

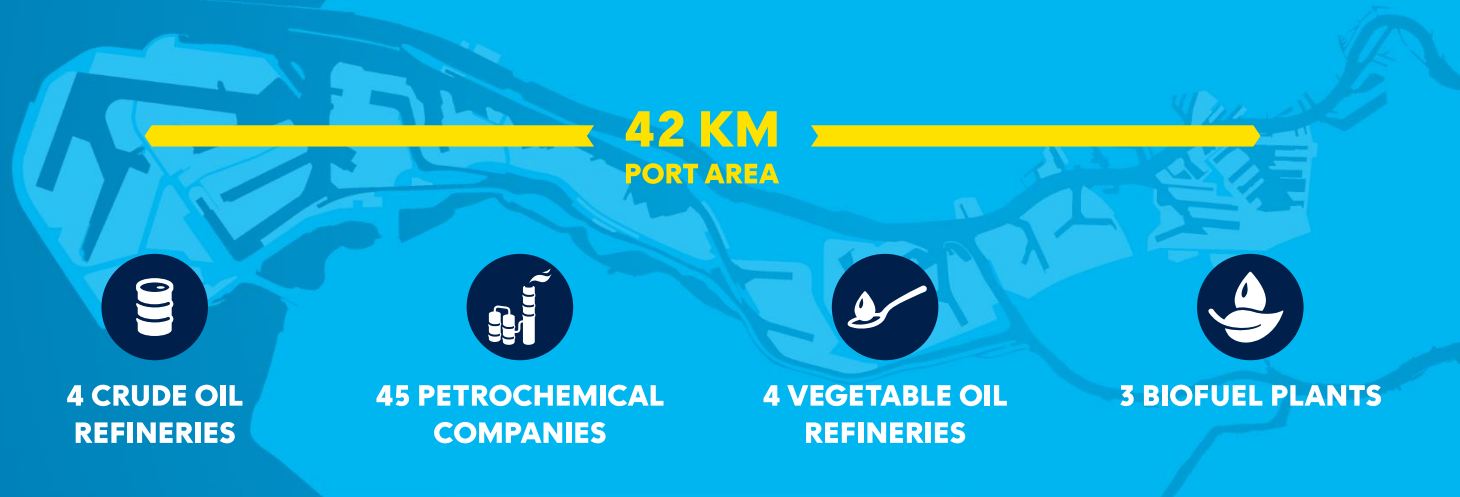
ROTTERDAM HYDROGEN HUB: A NEW ENERGY SYSTEM IS TAKING SHAPE

1 APRIL 2026

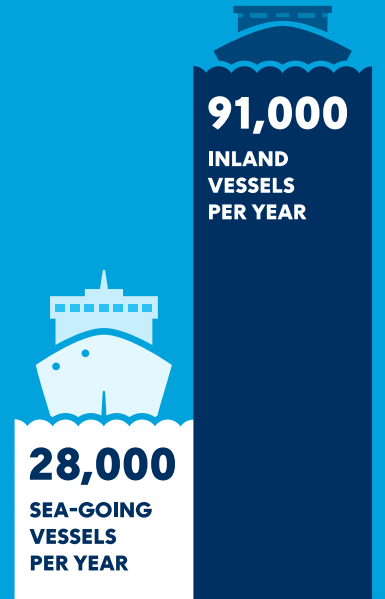


PORT OF ROTTERDAM

At a glance



€29.6 BILLION
ADDED VALUE
2.9% OF DUTCH GDP



LARGEST EUROPEAN PORT



CURRENT HYDROGEN PRODUCTION 0.5 MTON



13% OF TOTAL EU ENERGY CONSUMPTION PASSES ROTTERDAM



EXCELLENT CONNECTIONS WITH OTHER EU CLUSTERS



CA. 192,000
DIRECT & INDIRECT JOBS

ENERGY TRANSITION BASED ON 4 PILLARS

PILLAR 1

**EFFICIENCY AND
INFRASTRUCTURE**

PILLAR 2

**A NEW
ENERGY SYSTEM**

PILLAR 3

**A NEW
FEEDSTOCK AND
FUEL SYSTEM**

PILLAR 4

**SUSTAINABLE
TRANSPORT**

-55% CO₂ in 2030
(compared to 1990)

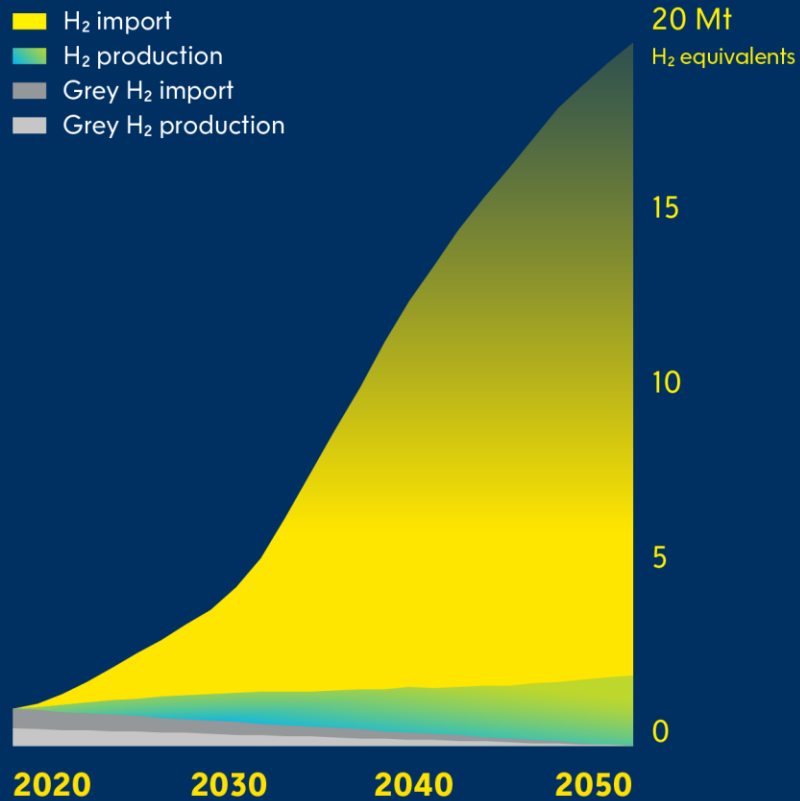
CO₂ Neutral in 2050

ROTTERDAM: EUROPE'S HYDROGEN HUB

CO₂-reduction with renewable & low carbon hydrogen and its derivatives, with a large role for imports

Net zero

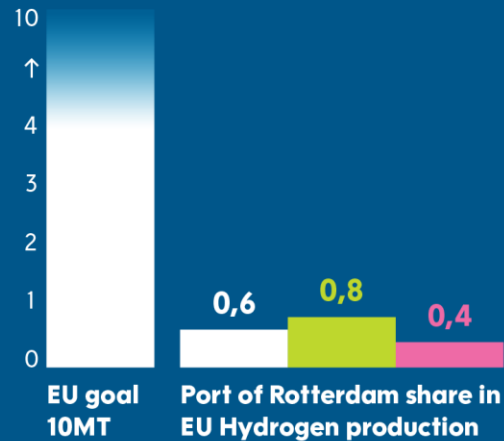
Paris Climate Agreement



European hydrogen goals for 2030

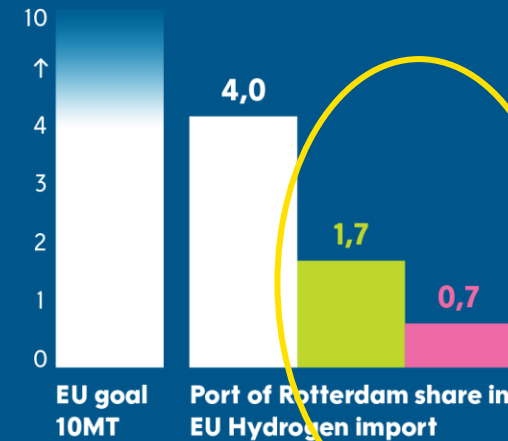
Rotterdam plays a huge role in fulfilling EU ambitions of 20Mton: our aim is to deliver 25%.

Hydrogen production



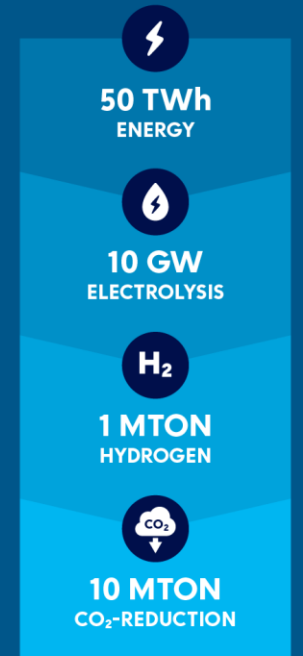
- REPowerEU ambitie: 0,6Mton
- Connected Deep Green: 0,8 Mton
- Protective markets: 0,4 Mton

Hydrogen import



- REPowerEU ambitie: 4Mton
- Connected Deep Green: 1,7 Mton
- Protective markets: 0,7 Mton

RULE OF THUMB



THE PORT OF ROTTERDAM IS READY TO RECEIVE ALL TYPES OF CARRIERS

NH₃

Clean ammonia

One existing terminal.
5 new terminals announced.

Bio ammonia delivery from US to Germany completed successfully

Ammonia bunker pilot successfully completed.

CH₃OH

Clean methanol

Multiple existing terminals. Already a European methanol hub.

Commercial bunkering of methanol already available in the port.

LH₂

Liquid hydrogen

2 Feasibility studies for new terminal completed.

LH₂ bunkering is currently being studied for several clients in the port.

LOHC

Liquid organic hydrogen carrier

Conversion of 2 existing terminals.

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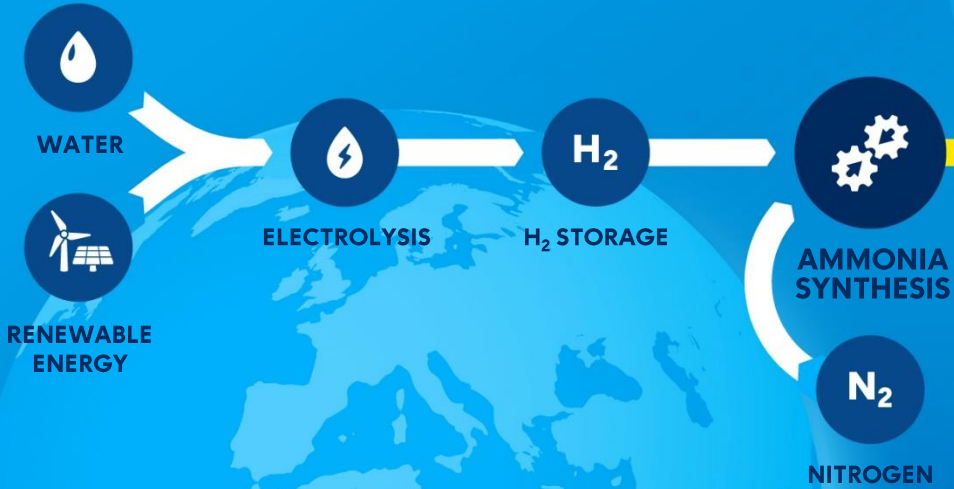
Other

Other technologies are also being explored (e.g. NaBH₂).

Sustainable Aviation Fuel (SAF) is also handled at Port of Rotterdam, it is considered a hydrogen based fuel and not per se a carrier

AMMONIA VALUE CHAIN

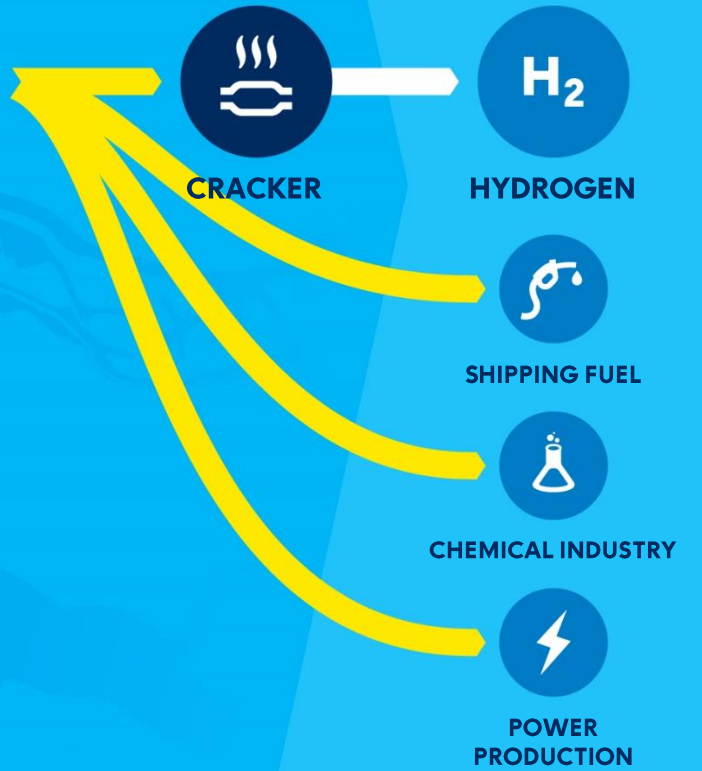
NH₃ production



Transportation



Use



CLEAN AMMONIA PROGRAMME

Enabler of PoR's hydrogen vision



ALLOWED

Safety & regulations

- Safety standards (navigation, infra, handling, etc)
- Transport policy in NL
- Permits
- Port Readiness Level (PRL) for ammonia bunkering



AVAILABLE

Technology, infra & molecules

- Supply chains
- Infra: terminals, nautical infra, cracker, pipeline, vessels, barges
- Cracker technology maturity
- Engine technology maturity



AFFORDABLE

Competitive at scale

- Incentive regulations, incl CO2 pricing
- Mechanisms to de-risk project development
- Advocacy to support imports

HIGH POTENTIAL IMPORT AREAS

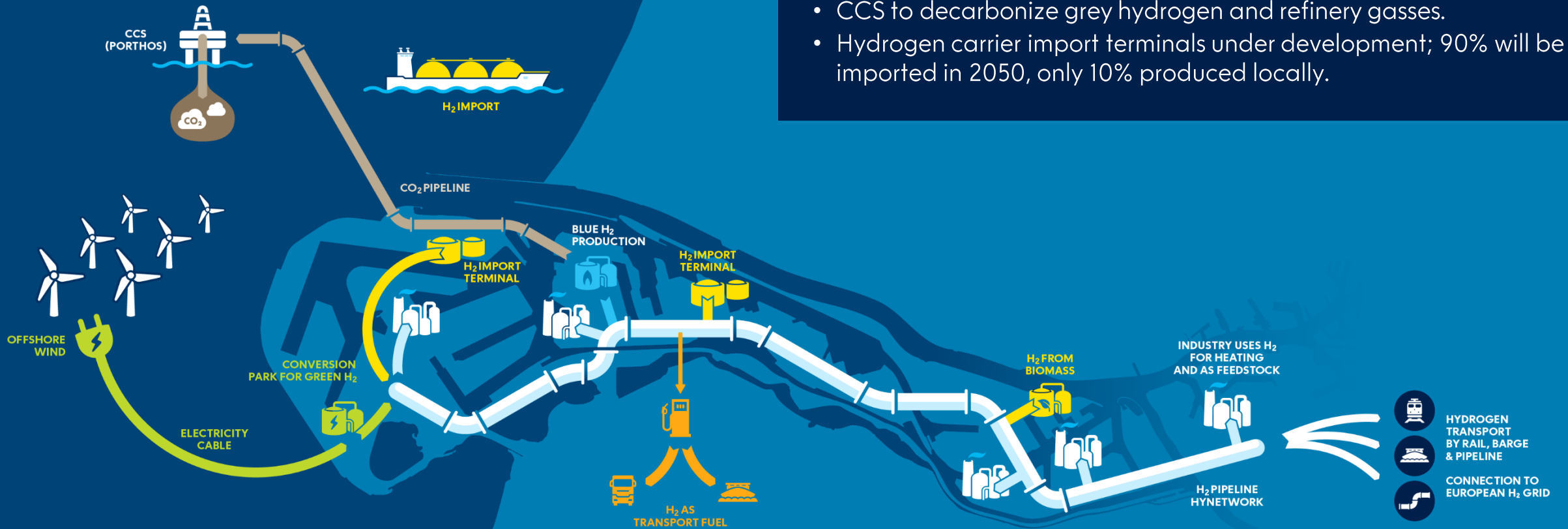
Green hydrogen import is essential for Europe, as it uses more energy than it can produce.

Progress and planning

- Expected import Hydrogen and its derivatives in Rotterdam: 0.7-1.7 Mton in 2030, 18 Mton in 2050.
- Huge potential for production in many areas worldwide.
- Imports Rotterdam are expected to start around 2026-2027.



ROTTERDAM'S HYDROGEN ECOSYSTEM IS BEING BUILT RIGHT NOW



We are making this happen

- Offshore wind farms connected to Rotterdam: 7.4 GW in 2030.
- Production of green hydrogen (first 200 MW electrolyser under construction): 2-2.5 GW in 2030.
- Hydrogen pipeline at the port under construction.
- CCS to decarbonize grey hydrogen and refinery gasses.
- Hydrogen carrier import terminals under development; 90% will be imported in 2050, only 10% produced locally.

WELL CONNECTED TO H₂ / AMMONIA DEMAND CENTERS IN NORTHWEST EUROPE

Offtakers in this region



Airports

8



(Bio) Refineries

>20



Steel plants

>6



Chemical Parks

>25



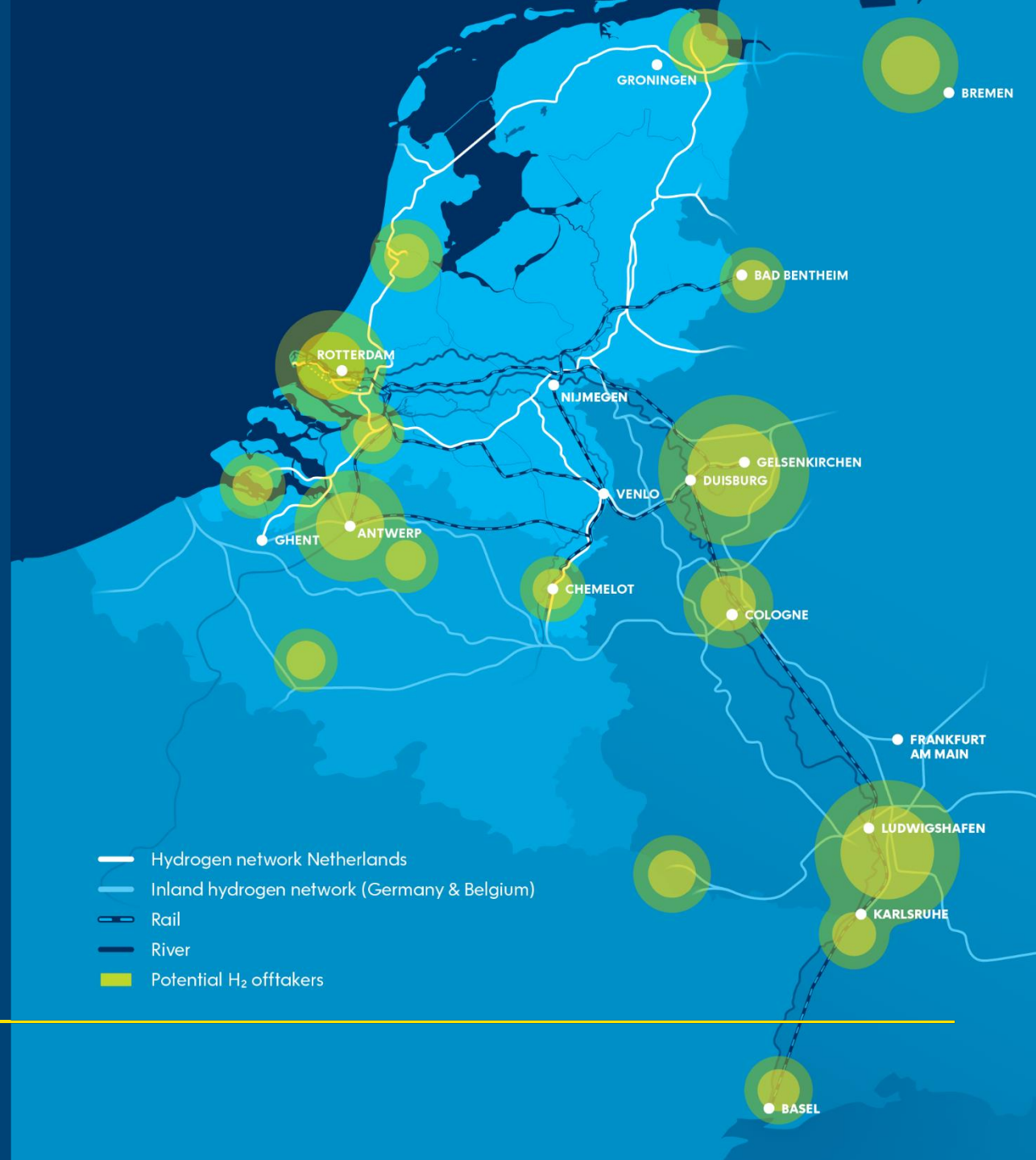
Power Plants

>80



Bunkering

>28,000 vessels



AMMONIA BUNKER PILOT SUCCESSFULLY COMPLETED

COLD AMMONIA SHIP2SHIP TRANSFER

Rotterdam is EU largest bunker hub, globally 2nd

- First ammonia bunker pilot alongside terminal
- Transfer of cold ammonia at -33°C between 2 gas carriers
- Transfer outside working hours
- No ammonia emission during operation, including purging
- Use & validation of international standards
- ~500 tonnes / ~800 m³ NH₃ transferred
- 2.5 hours of transfer time



OCI



Port of Rotterdam



Lifting Global Trade.
APM TERMINALS



Mærsk Mc-Kinney Møller Center
for Zero Carbon Shipping



Co-funded by
the European Union

THANK YOU!

QUESTIONS?

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Stay ahead!



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