German H2 Core Network

Brdo Congress Centre

Gideon Saunders
Senior Advisor Regulatory Affairs

18th September 2025

Background to creation of a Core Network in Germany

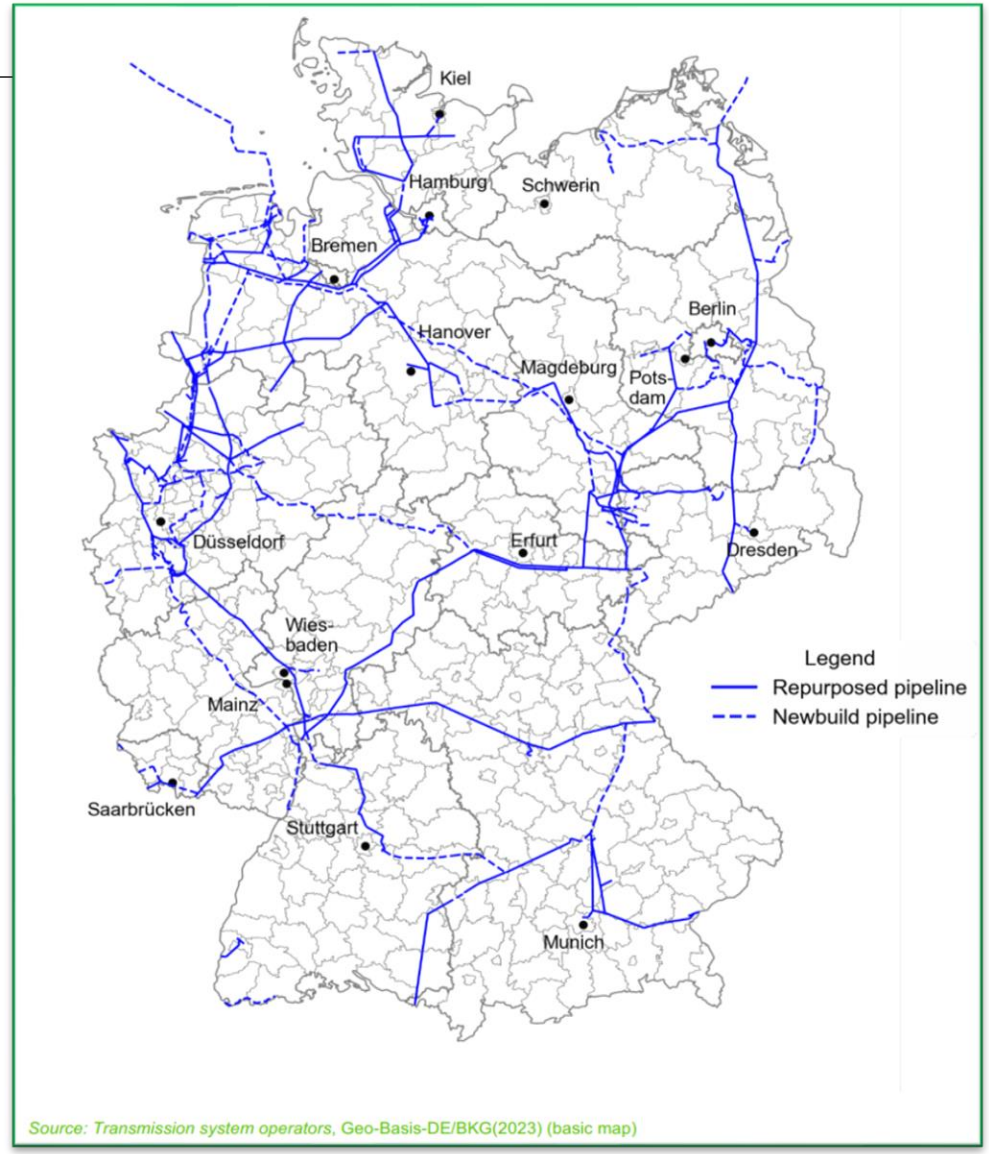
- German government determines need for hydrogen
  - Coalition agreement 2021 commits to H2 network development.
- *Solve chicken-or-egg dilemma by buying eggs*
- Budgetary concerns of German government (subsidies and/or private capital?)
- Private actors or state-run corporation?
  - Additional complication of multi-TSO model in Germany
- Need to create model that de-risks long-term investments in an uncertain market

German H2 Core Network – Key Premises

- Creation of a „**visionary“ H2 network** based on criteria agreed in advance with the German government
- Specific **end-use sectors** defined by German government focusing on **hard-to-abate** customers
  - steel, chemicals, fertilisers, glass, ceramics
  - Power generation: hydrogen-ready gas-fired CHP power plants (100 MW el)
  - Connections to import corridors and H2 storage
- H2-Core Network development **anchored in German NDP and dialogue with the market**
  - Scenario framework created in NDP 2022-2032
  - Basis was a market survey including letters of intent from industry (250 industry participants for approx. 165 TWh H2 demand)
  - Projects evaluated for inclusion by German regulator and consulted publicly

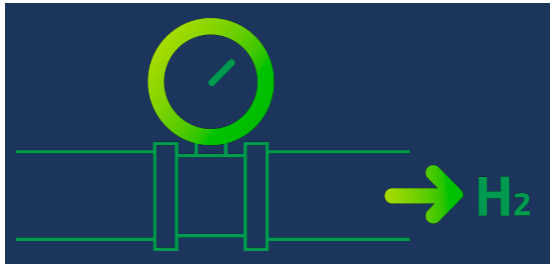
German H2 Core Network – At a glance

- 18.9 bn Euro investment
- 9,040 km pipelines with connections to production, demand, import and storage
  - 13 interconnection points with 8 countries
- 60% repurposed pipelines
- Entry capacity: 101 GW
  - 58 GW import capacity at IPs
- Exit capacity: 87 GW
- Timeline:
  - July 2024 – TSOs formally applied to develop backbone
  - October 2024 – Application granted by NRA
  - 2025 – First H2 pipelines in operation



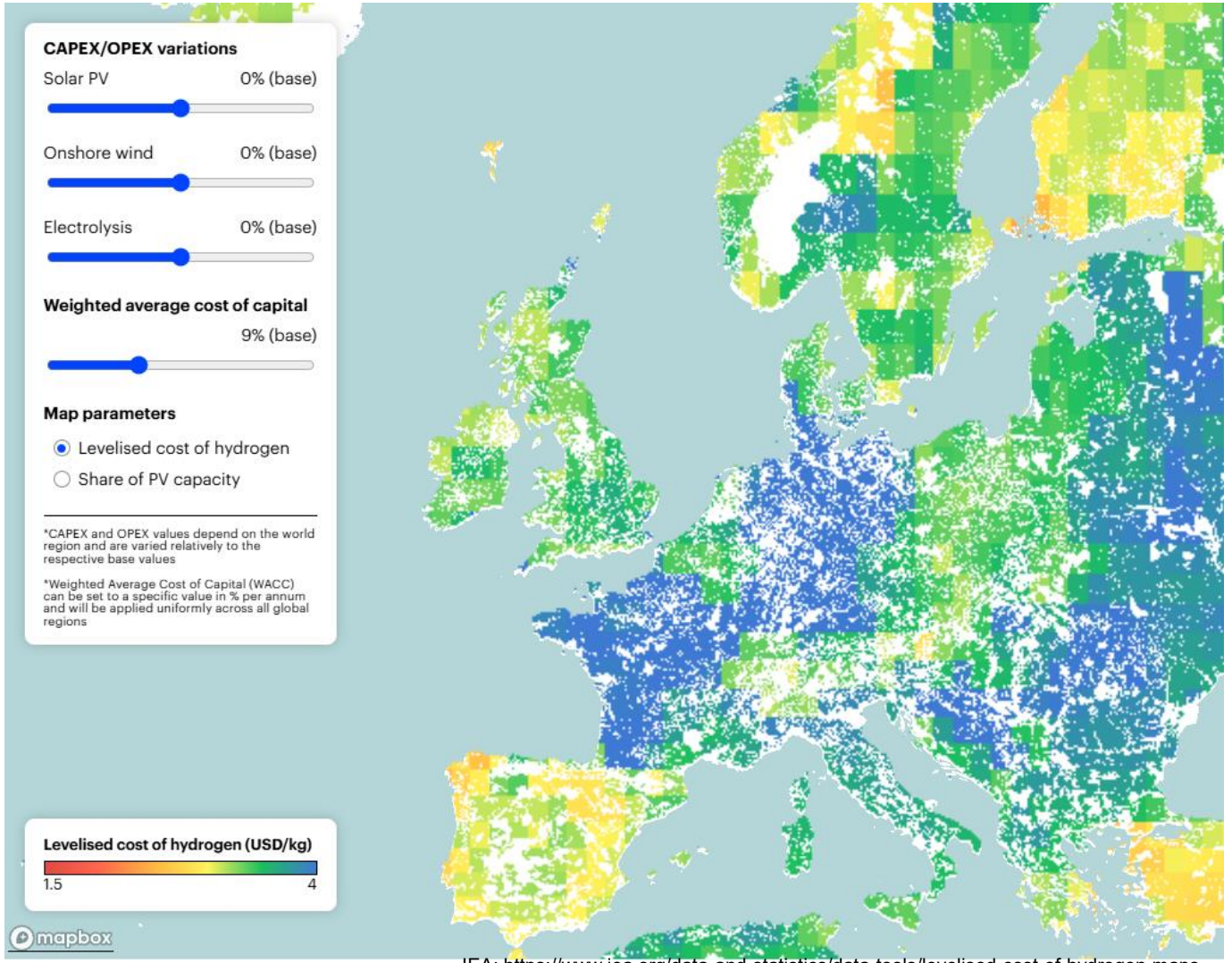
Repurposing Existing Infrastructure

Document Analysis → Pipeline Inspection → Technical Amendments → Approval by Authorities → Filling with Hydrogen



The European Context

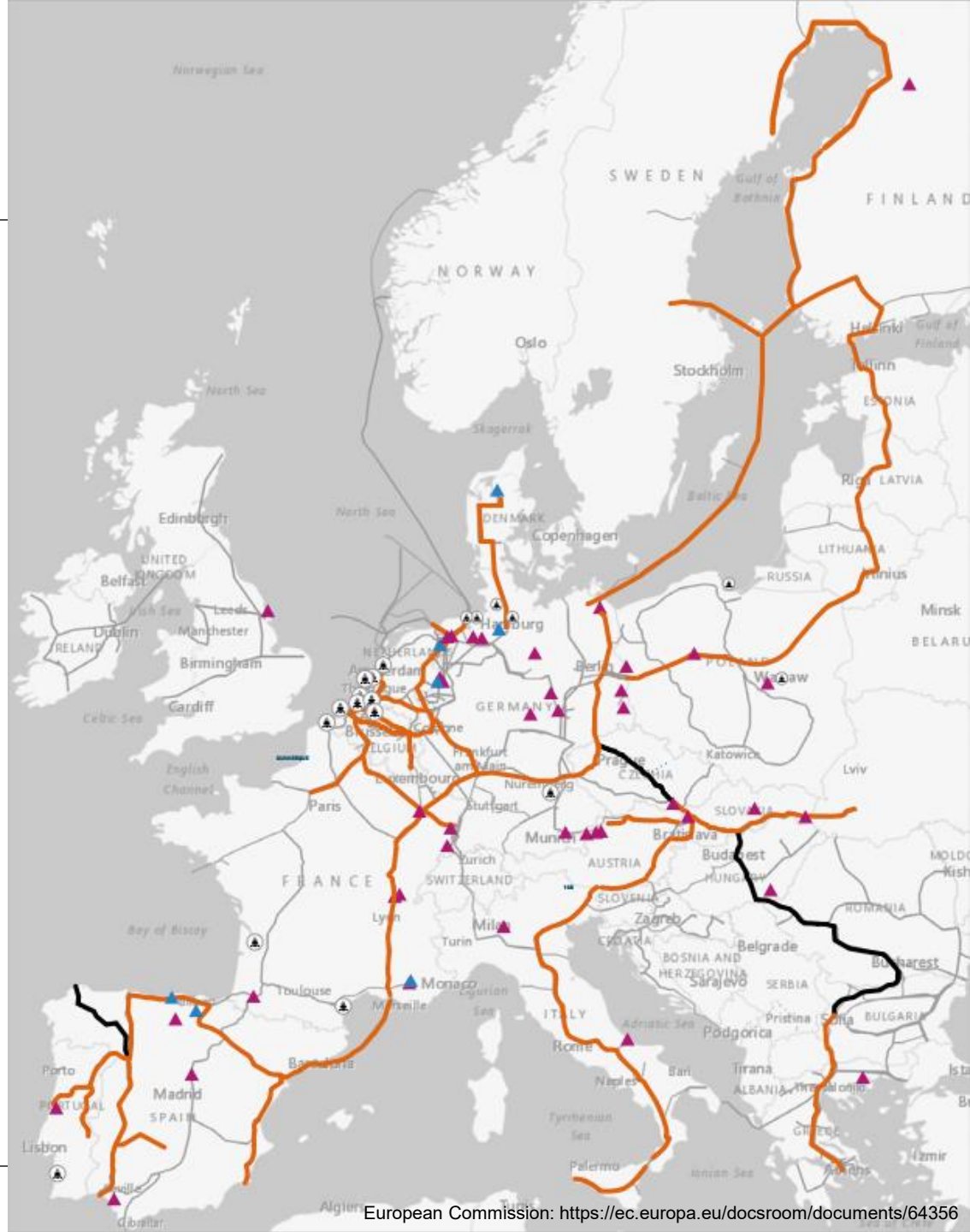
- H2 Core Network cannot end at Germany‘s borders
- H2 Supply: Sources and sinks geographically distant
- Pipeline infrastructure essential and unavoidable in order to connect most-efficient production with largest demand
- Current infrastructure projects focus on national level only



IEA: https://www.iea.org/data-and-statistics/data-tools/levelised-cost-of-hydrogen-maps

EU Hydrogen Import Corridors

- **Six corridors**: North Sea, Baltic Sea, East, Southeast, South-Central and Iberian.
- **21,000 km of pipelines** including substantial repurposing
- **17 terminals**
- **40 storage sites**
- **92%** of corridor network on the EU List of Projects of Common Interest (**PCI**)/Projects of Mutual Interest (**PMI**)

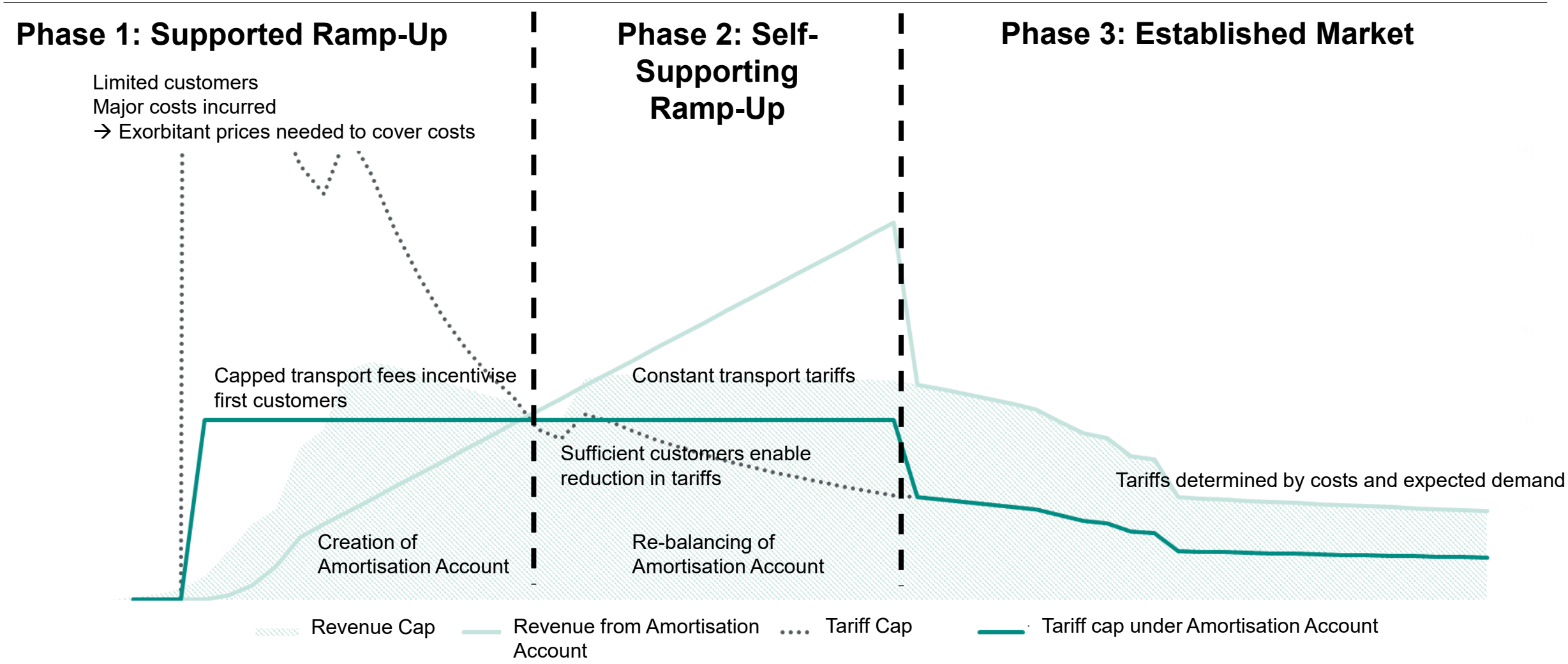


European Commission: https://ec.europa.eu/docsroom/documents/64356

ITCA/Amortisation Account of the German H2 Core Network

- Model finances network development with **private capital and network fees only**
- **One transport tariff** across whole country (exact figure tbc)
- Return on equity and transport tariff agreed with the NRA
- **Intertemporal Cost Allocation Mechanism**
  - **Fixed term –** ITCA in operation until 2055 (opt-out clause in 2039)
  - **Network fees capped** in ramp-up phase to incentivise first-movers
    - Amortisation Account secures initial losses resulting from capped fees
    - Losses balanced in AA once ramp-up achieved
  - **Opt-out clause** in case of market ramp-up failure:
    - government can opt to cancel the account
    - Risks shared between German government (majority) and TSOs (minority)
- Key pre-requisite: Legal possibility for ITCA model (EU Gas-Reg Art. 5)

Development of the ITCA/Amortisation Account



*§ 28r (1) S. 2 EnWG (neue Fassung)

The Way Forward

- H2 Core Network to be fully operational by 2032
  - First projects already in technical operation
- Legal implementation status
  - H2 Core Network already legally implemented
  - Implementation of new EU Gas Directive (H2 market rules) to be finalised in Germany by 2026.
- Creation of ENNOH as EU association of H2 transmission network operators – Development of H2 network codes in next years
- Discussions ongoing between network operators and EU regarding potential EU-wide de-risking model for H2 infrastructure

Thank you

Time for questions!

ONTRAS

gideon.saunders@ontras.com **Gideon Saunders**