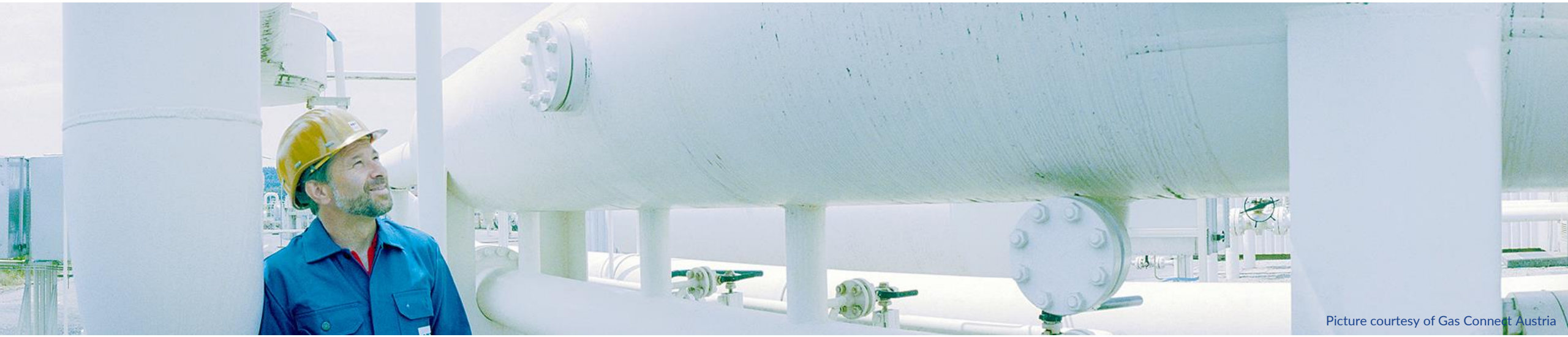


Picture courtesy of Gas Connect Austria

8th meeting of Advisory Panel for Future Gas Grids

Meeting on 6 Oct 2022

ENTSOG

Introduction

Welcome

Copenhagen School of Energy Infrastructure (CSEI)

Agenda

	Description	Time
1.	**Introduction and welcome by Piotr Kuś**	14:00-14:05
2.	**Session on REPowerEU – H2 corridors** Chair: Klaus-Dieter Borchardt Panel: • Alan Croes (Scenario Building Steering Group Convenor, ENTSO-E) • Maxime Peeters (Programme Manager Hydrogen, Port of Antwerp-Bruges) • Piotr Kus (Director General, ENTSOG) Discussion	14:05-15:35
3.	**Summary and next steps on Recommendation Report**	15:35-16:00
3.	**Closure of meeting**	16:00

Key take-aways from last meeting on 23 June (REPowerEU)

Panel 1 – Infrastructure perspective

- **Hydrogen Europe:** Hydrogen corridors now a strong priority due to imports given by REPowerEU.
- **European Hydrogen Backbone:** First infrastructure needs to be repurposed now. An infrastructure target is needed.
- **GIE:** All proven unbundling models (OU, ISO, ITO) should be extended to the hydrogen market.

Panel 2 – Biomethane perspective

- **European Biogas Association:** 35bcm target needs to be anchored in legislation. Grid planning needs to be with a bottom-up approach.
- **Energinet:** Biomethane is not local anymore, integration will be on national and EU-level.
- **GEODE:** Joint network planning with TSOs is needed. Gas quality needs to be consistent between Member States.

Panel 3 – Legislator's perspective

- **Joachim Balke (EC):** RU dependence to be ended asap. Focus on infrastructure with highest added value for EU, beyond national focus.
- **Petr Binhack (CZ Presidency):** SoS and diversification are top priorities. Investments are immense, need to have a discussion on financing and RRF.

Session on Hydrogen Corridors

Session on Hydrogen Corridors

Moderator: Klaus-Dieter Borchardt

Alan Croes
ENTSO-E

Maxime Peeters
Port of Antwerp-Bruges

Piotr Kus
ENTSOG

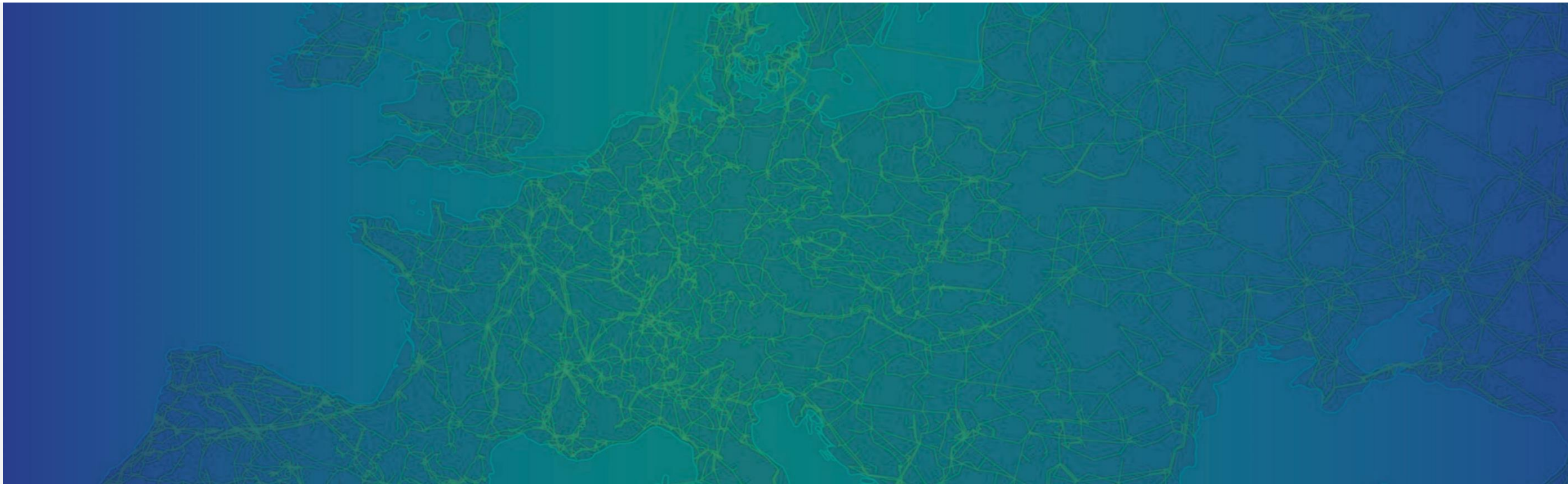
Introductory Remarks

Alan Croes

ENTSO-E
Member of the ENTSO-E System Development Committee

Convenor of the Scenario Building Steering Group

Offshore Network Development Plans (ONDPs)



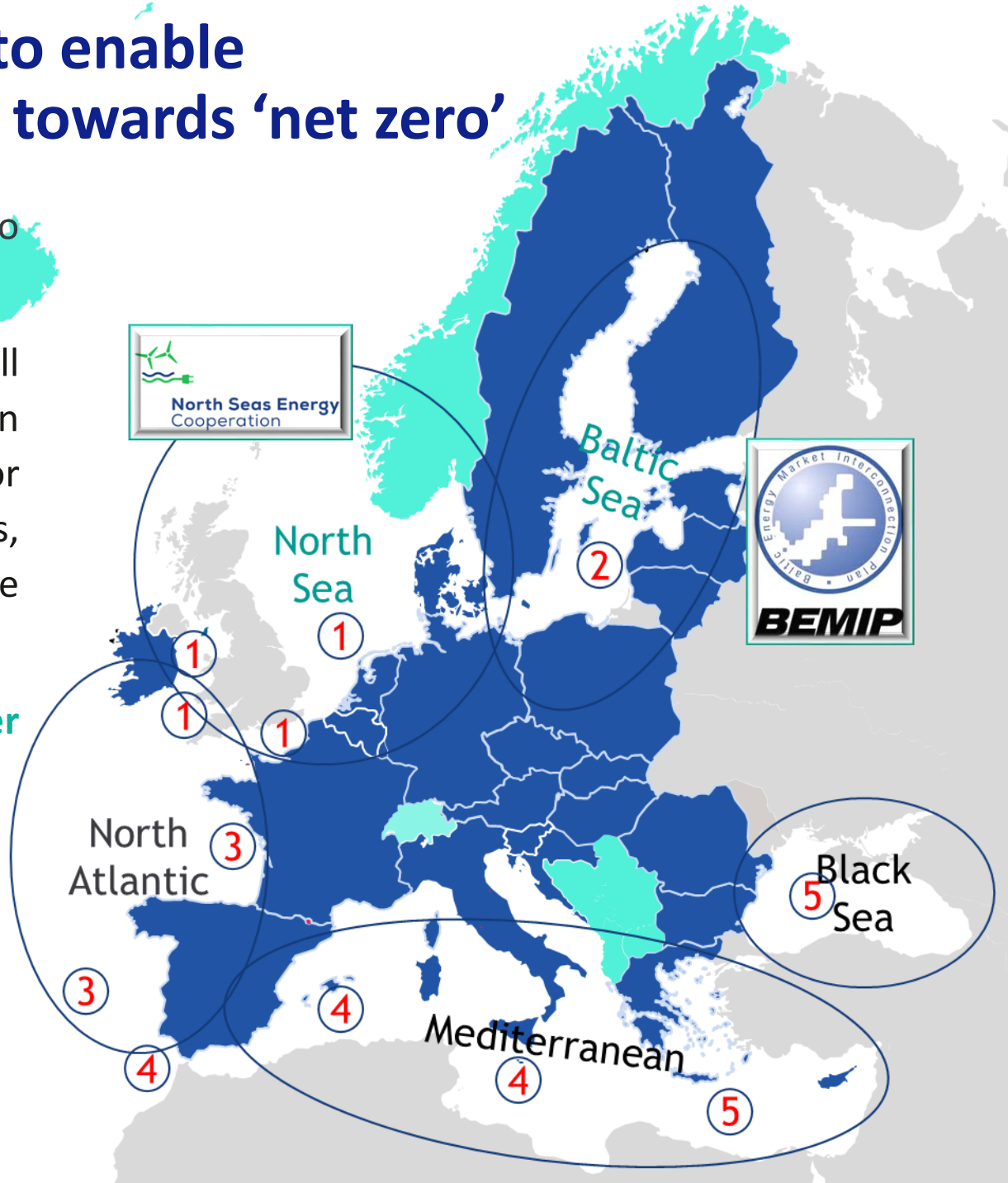
Alan Croes, Convenor, Scenario Building & System Design and Strategy, ENTSO-E

entsoe
Reliable Sustainable Connected

Development of offshore grids - key to enable effective large-scale RES deployment towards 'net zero'

- **A holistic view across time, space & sectors** needed to reap the benefits of offshore renewable energy
- **ENTSO-E Offshore Network Development Plans** will provide a high-level outlook on offshore generation capacities & grid needs, including needs for interconnectors, hybrid projects, radial connections, reinforcements of national grids & hydrogen infrastructure within **'one energy system view'**
- **Enhanced political, technical, regulatory and stakeholder collaboration will be key**

TEN-E Priority Offshore Grid Corridors	Countries involved
1. NSOG	BE, DK, FR, DE, IE, LU, NL, SE
2. BEMIP offshore	DK, EE, FI, DE, LV, PL, SE
3. Atlantic offshore grid	FR, IE, PT, ES
4. South & West offshore Grid	FR, GR, IT, MT, PT, ES
5. South & East offshore Grid	BG, CY, HR, GR, IT, RO, SI



Introductory Remarks

Maxime Peeters

Port of Antwerp-Bruges
Programme Manager Hydrogen

Enabling a hydrogen (import) value chain

ENTSOG Advisory Panel for Future Gas Grids - H2 Corridors

Tom Hautekiet CCO Port of Antwerp-Bruges

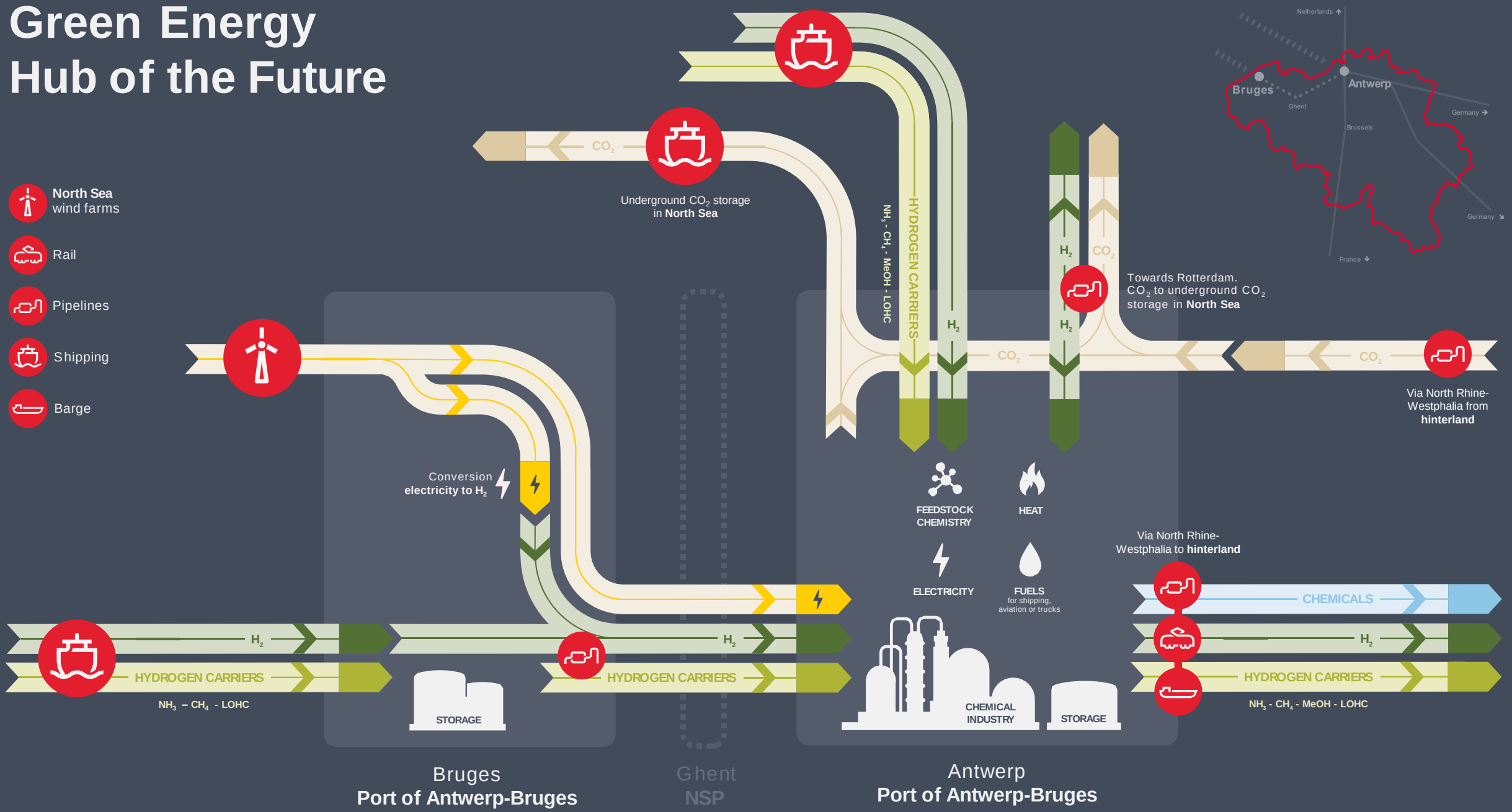
Stronger position of logistical chain
Sustainable growth and interconnectivity
Leading on the energy transition

Belgium's main LNG hub & Europe's largest chemical cluster

One port

Two locations

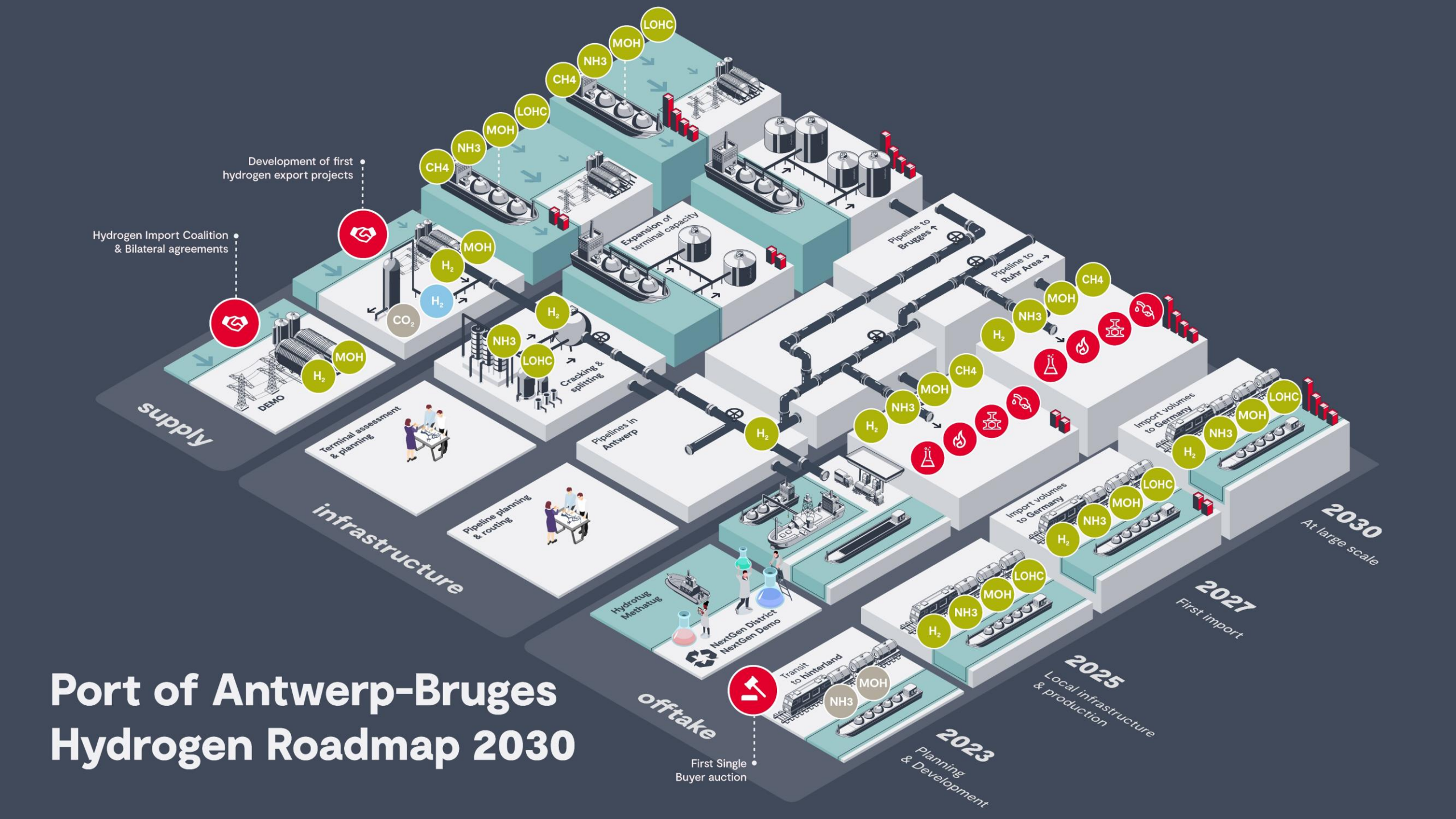
Green Energy Hub of the Future



Bruges
Port of Antwerp-Bruges

Ghent
NSP

Antwerp
Port of Antwerp-Bruges



Port of Antwerp-Bruges Hydrogen Roadmap 2030

Introductory Remarks

Piotr Kus

ENTSOG
General Director

TEN-E Process and Hydrogen

ENTSOG & ENTSO-E

- Build **joint scenarios** for possible energy futures to assess electricity and gas infrastructure
- Create **Ten-Year Network Development Plans (TYNDP)** for cross-border infrastructure
- Develop **cost-benefit-analysis** methodology to assess infrastructure projects

EC & Regional Groups

- Conduct **selection process** for infrastructure projects
- Determine list of Projects of Common Interest

List of Projects of Common Interest (PCI List)

- Proposed by EC & to be approved by EP
- Pre-requisite for Connecting Europe Facility funding

PCI Status for Hydrogen Infrastructure Projects

- Hydrogen infrastructure already integrated in scenarios and upcoming TYNDP 2022

Role of Gas Infrastructure in Decarbonisation

- Gas infrastructure enables the transition, either being repurposed or being built hydrogen-ready

TYNDP 2022

TYNDP2022: 320 investments

- **106 investments are directly connected to hydrogen**: converting, injecting, transporting or storing hydrogen.
- Additionally, **145 investments** are designed to be **suitable for the transport of increasing hydrogen quantities** in the gas network, or those contributing to the fuel-to-gas switch.

TYNDP Scenario Report

Close collaboration of ENTSOG and ENTSO-E

Developing scenarios for the whole energy system

Synergies and Links

Hydrogen will provide flexibility and security for both the electricity and gas grid.

- The more integrated the EU energy network is, the more Security of Supply can be achieved.
- Repurposing existing gas pipelines is the most cost effective and quickest way to develop the hydrogen grid of the future

REPowerEU addresses the need for green hydrogen and also importing green hydrogen.

- Hydrogen corridors laid out in REPowerEU. Mapping exercise is done by ENTSOG.

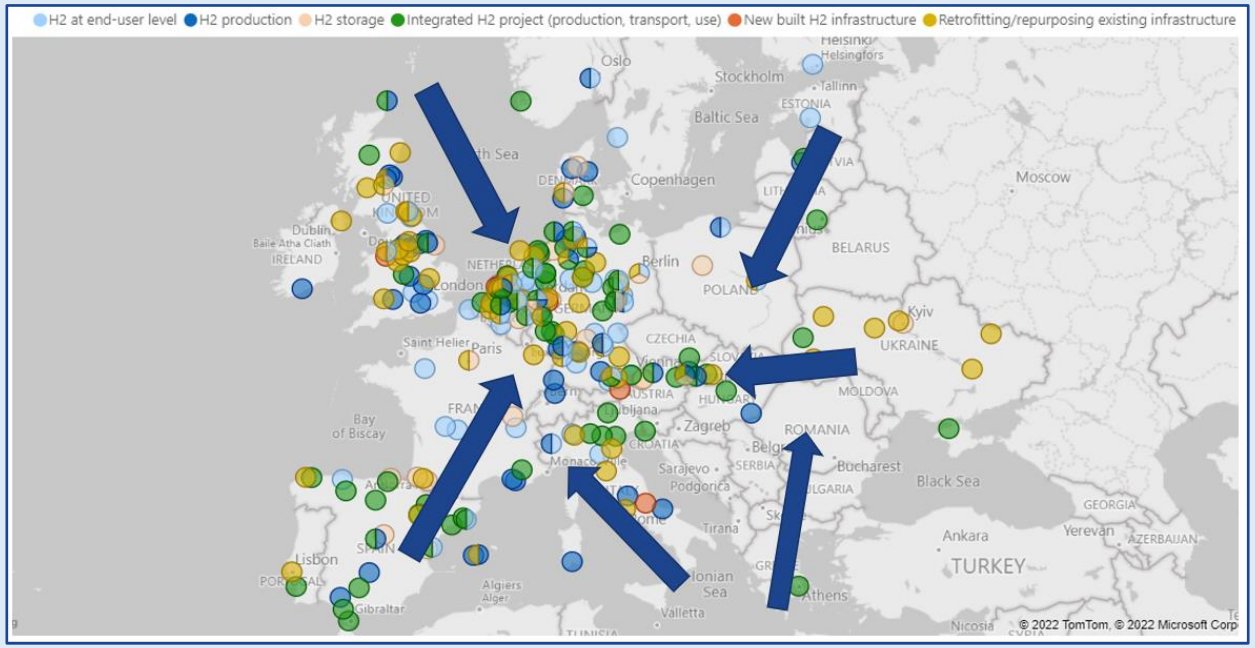
REPowerEU: Gas and Hydrogen

- Potential hydrogen corridors laid out by REPowerEU
- Direction West-to-East – infrastructure is robust
- ENTSOG supports this objective by mapping the hydrogen corridors with relevant stakeholders.

REPowerEU & Gas Infrastructure

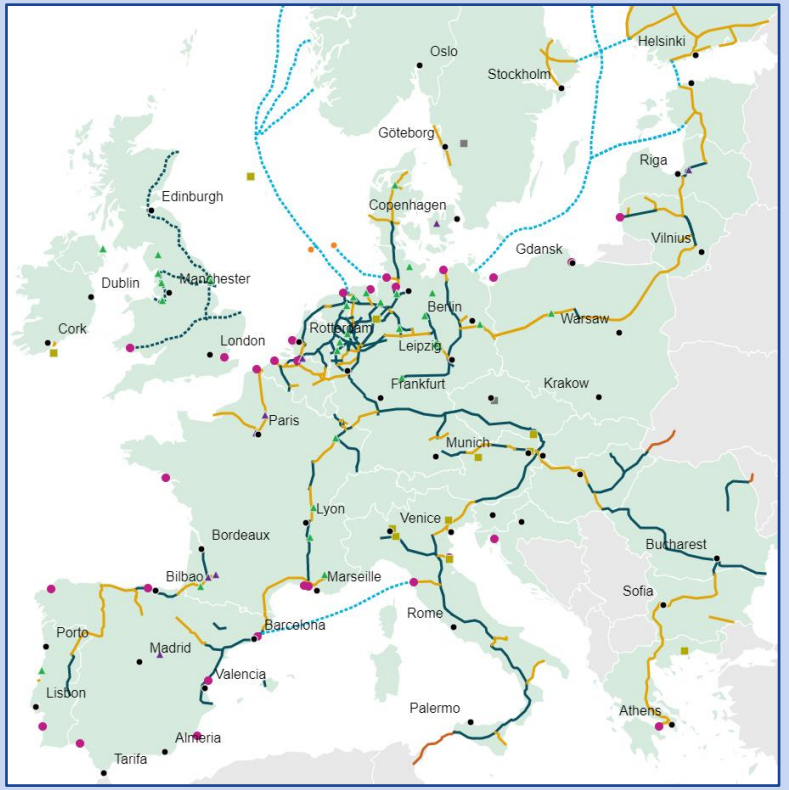
Hydrogen infrastructure planning

System approach – not point-to-point



Source: ENTSOG H2 project visualisation platform

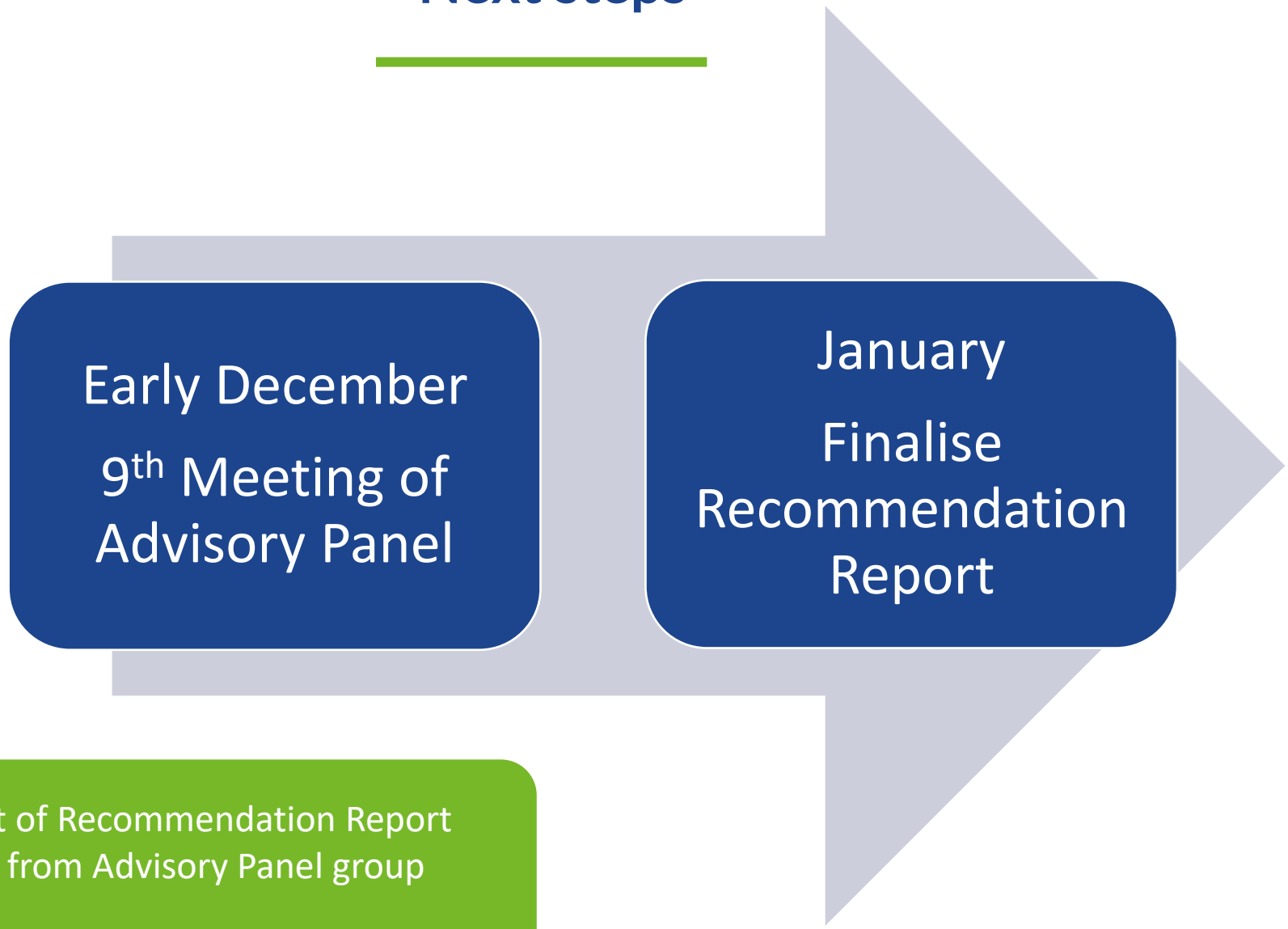
European Hydrogen Backbone 2030



Source: EHB

Summary and next steps

Next steps


Early December
9th Meeting of Advisory Panel
January
Finalise Recommendation Report
1. Share first draft of Recommendation Report
2. Get feedback from Advisory Panel group

Thank you for your attention

ENTSOG

ENTSOG - European Network of Transmission System Operators for Gas
Avenue de Cortenbergh 100, 1000 Bruxelles

www.entsog.eu | info@entsog.eu