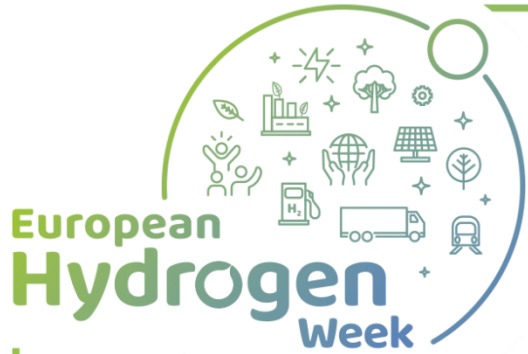


HyPerformer: Best practices at German level

Dr. Geert Tjarks, EWE AG
Business Unit Large Scale Storage and Hydrogen
geert.tjarks@ewe.de

#PRD2020
#CleanHydrogen





EWE AG



Numbers for 2019

Sales of EUR 5.7 billion

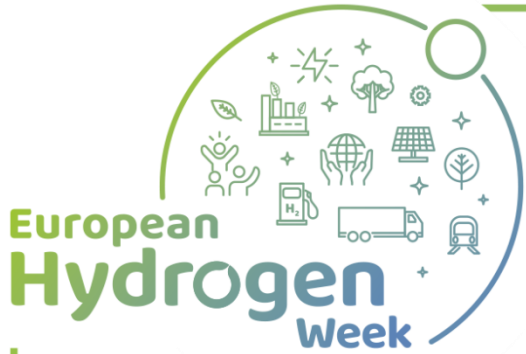
Profit of EUR 127.5 million

Average number of employees 8,831

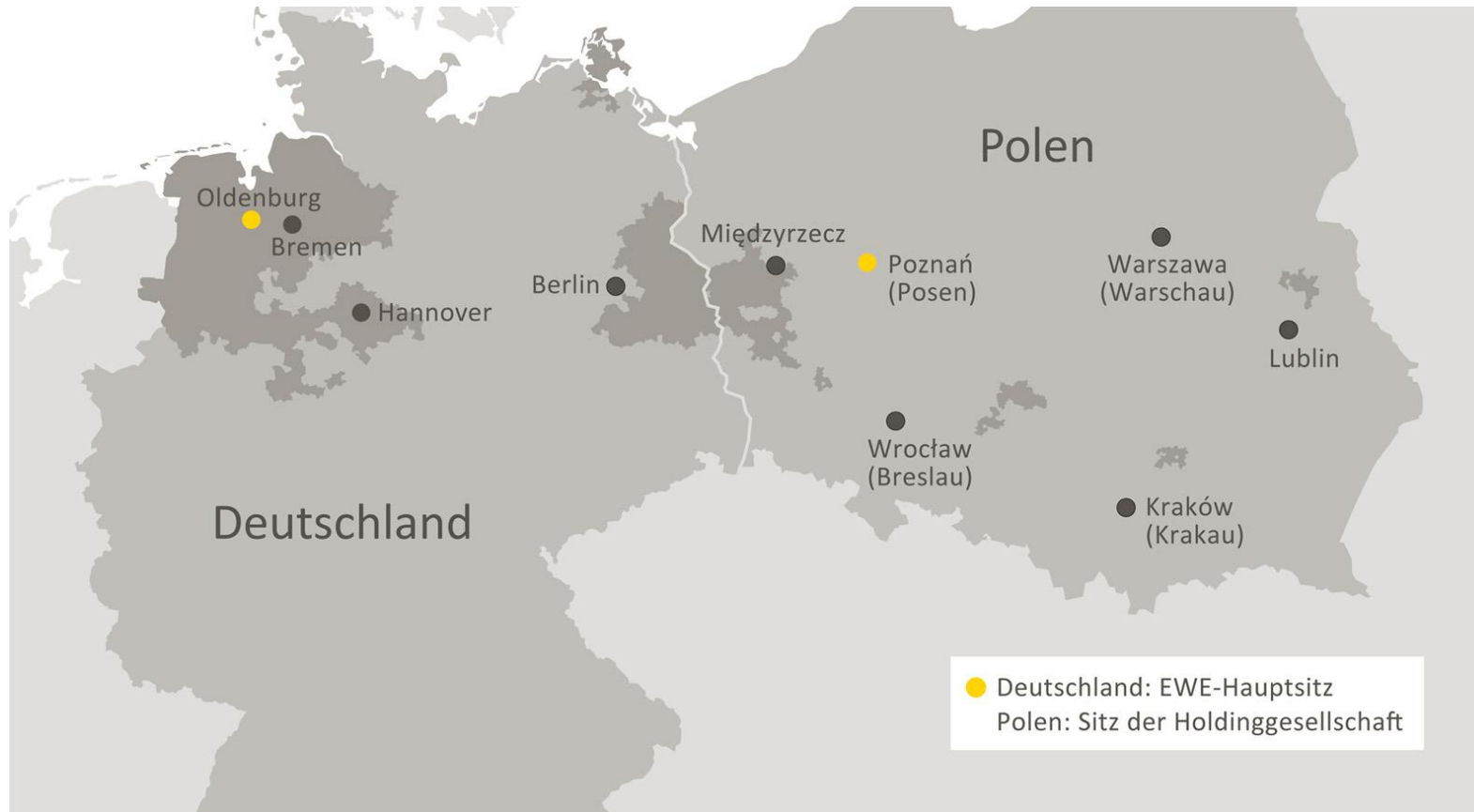
1.4 million electricity customers

0.7 million gas customers

0.7 million telecommunications customers



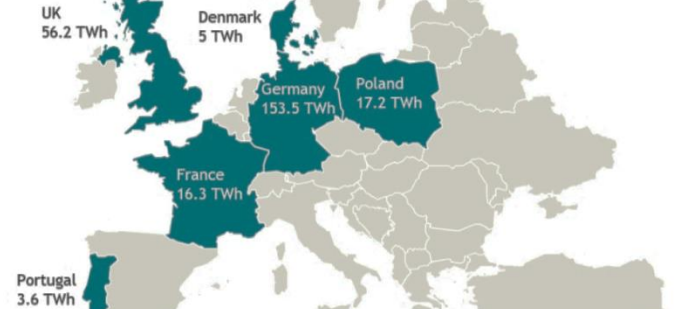
Active in Germany and Poland



Locations Gas Storage Facilities

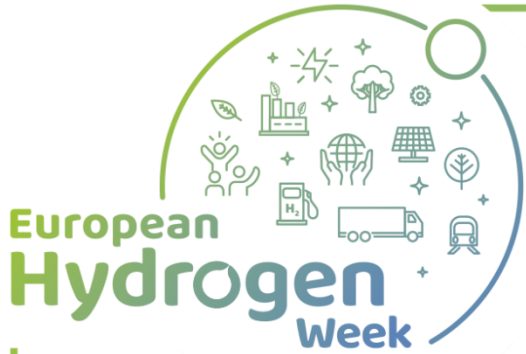


Germany as potential energy storage location for renewable Energy



Gas Storage Capacity

Source: GIE Storage Map 2018 / data as of 1 July 2018

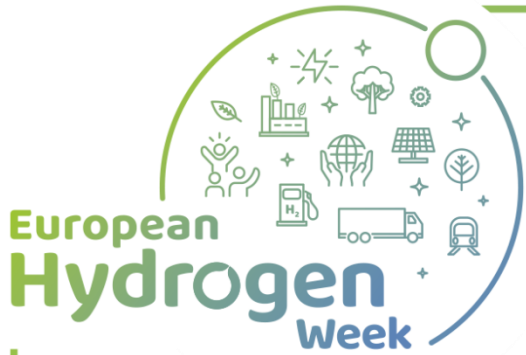


Hydrogen in the North West region

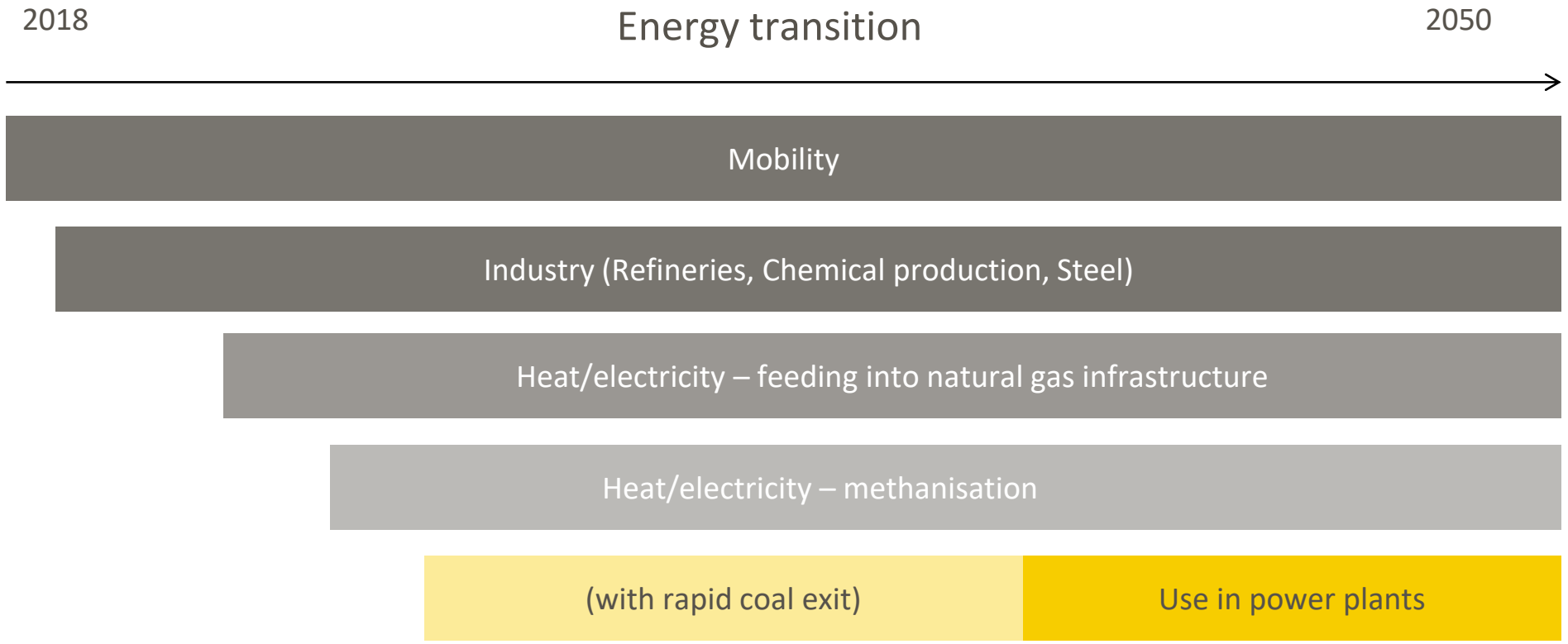
- Share of renewable energies in the EWE power grid already today above 90% (Germany's target of 2050)
- Grid constraints caused by renewable energies (e.g. curtailment and excess energy) can be seen in the region today
- The region can provide offshore power production, ports, logistics, industries and required infrastructure
- The region connects all relevant parts of the hydrogen supply chain (production, storage, electricity and gas grids)

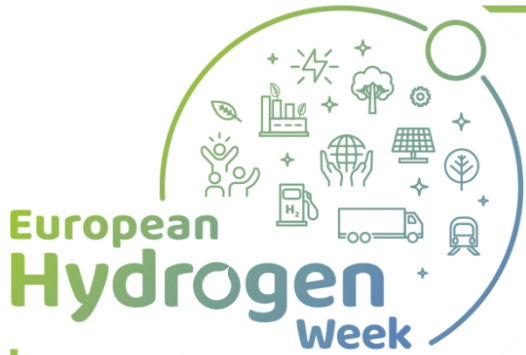
EWE is active in...

- **Sector coupling** (heat, power, mobility, industry) and linking gas and power grids
- **Hydrogen readiness** of required infrastructure (e.g. pipeline grid and storage facilities)
- Usage of green hydrogen in industry and transport
- **Large scale storage** of green hydrogen in salt caverns

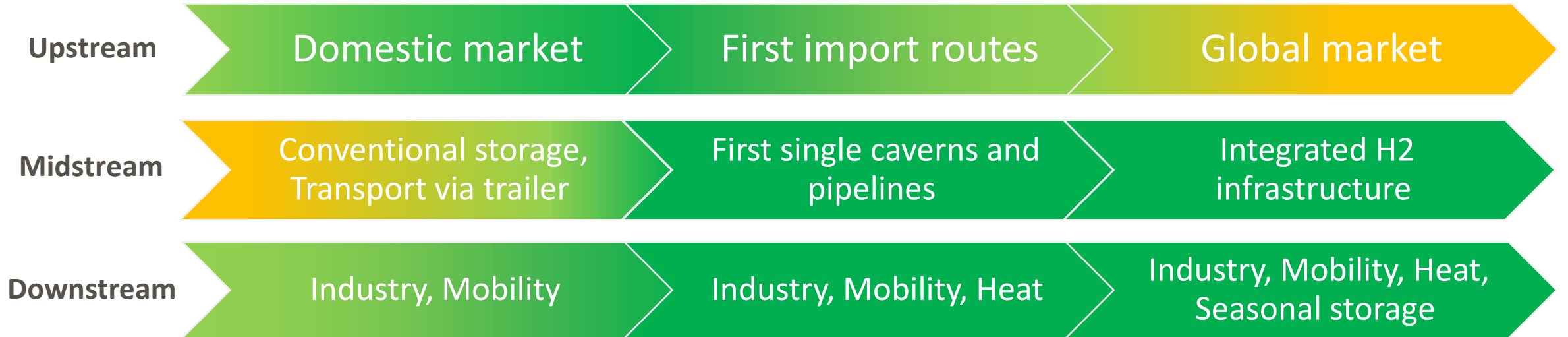
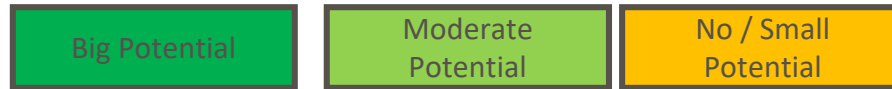


Markets for Green Hydrogen



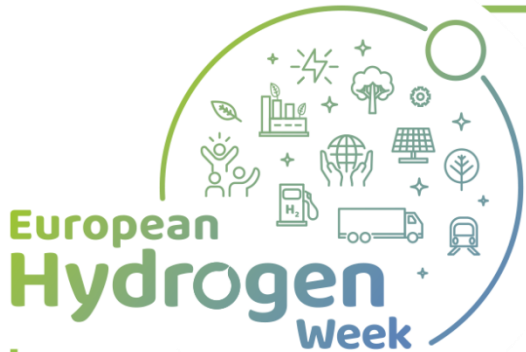


Hydrogen Strategy

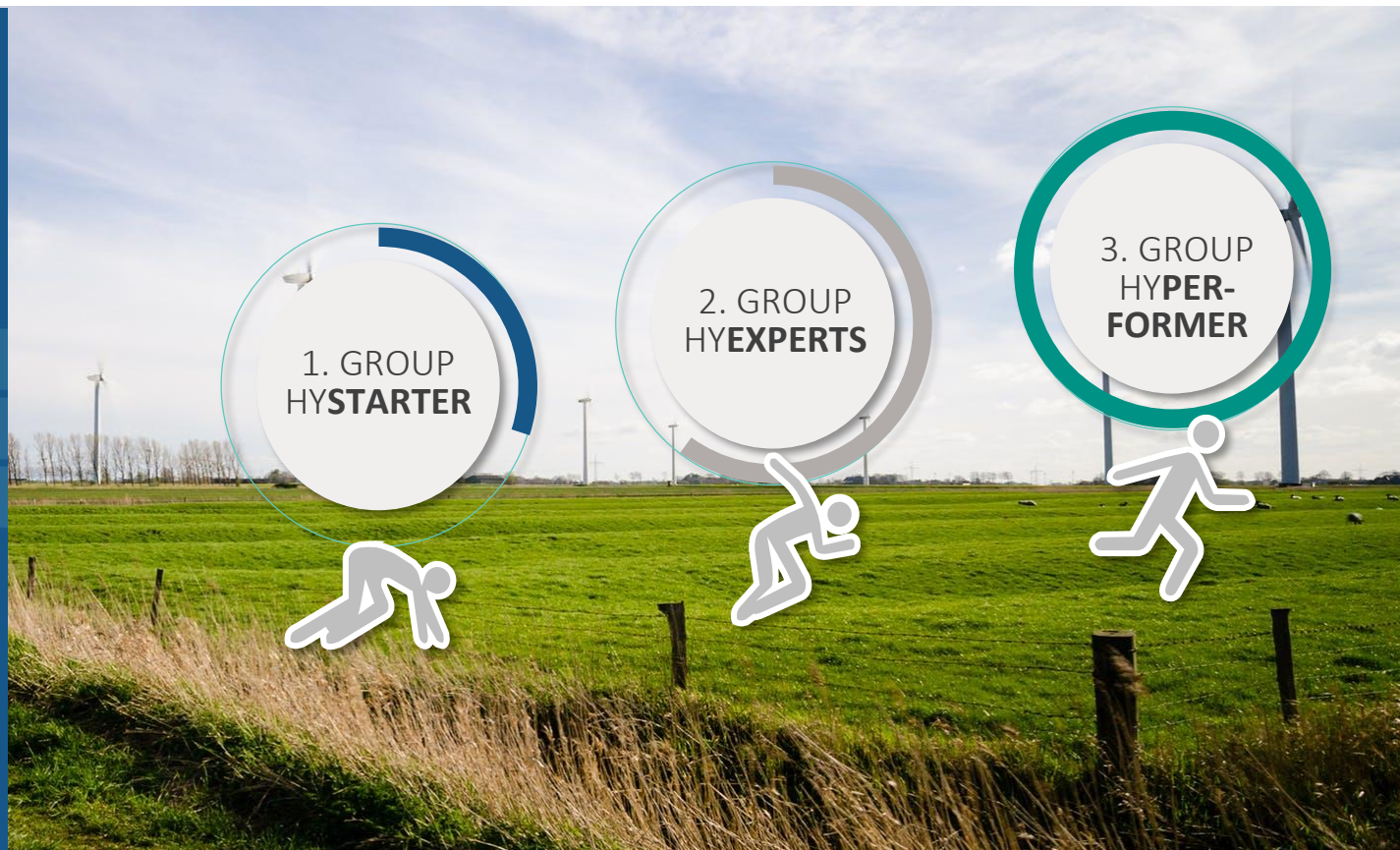


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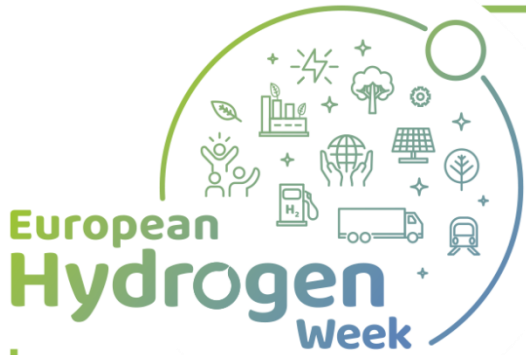


HyWays For Future



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HyWays For Future



Ca. 90 partners



90 Mio. € Budget
incl. 20 Mio. € public funding (NIP)



2020-2023

Parts of the hydrogen region:

Green H2-Hub
e.g. located near
steel plant

H2 trailer
(potential for
H2 pipeline)

Deployment of more than
200 **FCEVs**
(Busses, Garbage Trucks,
Heavy Duty, Passenger vehicles)

Renewable
power

H2
Production

H2 Storage

H2 transport

Refueling
station

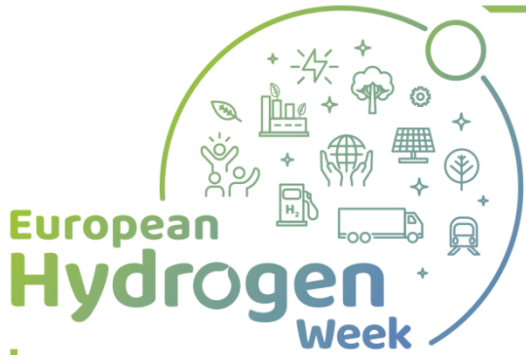
H2 usage

Pressure Storage
inkl. H2 trailer
(potential for
Salt caverns)

Deployment of
**Hydrogen Refueling
Stations**

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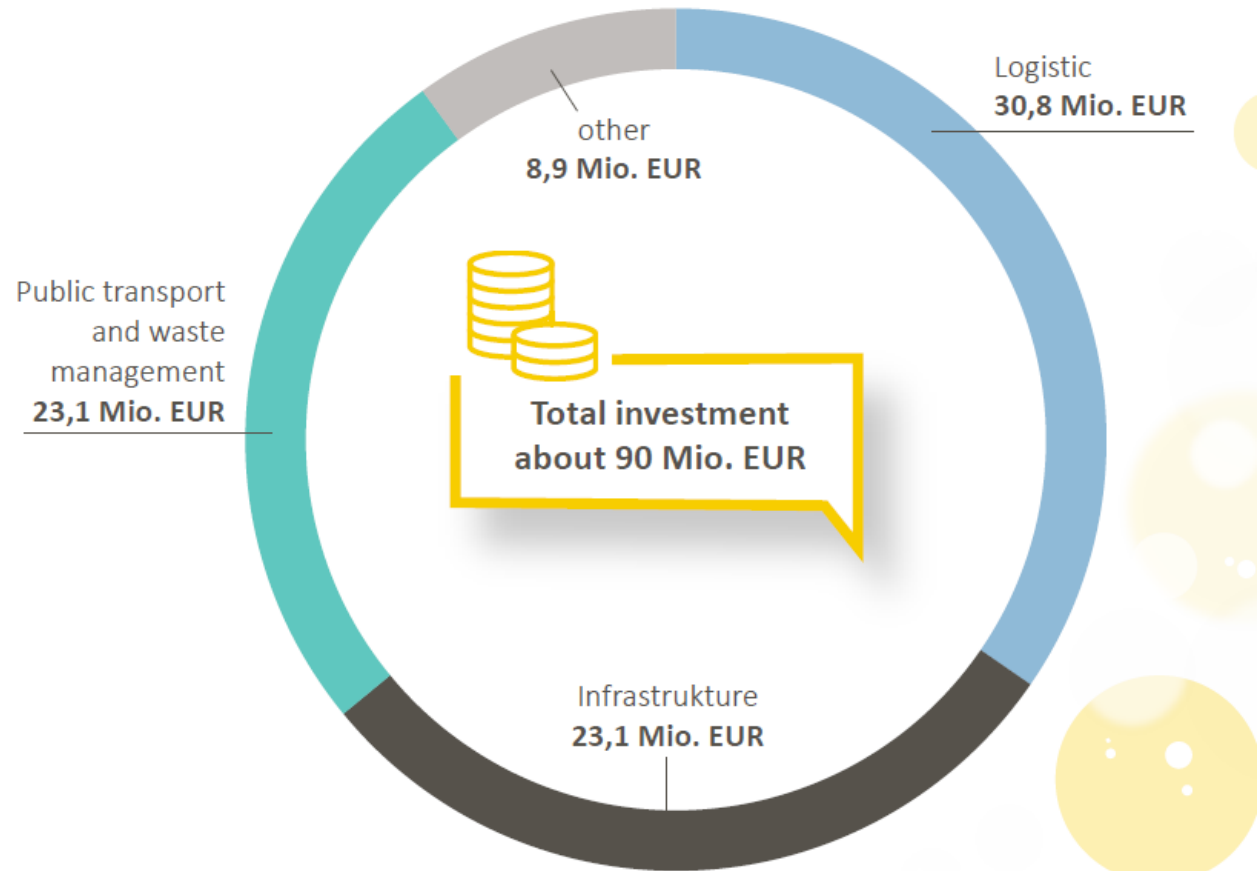




HyWays For Future

Investment intension in:

- 10 MW electrolysis
- 6 fueling stations
- 1 trailer filling stations
- 1-2 trailers
- 20 buses
- > 100 cars
- > 100 trucks
- 20 Garbage vehicles
- many more projects



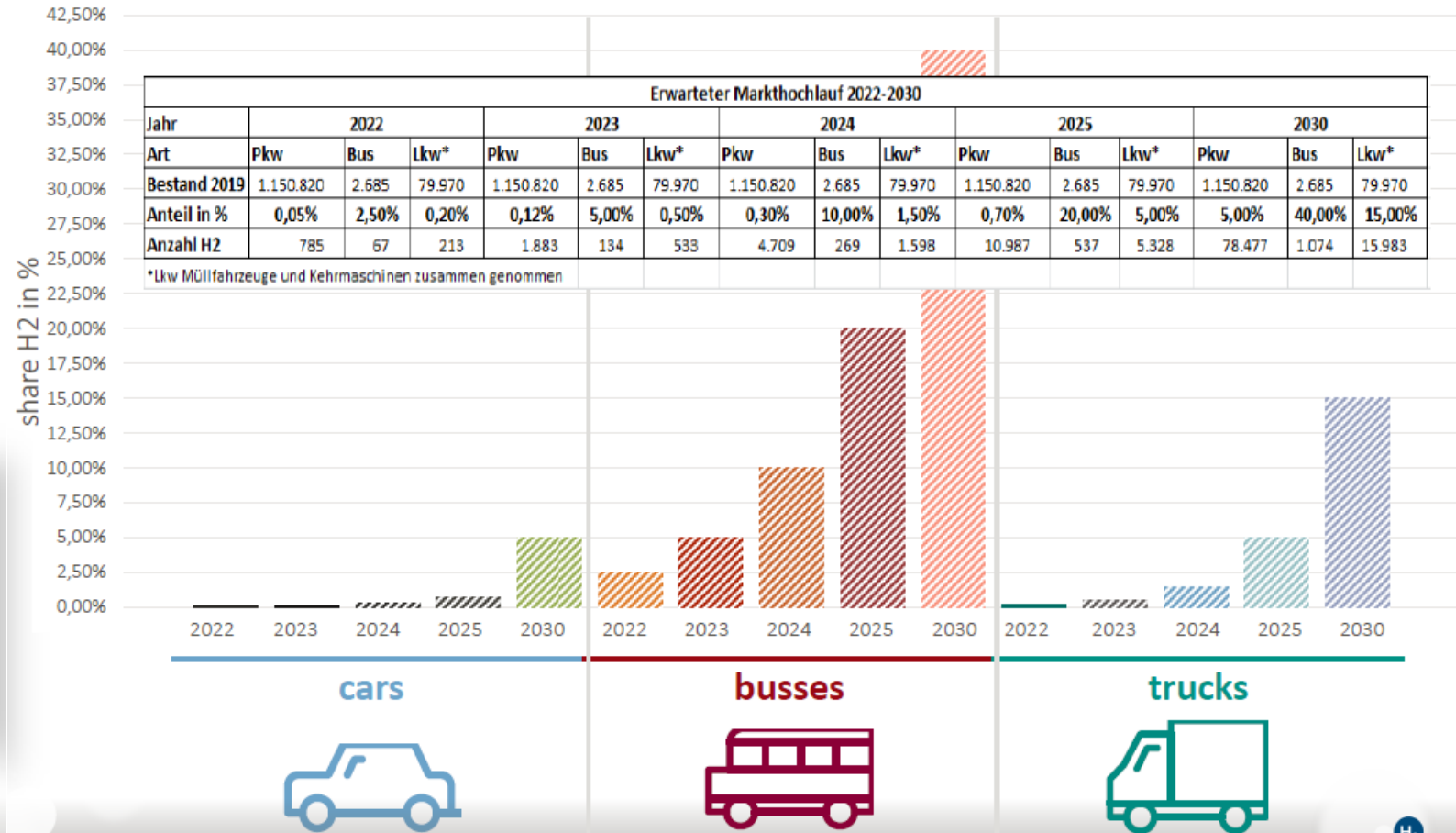
Estimated Market Development

number of vehicles in the model region North-West in 2019:

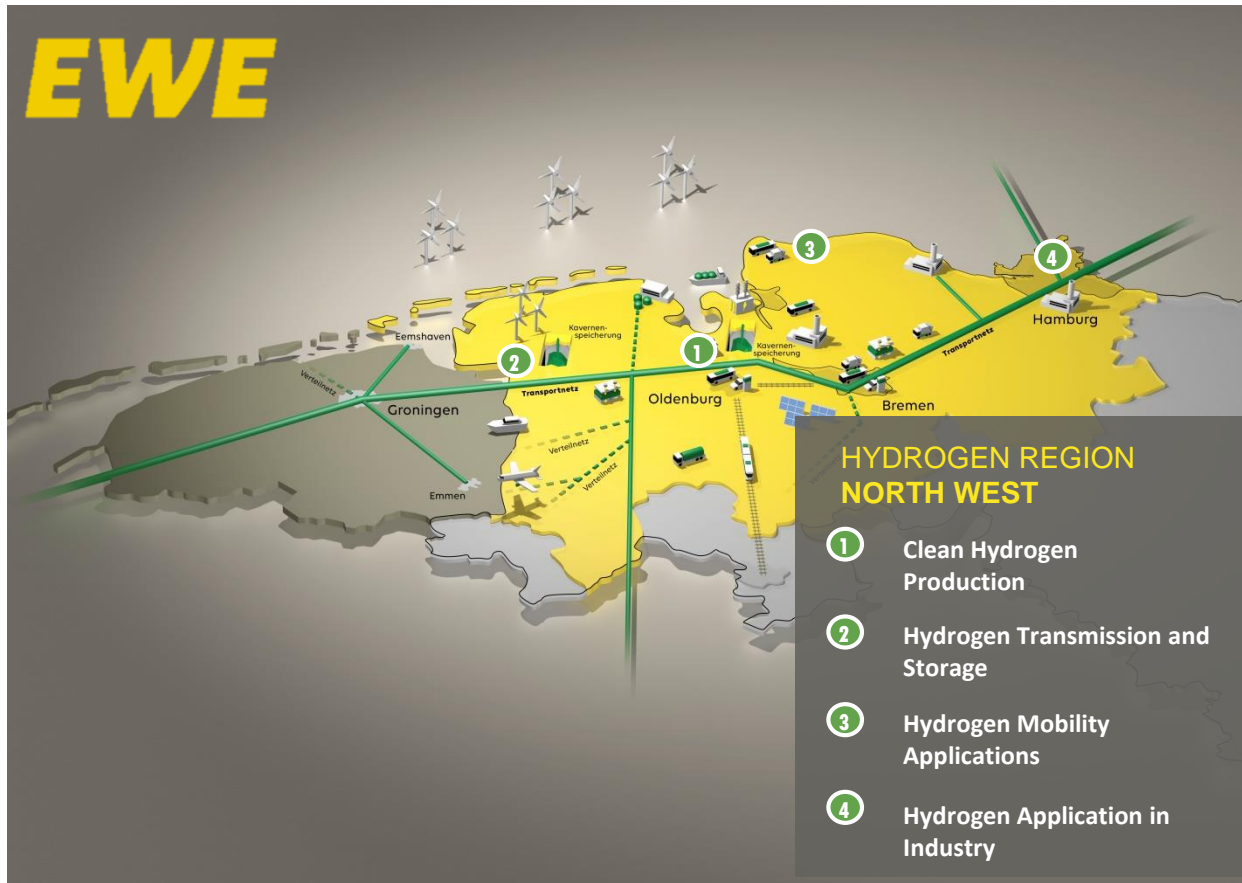
cars: 1.150.820

busses: 2.685

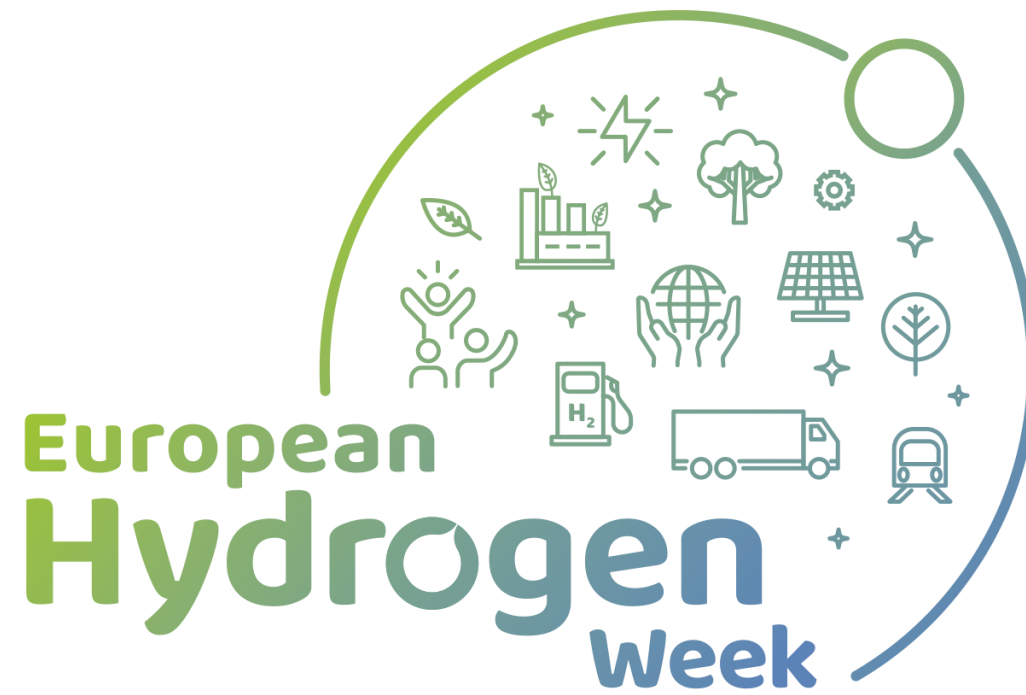
trucks: 79.970



Joint IPCEI approach



- Create a hub, that will secure **hydrogen production capacities** for an Intra-European energy market
- Development of an **trans-european hydrogen infrastructure** in the region and beyond
- Enable **first markets for green hydrogen** in industry and transport
- Connecting **HyWaysForFuture** and **HEAVENN**
- Sharing lessons learned with the political level



European
Hydrogen
Week

#CleanHydrogen
#EUHydrogenForum

