



Advancing hydrogen infrastructure for Hamburg's Industry – Status, successes and challenges of HH-WIN

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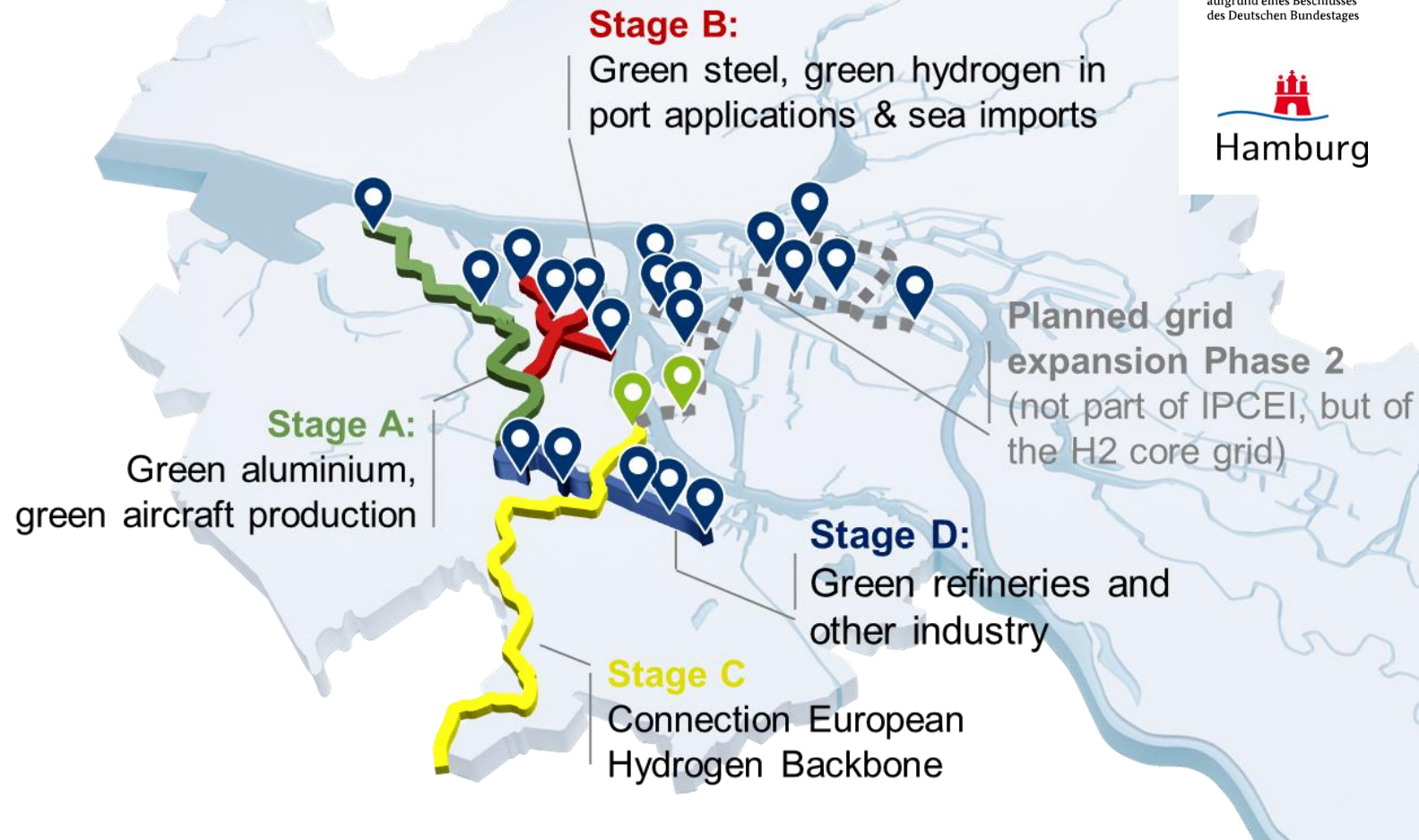
Hamburg Hydrogen Industry Grid

Important Projects of Common European Interest

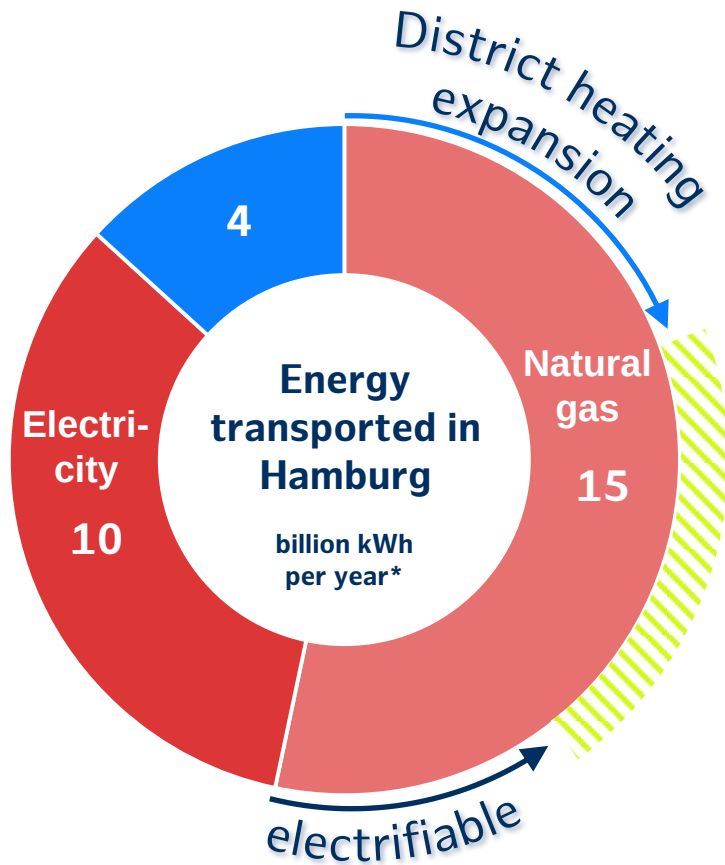
A hydrogen grid for industry, commerce and mobility in the south of Hamburg

- **Phase 1** – IPCEI funded: **40 km** until **2027**
 - 33 km newly constructed
 - 7 km conversion of natural gas pipeline
 - Dimension: DN200-DN500, 25/70 bar design pressure
- **Phase 2** – additional **20 km** until **2031**
- **H2 feed-in:**
 - local production sites
 - import
 - via pipeline (connection to European Hydrogen Backbone, bidirectional design)
 - via ship / sea imports

IPCEI HH-WIN:
Stages **A** + **B** + **C** + **D**



HH-WIN: Few kilometers, great impact.



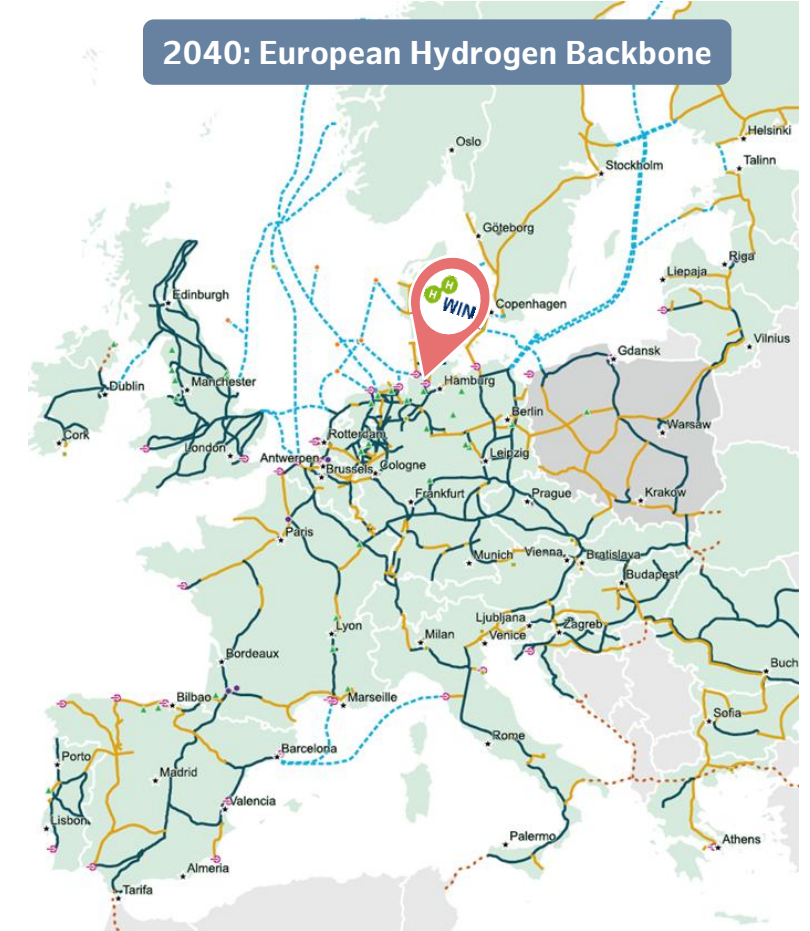
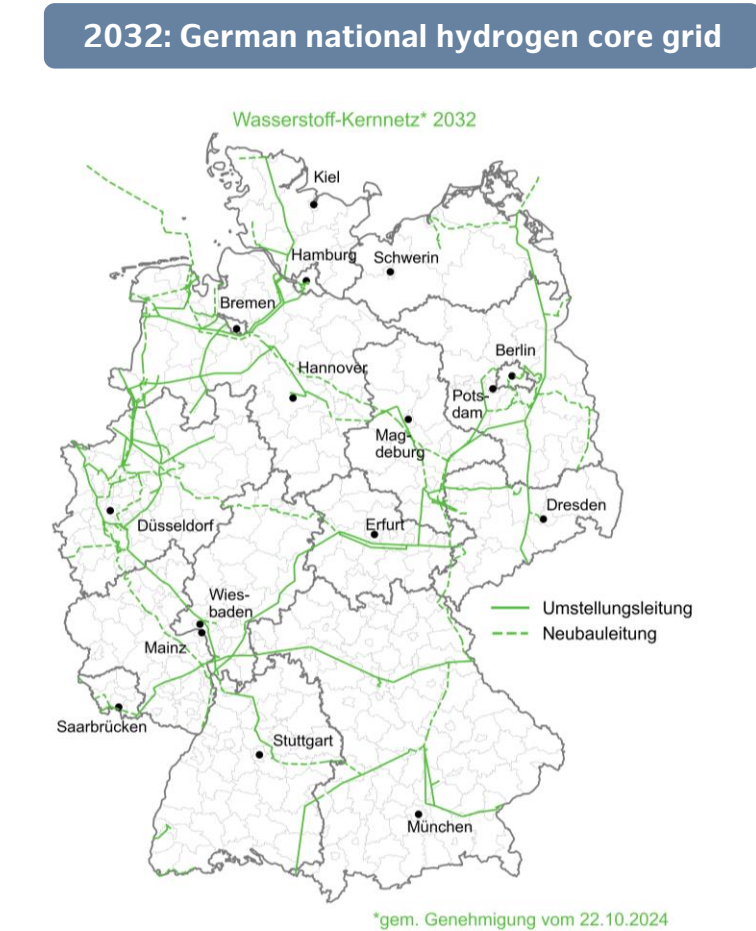
Hydrogen as
a building
block for
**climate
neutrality**

	Grid length	Transported energy
Natural gas	7.800 km	15-21 TWh
H ₂ (HH-WIN Phase 1 + 2)	60 km	≤ 6 TWh

HH-WIN: Annual CO₂ savings potential of around **1.4 million tons** of CO₂

corresponds to a CO₂ reduction potential of 10 % of Hamburg's total emissions in 2021

HH-WIN: Building block of the emerging H2 infrastructure

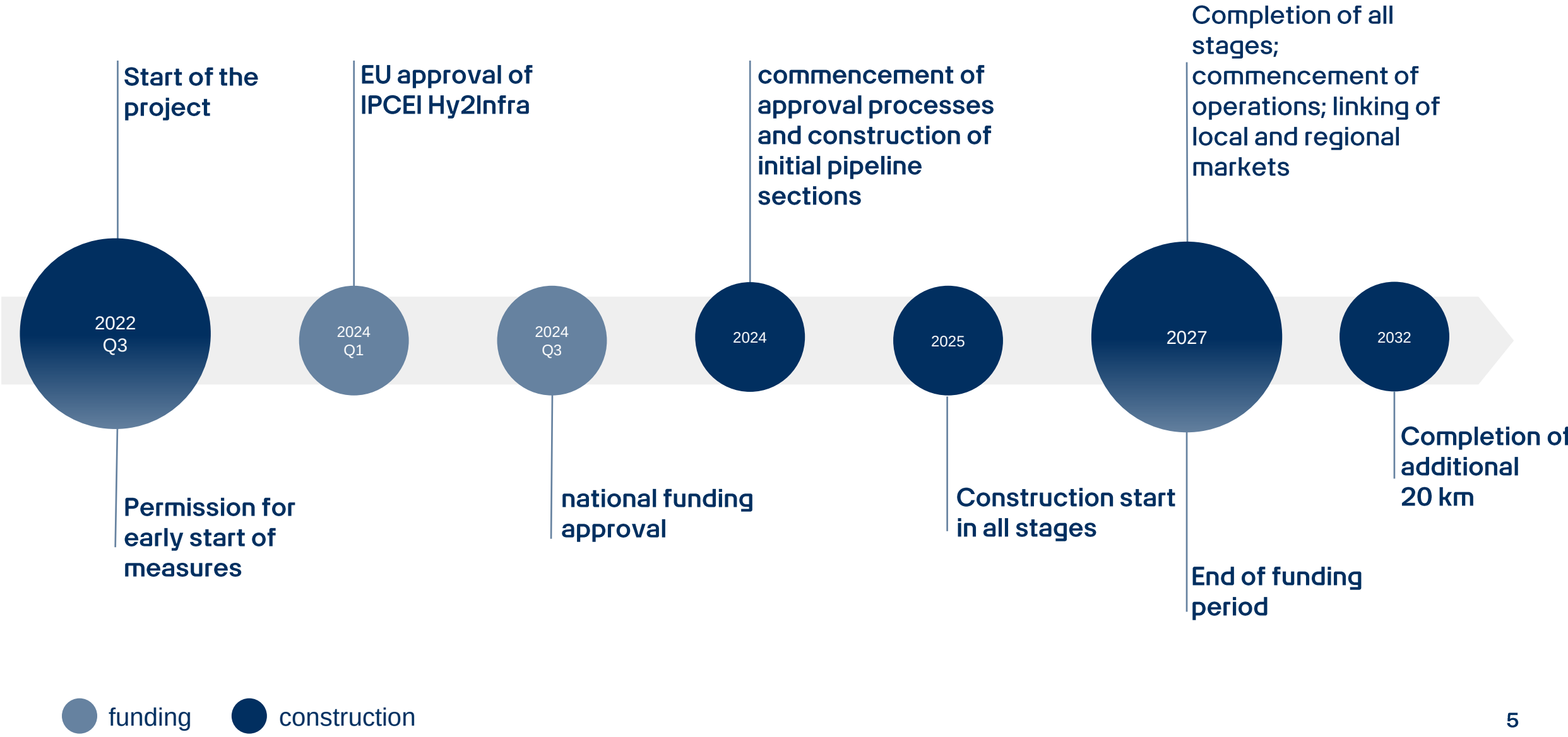


https://ec.europa.eu/commission/presscorner/detail/en/ip_24_789

<https://fnb-gas.de/wasserstoffnetz-wasserstoff-kernnetz/>

European Hydrogen Backbone, EHB initiative to provide insights on infrastructure development by 2030, July 2023. <https://ehb.eu/page/publications>

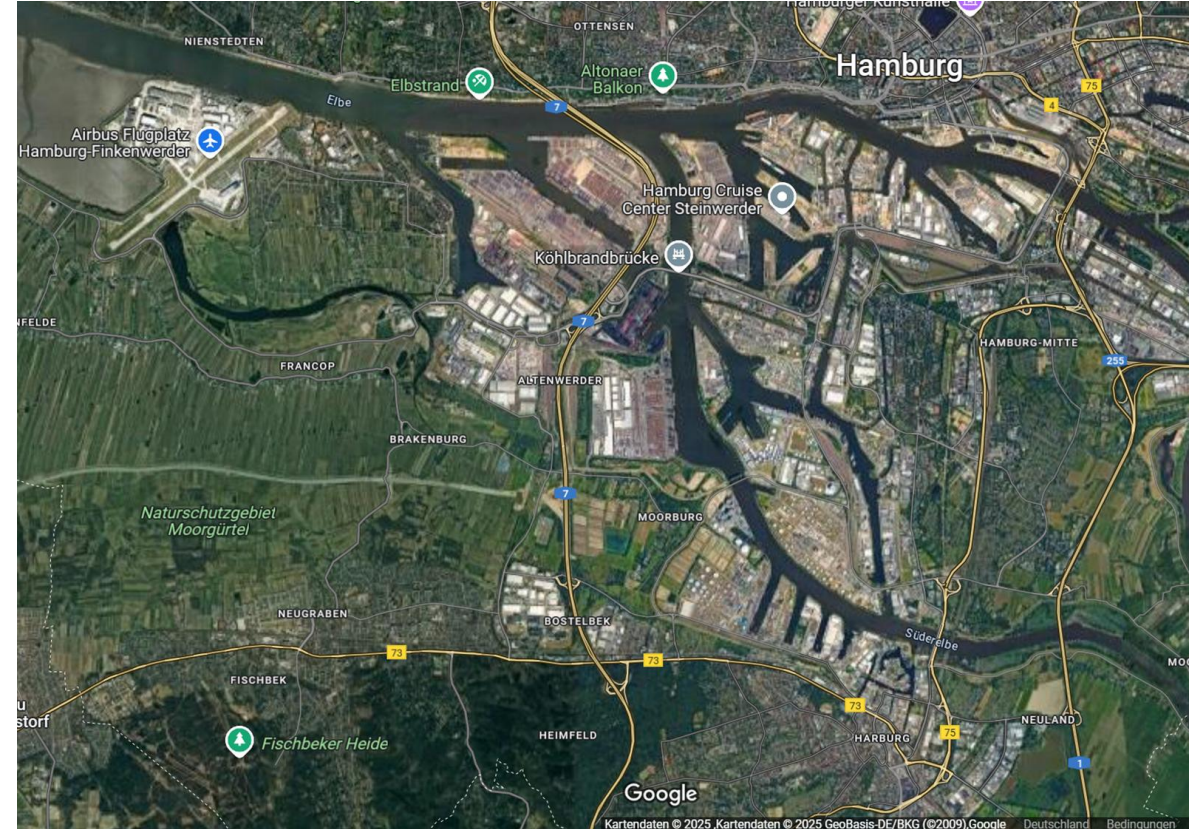
HH-WIN / Timetable



Challenges

Pipeline Construction in a Metropolitan Area

- Traffic Planning: High traffic and logistical demands in the port area necessitate effective planning and coordination.
- Special Structures: Requirement for diverse technical solutions such as drilling, bridges, and siphons
- Ongoing Projects: Multiple concurrent infrastructure projects, including:
 - Highway expansions
 - Construction of a major port-crossing traffic bridge (Köhlbrandbrücke)
 - Renovation and maintenance of main traffic routes and bridges in the Port of Hamburg
 - Expansion of energy infrastructure (electricity and district heating).



Step by step, one reaches the goal: Construction sections IPCEI HH-WIN*

Phase 1: approximately 40 km of pipeline length, of which about 33 km is new construction

- **6 construction sections**, divided into nearly **30 lots**
- **Two stations** for network operation (mainly measurement and gas pressure regulation)
- **Efficient Project Management:** Creation of many smaller lots for better handling of external interfaces (.
- **Broader Supplier Market:** Engagement of local and supraregional service providers as well as bidding communities.

*Status 05/25



Successes and milestones



IPCEI funding approval

Ready to proceed with the final investment decision.



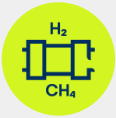
Confirmation of core grid

The network expansion by an additional 20 km will take place.



Facility planning

Initial planning orders for H2 customer facilities have been placed. Planning of grid stations is completed.



Conversion

Positive pigging results and the purchase of an existing pipeline allow for a partial waiver of new construction.



3 + 7 km installed

3 completed advance installations + 7 km as part of the conversion of an existing pipeline



Additional 14 km...

...are currently in the implementation phase (ongoing construction activities).

Gemeinsam Hamburg möglich machen.

H HAMBURGER
ENERGIENETZE

Thank you for
listening!