Hydrogen grid for Hamburg's industry

HY-5 Digital Briefing

07.10.2022, Dr. Elisabeth Ziemann

GASNETZ HAMBURG

Gasnetz Hamburg GmbH

Short classification

1844

HEIN GAS

City gas with 50% hydrogen and natural gas for Hamburg

2003

e·on | Hanse

Privatization through Group integration

2010

Hamburg Netz

Regionalization as an E.ON subsidiary

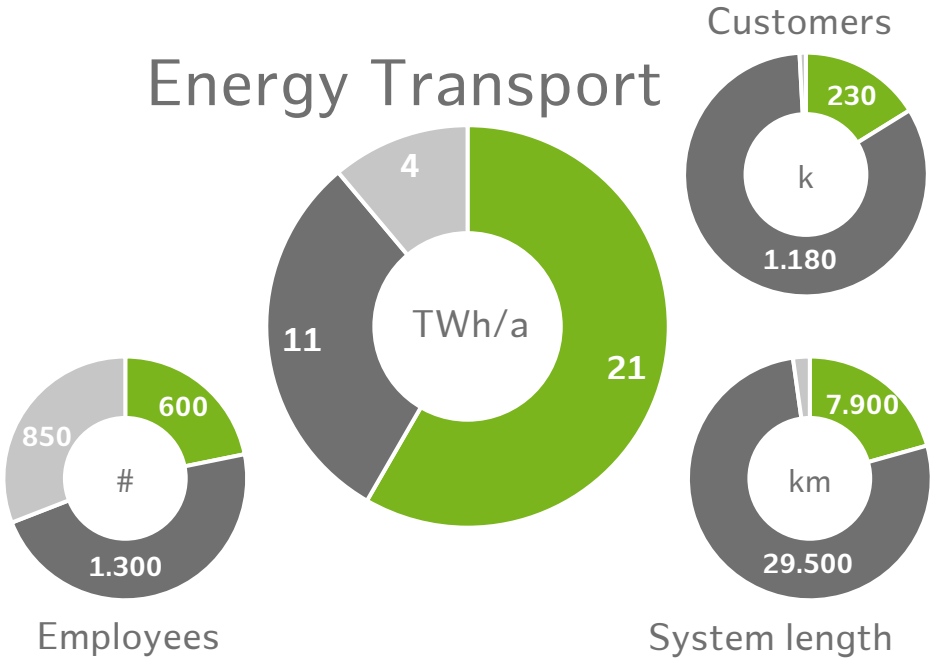
2018

GASNETZ HAMBURG

Municipal towards green gas

The Hamburg Energy System

Joint together as municipal companies



100% municipal

since 2015 Stromnetz Hamburg

since 2018 GASNETZ HAMBURG

since 2019 Hamburger Energiewerke

since 2022 Hamburg Energie + Wärme Hamburg

GASNETZ HAMBURG

Metropolitan Region And Port of Hamburg

Harbour city in the north of Germany

- **Cluster for production, heavy and basic industry**
- **Spatial proximity to North German (offshore) wind farms**
- **Infrastructure for sea and pipeline imports of hydrogen** Port, European Hydrogen Backbone
- **Largest European rail port** sustainable interface to the European backcountry
- **Largest field for hydrogen applications in heavy logistics**
- **Strong business and research location**

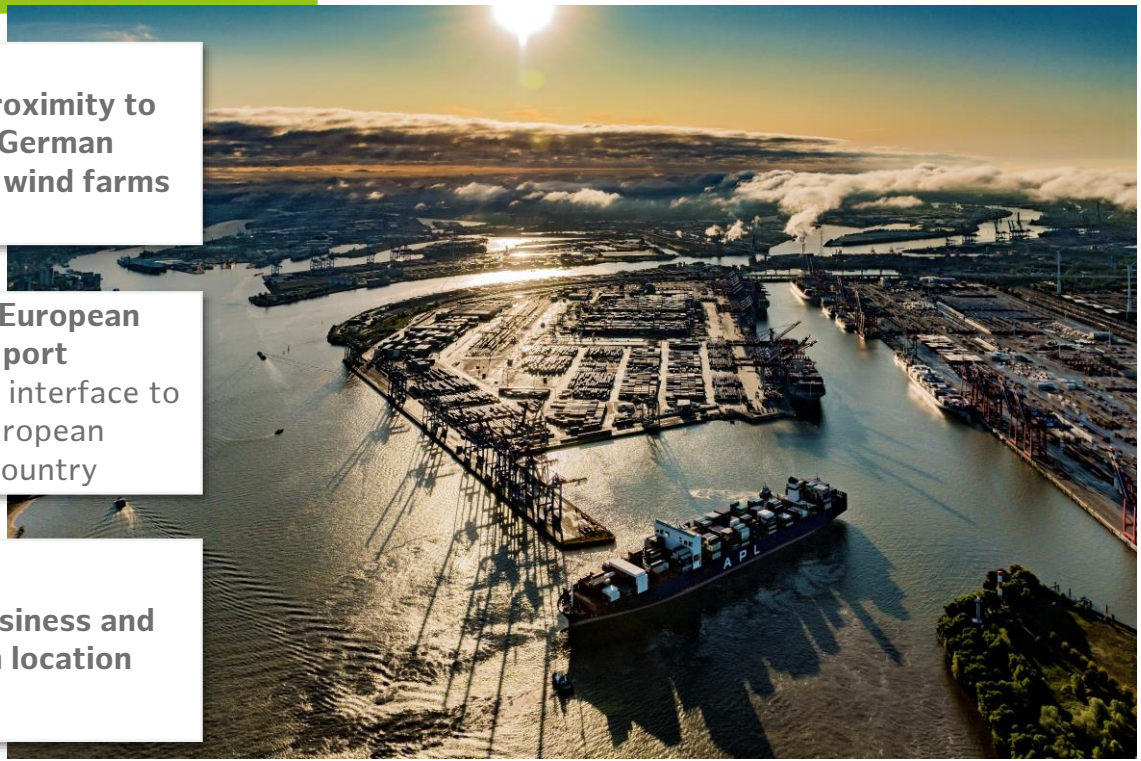


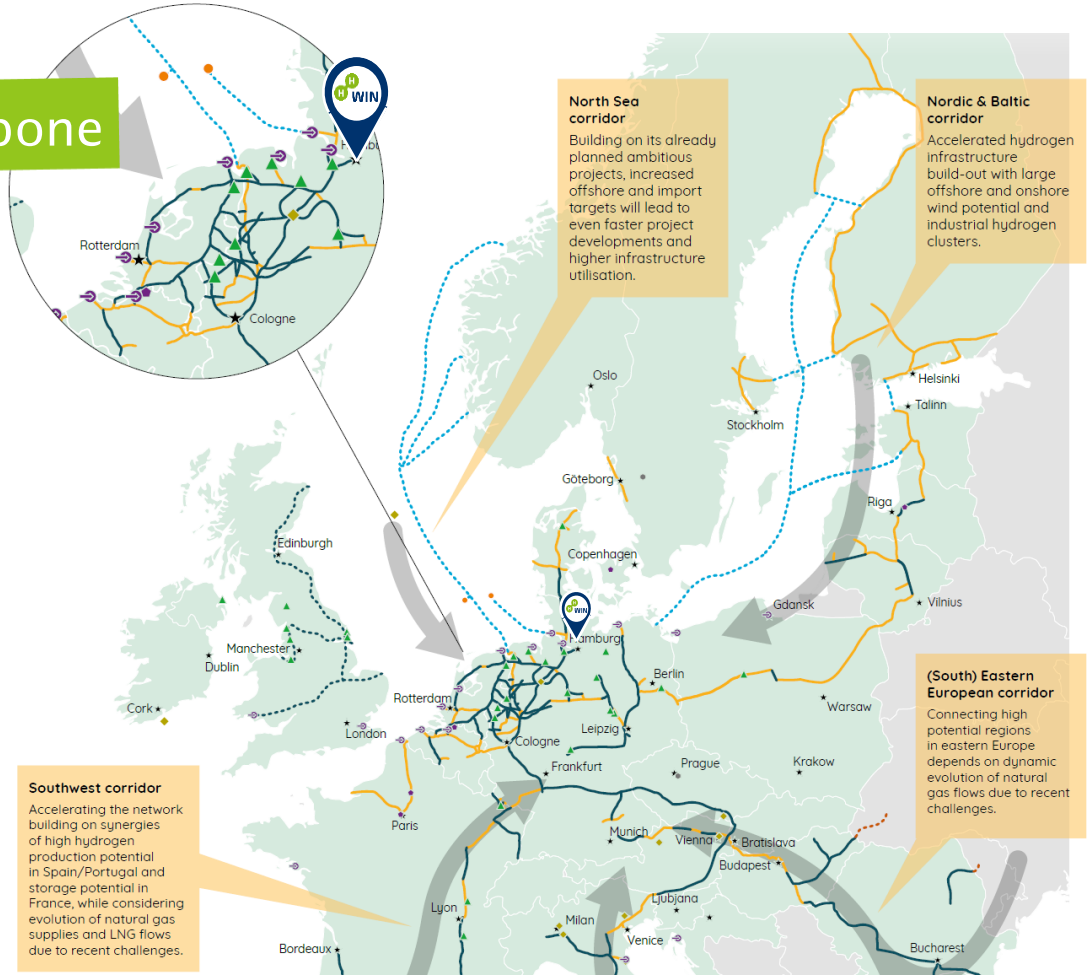
image: Hamburger Hafen und Logistik AG

Connection to Europe

European Hydrogen Backbone

European Hydrogen Backbone (EHB) Vision 2030:

Contributing to a resilient, independent and climate neutral European energy system - Visionary maps for a dedicated hydrogen infrastructure

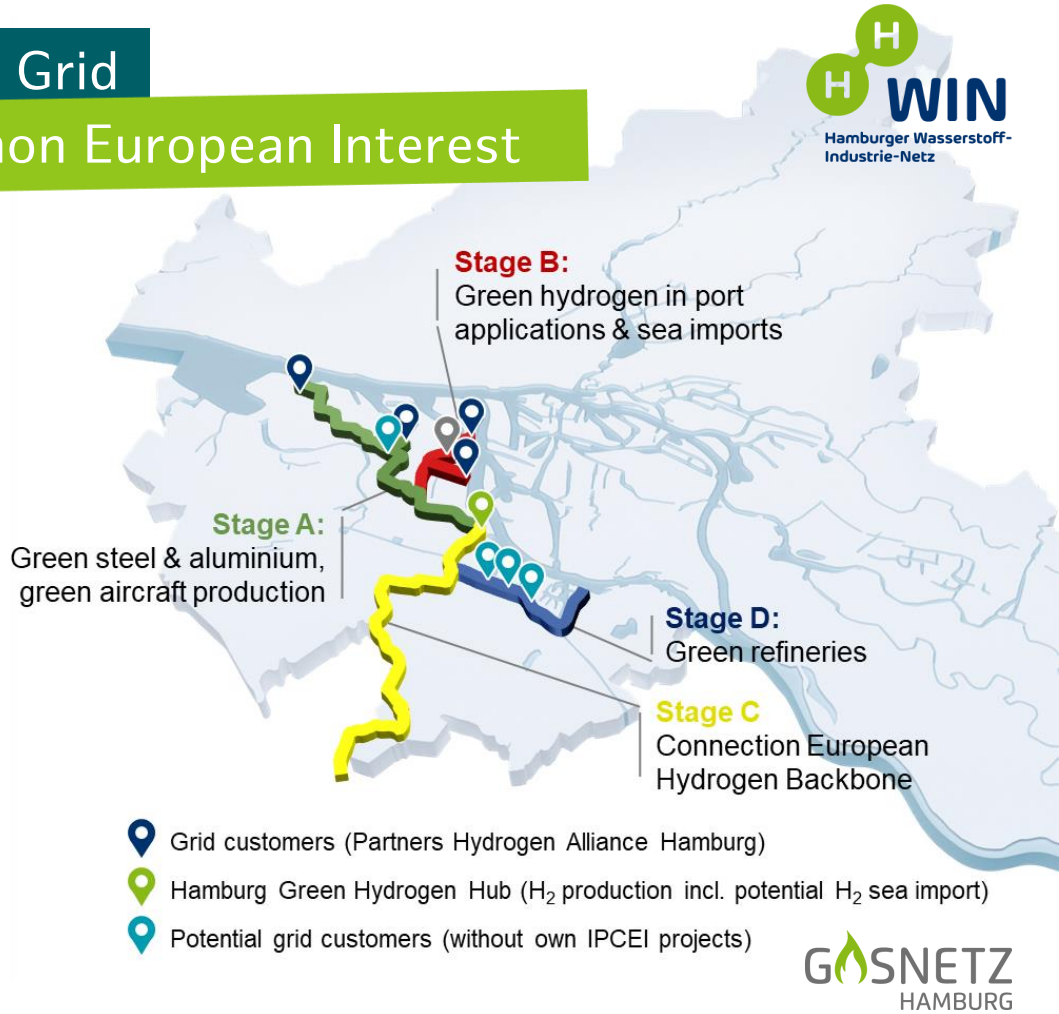


European Hydrogen Backbone, A European Hydrogen Infrastructure Vision Covering 28 Countries, April 2022. https://ehb.eu/files/downloads/ehb-report-220428-17h00-interactive-1.pdf

Hamburg Hydrogen Industry Grid

Important Projects of Common European Interest

- A **hydrogen grid** for **industry, commerce and mobility** in the south of Hamburg
- Hydrogen sources: **local production** sites as well as **import** (via pipeline (EHB), and potentially sea routes)
- Phase 1: 40 km pipeline length to replace around **3 TWh natural gas p.a.**
  - construction until 2027
- **Annual CO_2-savings potential: around 580.000 tons CO_2**



Hydrogen Alliance Hamburg

Covering the entire hydrogen value chain

Production of green hydrogen

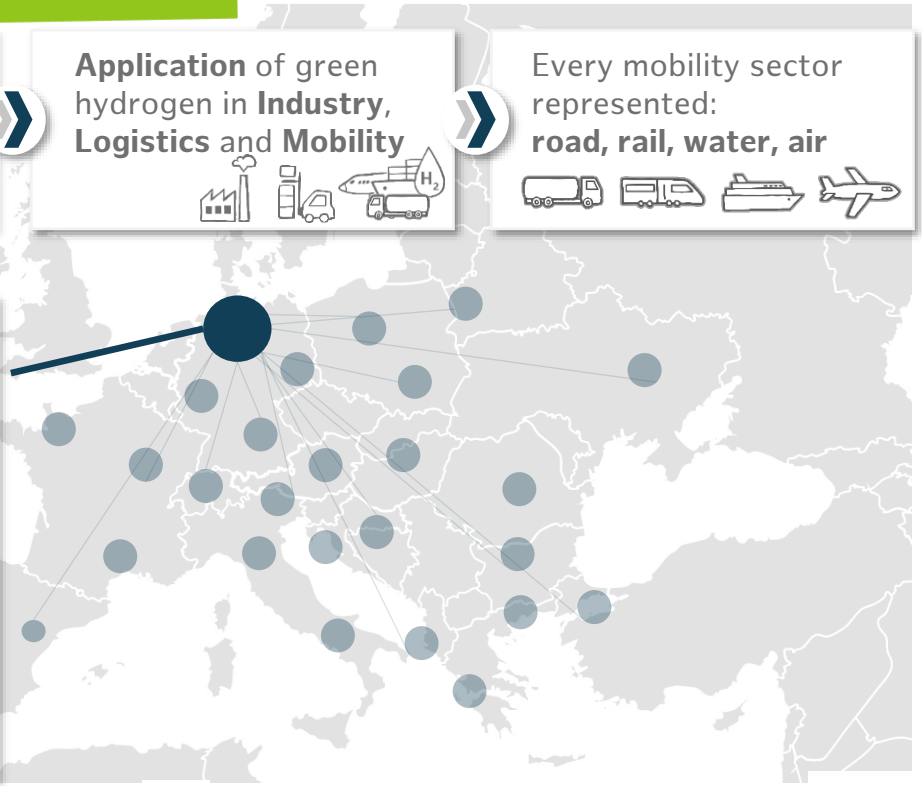
Infrastructure to connect supply and demand

Application of green hydrogen in **Industry**, **Logistics** and **Mobility**

Every mobility sector represented:
road, rail, water, air

image: Wärme Hamburg GmbH

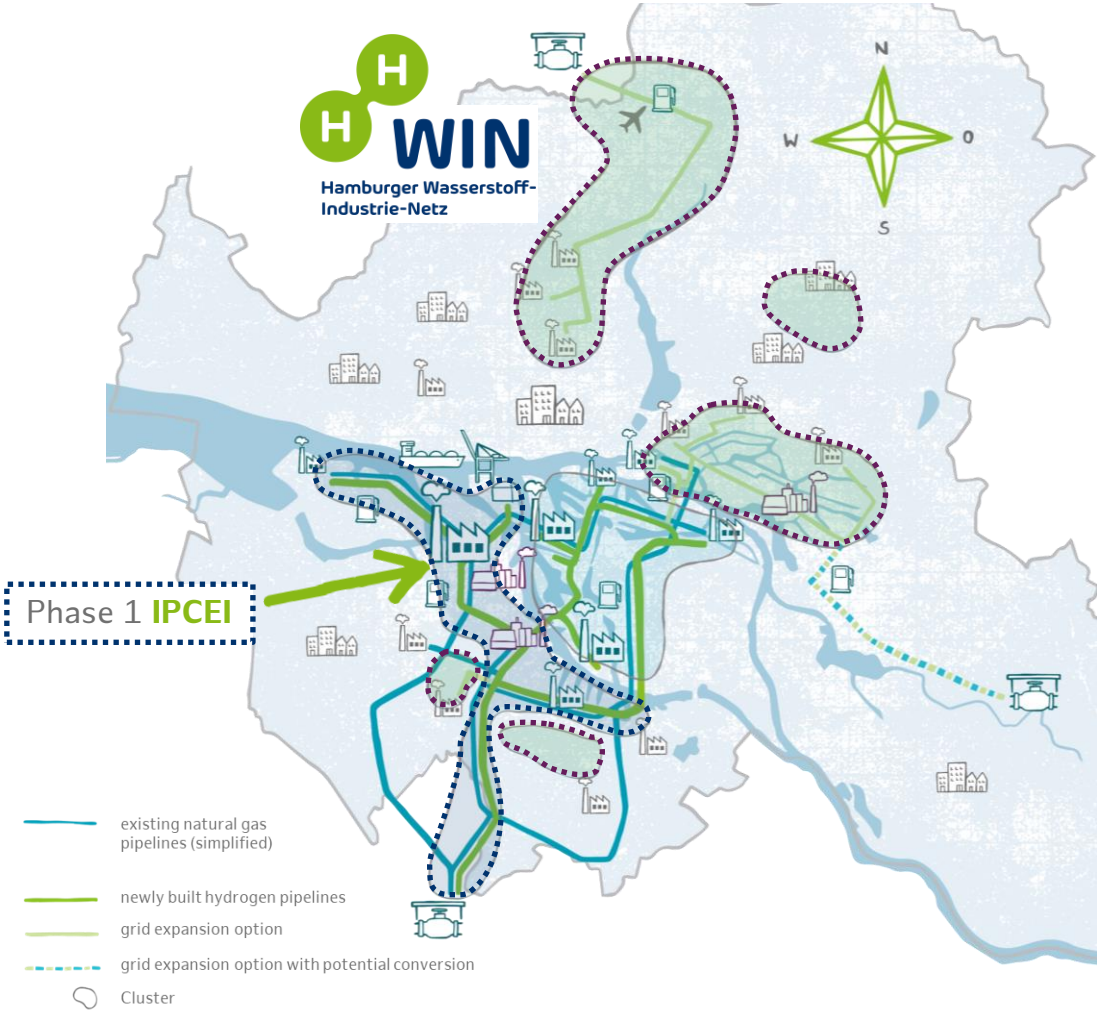
Preparing European upscaling



AIRBUS ArcelorMittal GASNETZ HAMBURG GREENPLUG HADAG HHLA HPA Hamburg Port Authority MITSUBISHI HEAVY INDUSTRIES Hamburger Energiewerke

Further potentials
Future clusters

- Phase 1: Funding Application as Important Project of Common European Interest (IPCEI)
- Identified potential for **further Industry Clusters**
- Possible leverage: replace **50%** of today's natural gas consumption in Hamburg



Any questions?

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