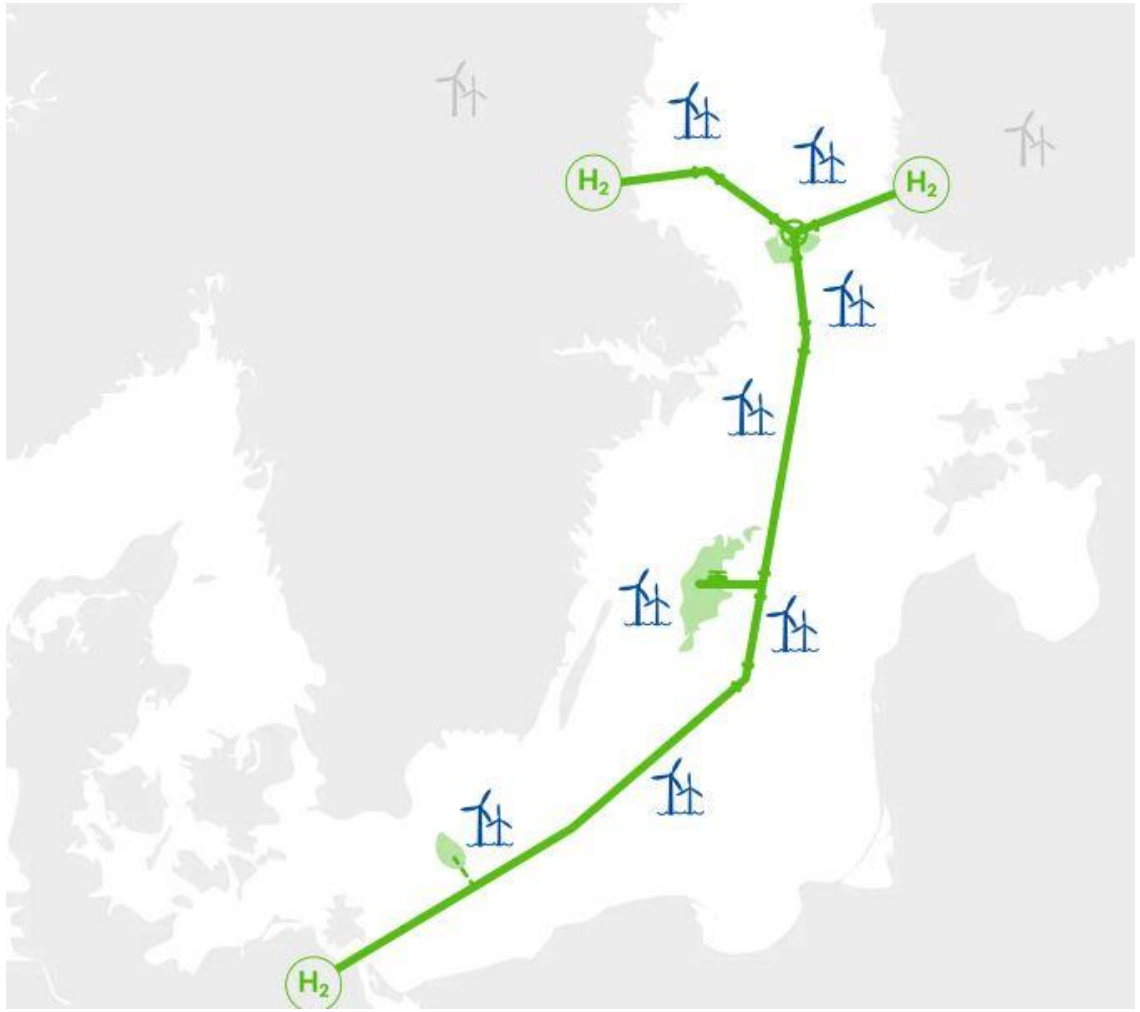
Source: World Energy Council Transition Toolkit (2019), https://www.worldenergy.org/transition-toolkit/world-energy-trilemma-framework.

From the Energy Trilemma to the Hydrogen Trilemma



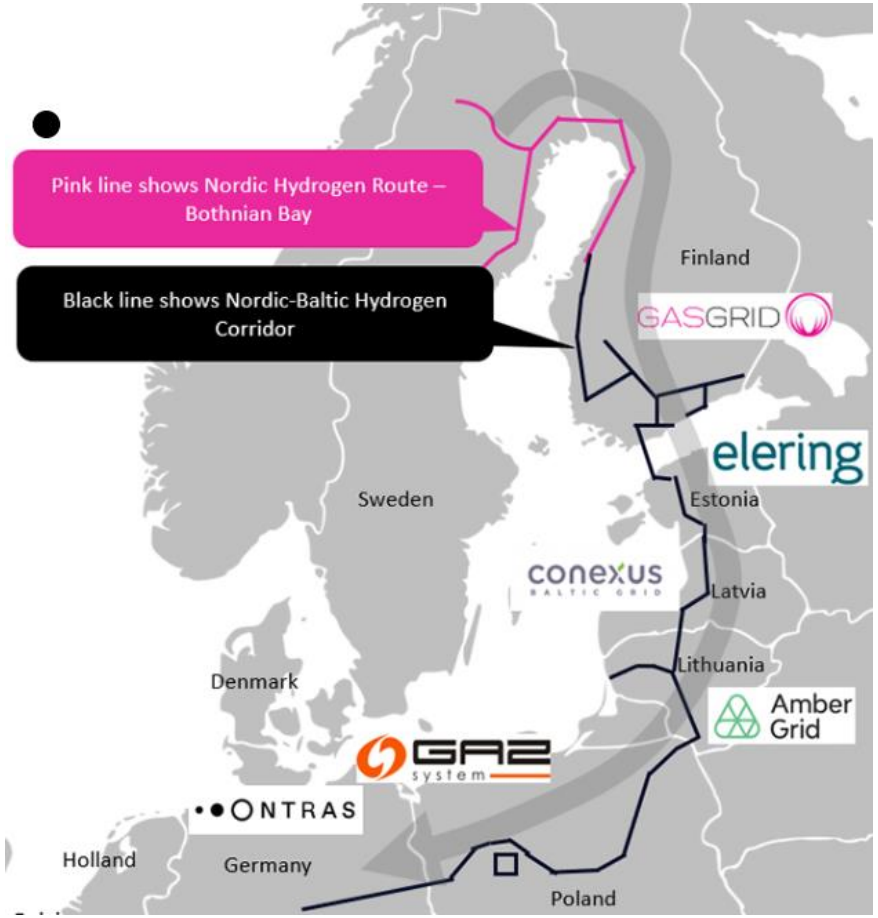
Schematic representation of the Triangle of Energy Law and Policy or the. Energy Trilemma respectively, Heffron et al. (2015), in: Energy Policy 87 (5), pp. 168 ff.

The Hydrogen Trilemma



Source: Baltic Sea Hydrogen Collector, https://balticseahydrogencollector.com/about-the-project/

The Hydrogen Trilemma



Source: Nordic Baltic Hydrogen Corridor, https://www.ontras.com/de/aktuelles/newsroom/nordic-baltic-hydrogen-corridor

The Hydrogen Trilemma

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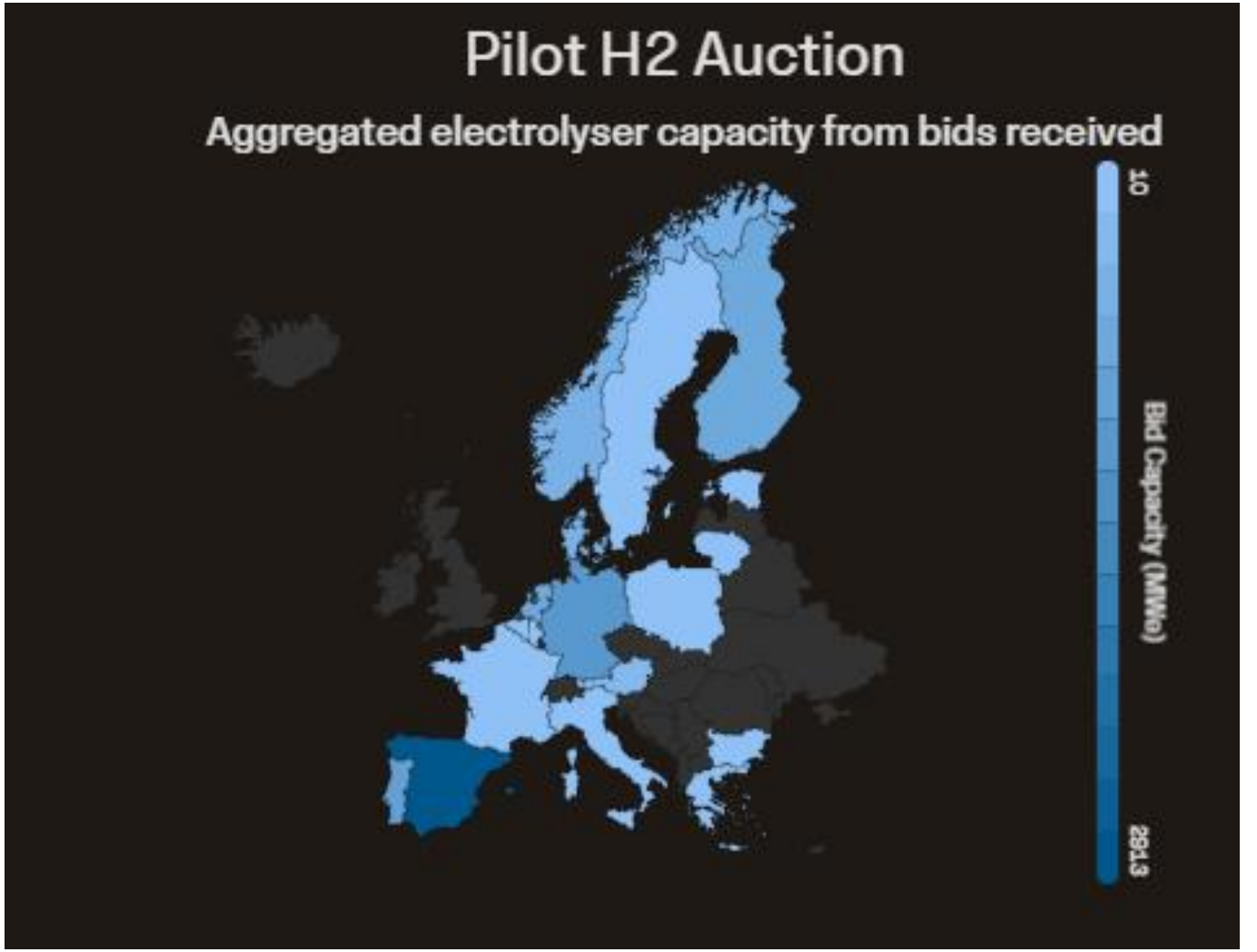
Source: H2 Interconnector Bornholm-Lubmin, https://www.gascade.de/presse/presseinformationen/pressemitteilung/neue-wasserstoffpipeline-bornholm-lubmin-mit-grossen-ambitionen-im-ostseeraum

The Hydrogen Trilemma

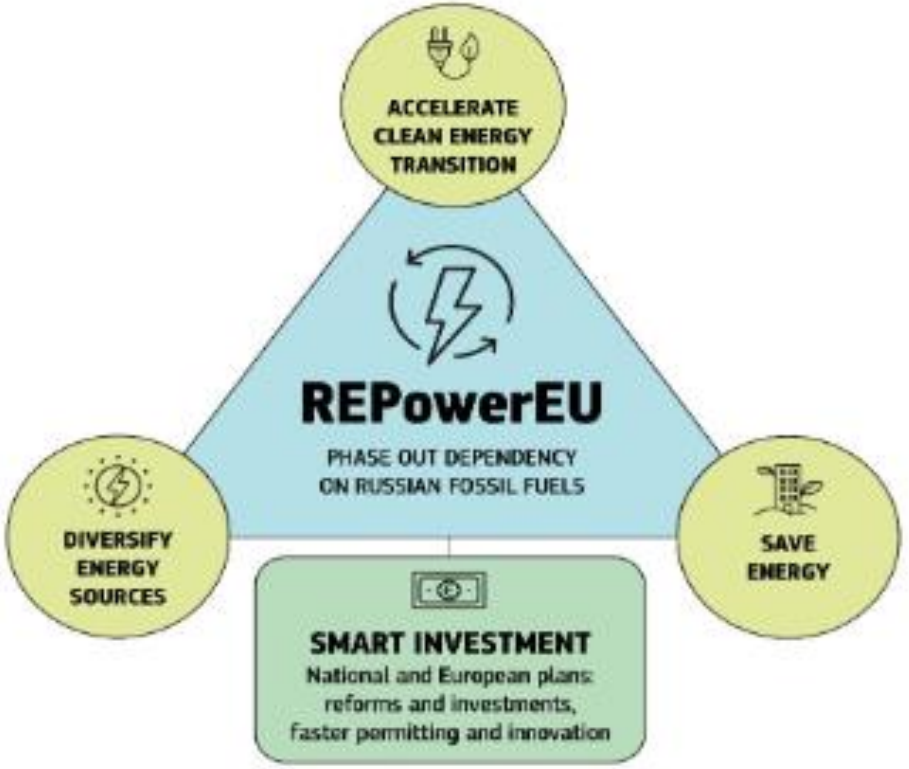


Source: EHB Pilot auction bid, https://www.veyt.com/articles/eu-hydrogen-bank-awards-keenly-contested-pilot-auction?mtm_campaign=promoting-analyst-articles&mtm_source=linkedin&mtm_medium=organic_post&mtm_content=eu-hydrogen-bank-awards-keenly-contested-pilot-auction

The Hydrogen Trilemma

- Hydrogen major role in energy transition in Europe and BSR
- Region with major producers and consumers in the envisioned future hydrogen economy
- After Russian aggression and energy crisis additional momentum towards hydrogen
- Combining energy security policy and energy transition (decarbonisation)
- Shift from sustainability to security (diversification, import security)
- Hydrogen trilemma and „scale first, green later“

The Hydrogen Trilemma



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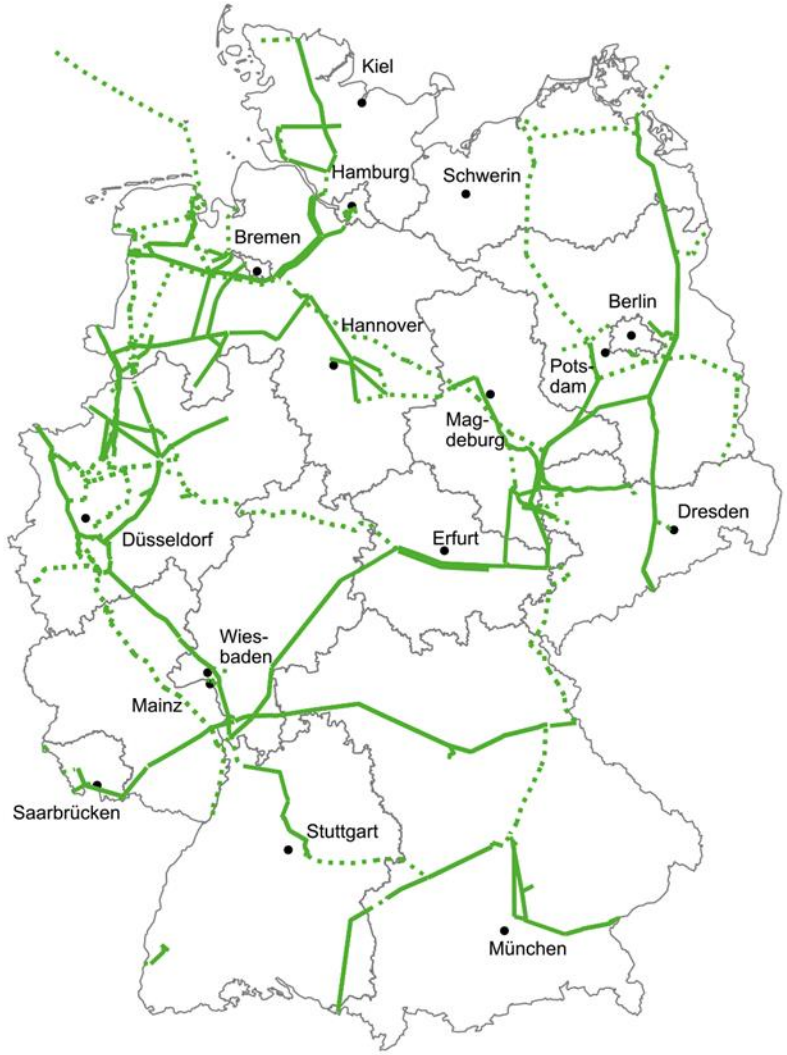
Mutual Uncertainties?

Uncertainties are certain:

- Hydrogen demand in Europe, the region, the national states, and individual sectors
- Technologies in supply and demand
- Prices
- …

The future hydrogen economy?

From short-term scarcity to long-term uncertainty


Kiel
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Mag-
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Dresden
Düsseldorf
Erfurt
Wies-
baden
Mainz
Saarbrücken
Stuttgart
München

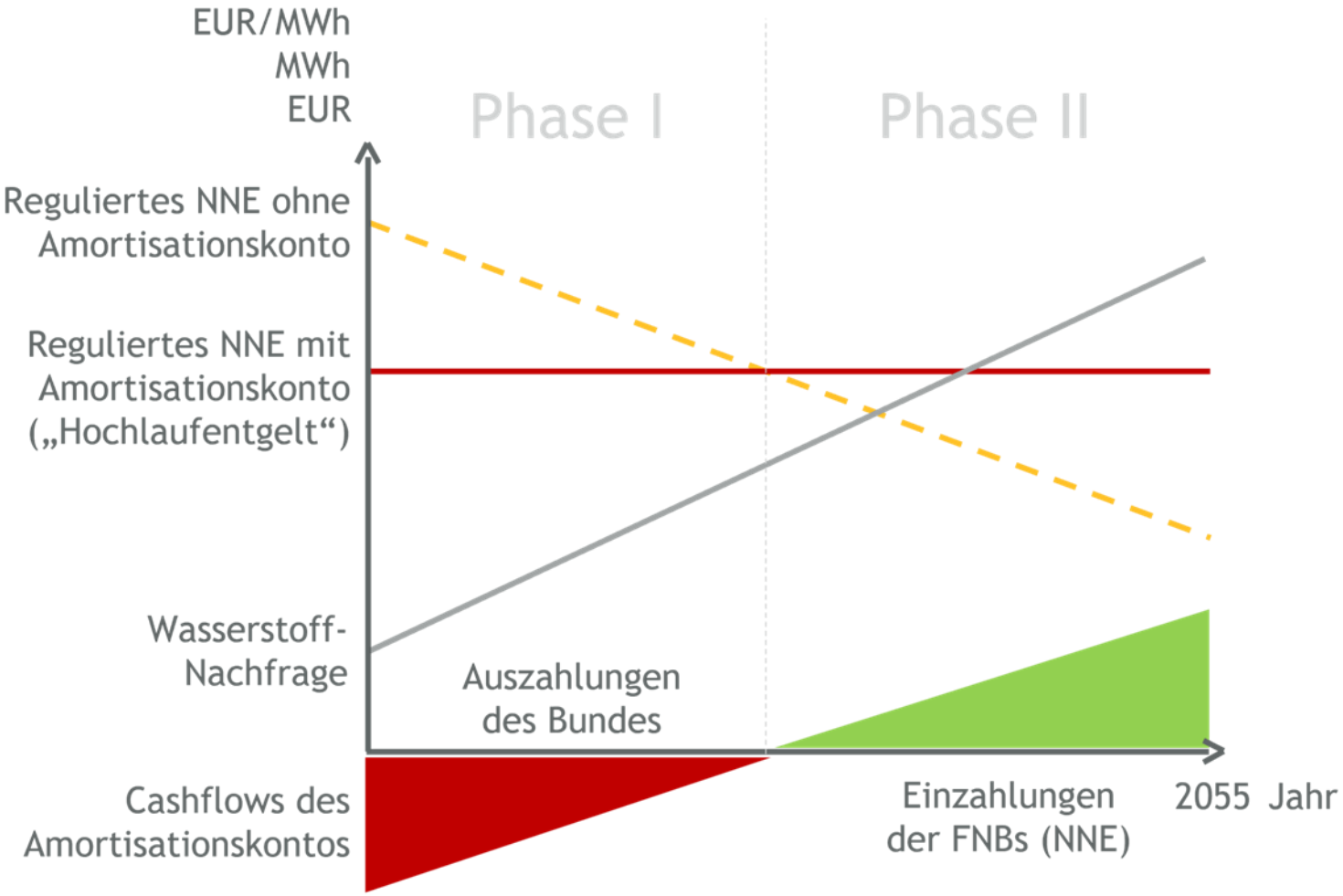
Uncertainties include, among others::

- Uncertainties regarding the success, timing and scope of the ramp-up**:**

  Lack of demand - Lack of production - Lack of imports
- **Political and regulatory uncertainties**
- Dependence on political decisions and regulatory measures.
- Changes in energy policy due to changes in government could interrupt support measures or lead to delays.
- **Technological uncertainties**
- Developments in hydrogen production, storage and transport and/or alternative forms of storage. .

Solution: Financing model

- -Financing model - developed jointly with BNetzA, FNB, BMWK and BMF: Private state with subsidiary state protection
- Uniform nationwide ramp-up fee amortisation account for the booking of shortfalls and surpluses in the ramp-up phase
  - Intertemporal cost allocation mechanism
  - Interim financing of the amortisation account by an account-keeping body to be commissioned by the federal government



Quelle: EWI Köln

„Ich glaube, es ist ***eins der innovativsten und klügsten Förderinstrumente, die wir uns in den letzten Jahren ausgedacht haben und Halbeuropa schaut interessiert darauf, was wir hier machen. Ich glaube, dass das Amortisationskonto noch vor einer steilen Karriere in Europa steht.****“ (Habeck, Pressekonferenz, 15.7.2024)*

["I think it's one of the most innovative and cleverest funding instruments we've come up with in recent years and half of Europe is looking with interest at what we're doing here. I believe that the amortisation account still has a steep career ahead of it in Europe." (Habeck, press conference, 15 July 2024)]

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