

Mission Innovation Hydrogen Valley Platform

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Virtual Launch Event



Welcome

Bart Biebuyck
Executive Director, Fuel Cells and Hydrogen Joint
Undertaking (FCH JU)

Launch Event of the Mission Innovation Hydrogen Valley Platform

11:00

Welcome

Bart Biebuyck, Executive Director, Fuel Cells and Hydrogen Joint Undertaking (FCH JU)

11:05

Opening remarks: Hydrogen Valleys as a European idea going global

Patrick Child, Chair of the MI Steering committee, European Commission

11:15

Opening remarks of Mission Innovation's Innovation Challenge 8 "Renewable and Clean Hydrogen" Co-Chairs

Kurt-Christoph von Knobelsdorff, Managing Director, NOW GmbH and Sarah Brown, Counsellor (Europe), Industry, Science, Energy and Resources, Australian Embassy to Belgium, Luxembourg and Mission to the European Union and NATO

11:25

The Mission Innovation Hydrogen Valley Platform

Guillermo Matute Gomez, Project Manager, Inycom

11:40

Key findings of the global analysis of Hydrogen Valleys

Uwe Weichenhain, Partner, Roland Berger and Markus Kaufmann, Senior Project Manager, Roland Berger

Break (10 minutes)

12:10

Presentation and moderated panel: Tour du Monde of Hydrogen Valleys

Advanced Clean Energy Storage Project, Eyre Peninsula Gateway, Green Hysland, Living Lab Northern Germany, Roland Berger, moderated by Mirela Atanasiu, Fuel Cells and Hydrogen Joint Undertaking (FCH JU)

12:50

Closing remarks

Bart Biebuyck, Executive Director, Fuel Cells and Hydrogen Joint Undertaking (FCH JU)

Opening remarks: Hydrogen Valleys as a European idea going global

Patrick Child
Chair of the MI Steering committee, European
Commission

Opening remarks of Mission Innovation's Innovation Challenge 8 "Renewable and Clean Hydrogen" Co-Chairs

Germany: Kurt-Christoph von Knobelsdorff
Managing Director, NOW GmbH

Australia: Sarah Brown
Counsellor (Europe), Industry, Science, Energy and
Resources, Australian Embassy to Belgium, Luxembourg
and Mission to the European Union and NATO

“

NOW
NOW-GMBH.DE

MISSION INNOVATION #IC8
HYDROGEN VALLEY PLATFORM

CONNECT AND
TRANSFORM REGIONAL
CLUSTERS INTO A
BACKBONE FOR THE
WORLDWIDE HYDROGEN
ECONOMY

KURT-CHRISTOPH VON KNOBELSDORFF
MANAGING DIRECTOR, NOW GMBH

Launch Event for the MI Hydrogen Valley Platform

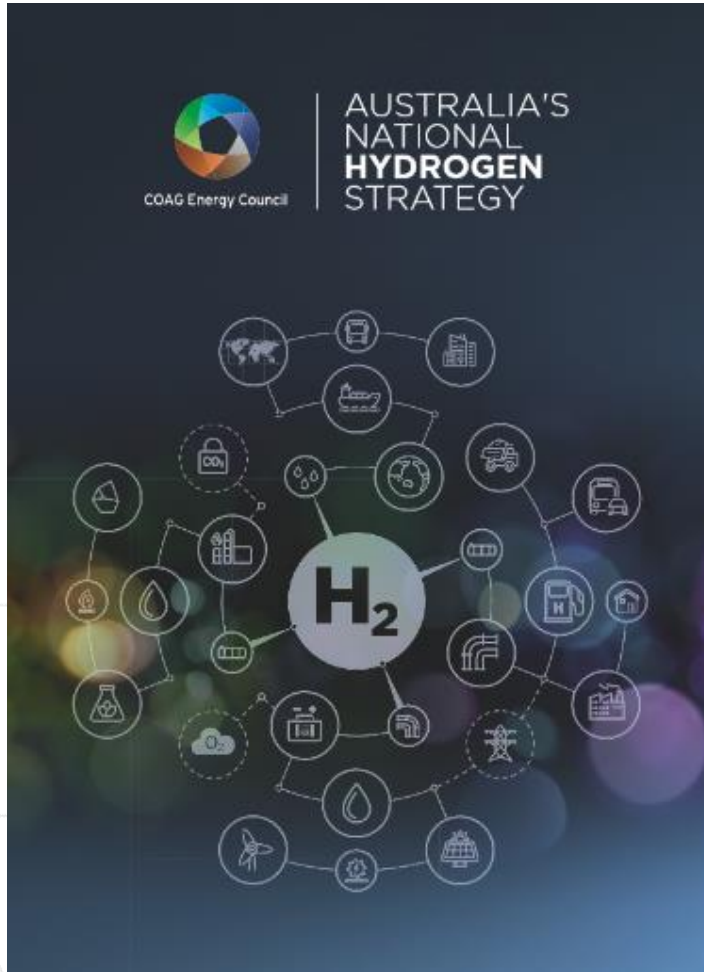
Sarah Brown

Counsellor (Europe) – Industry, Science, Energy and Resources

Australian Embassy to Belgium, Luxembourg and Mission to the European Union and NATO

19 January 2021

Australia's National Hydrogen Strategy



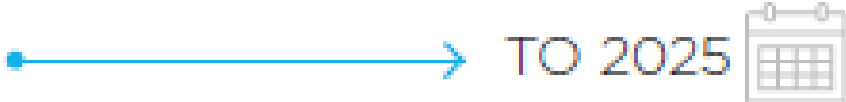
Released 22 November 2019

An adaptive industry development framework

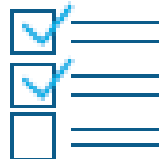
Scale up demand with creation of hydrogen hubs

Building demand with hydrogen hubs

FOUNDATIONS AND DEMONSTRATIONS



Scale-up activities



Advance priority pilots, trials and demonstration projects



Assess supply chain infrastructure needs



Build demonstration scale hydrogen hubs



Develop supply chains for prospective hydrogen hubs

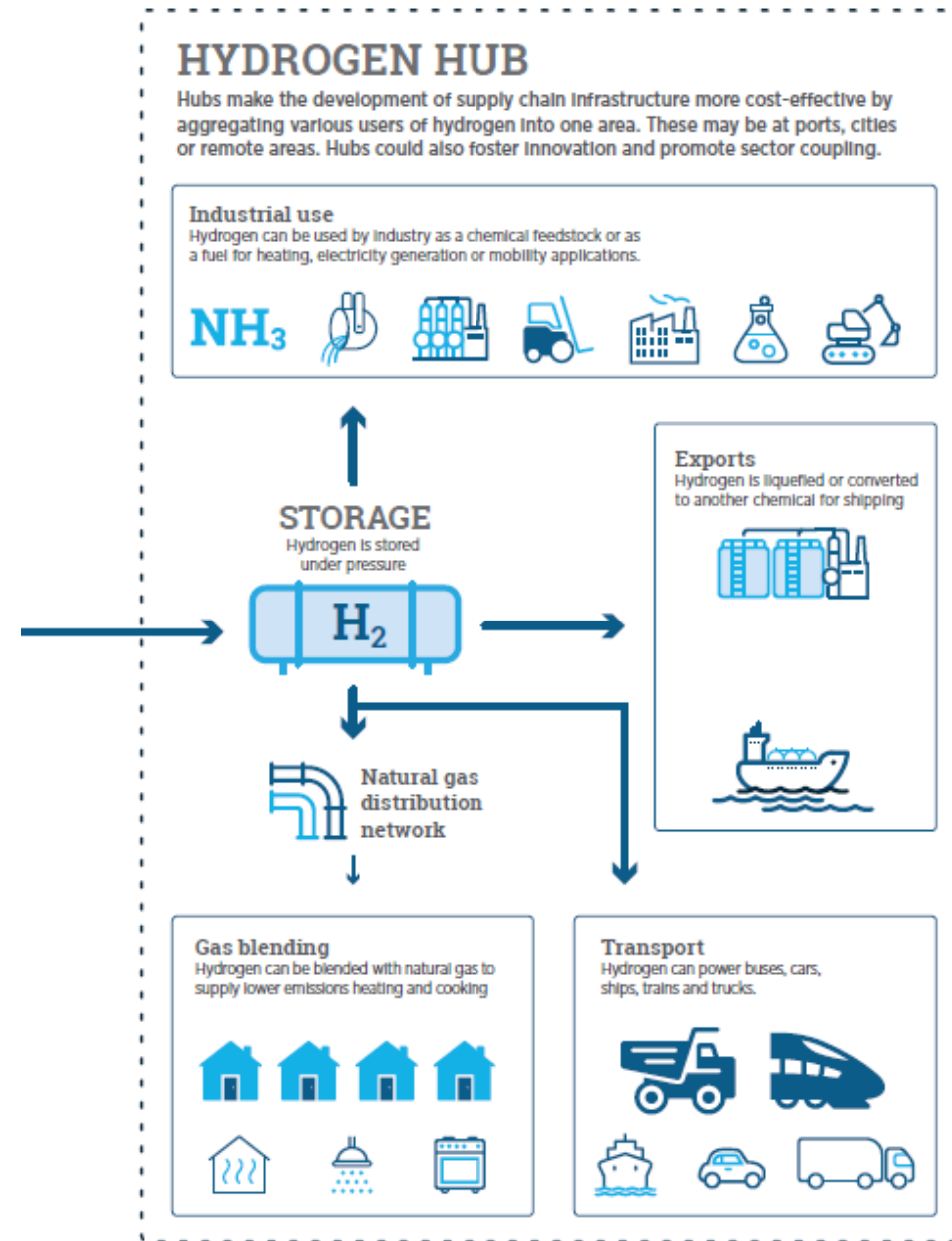
Hubs are regions where various users of hydrogen across industrial, transport and energy markets are co-located.

Recent Funding Announcement

\$1.9 billion package to support new and emerging low emission technologies

Includes:

- \$1.6 billion for technology development
- \$70.2 million for a hydrogen hub, research collaborations and supply chain studies
- \$74.5 million for electric vehicle refuelling infrastructure



The Mission Innovation Hydrogen Valley Platform

Guillermo Matute Gomez
Project Manager, Inycom

Key findings of the global analysis of Hydrogen Valleys

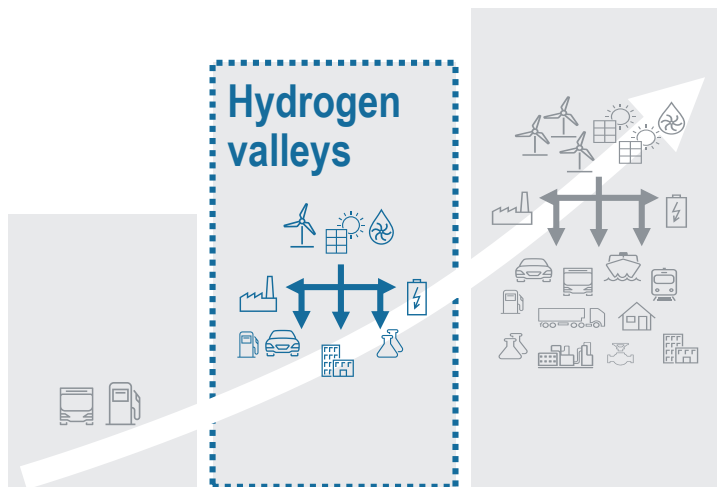
Uwe Weichenhain
Partner, Roland Berger

Markus Kaufmann
Senior Project Manager, Roland Berger

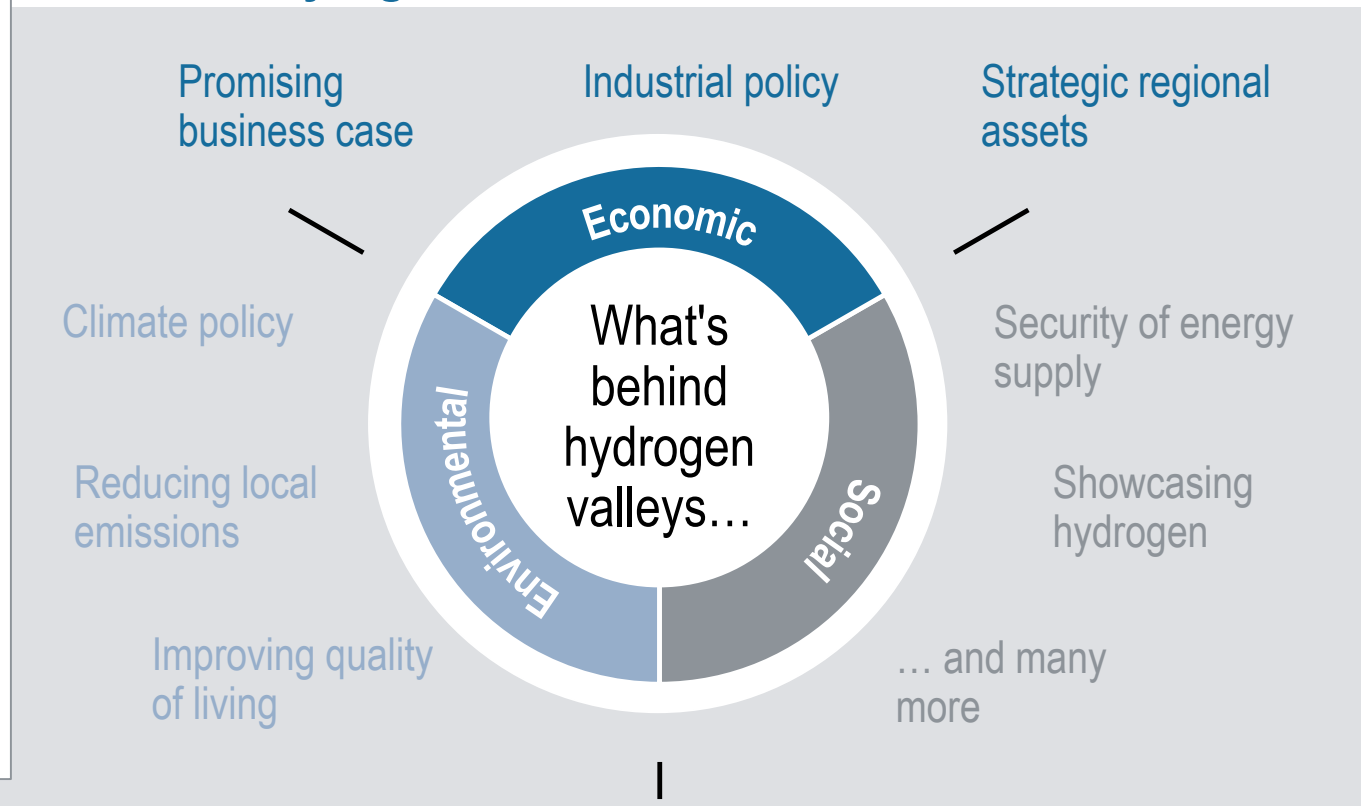
MI, EC and FCH JU want to push "Hydrogen Valleys" globally – as local market makers for clean hydrogen

The topic

- > Next-generation market development
- > Integrated (and larger-scale) projects covering more and more of the value chain – "mini hydrogen economies"



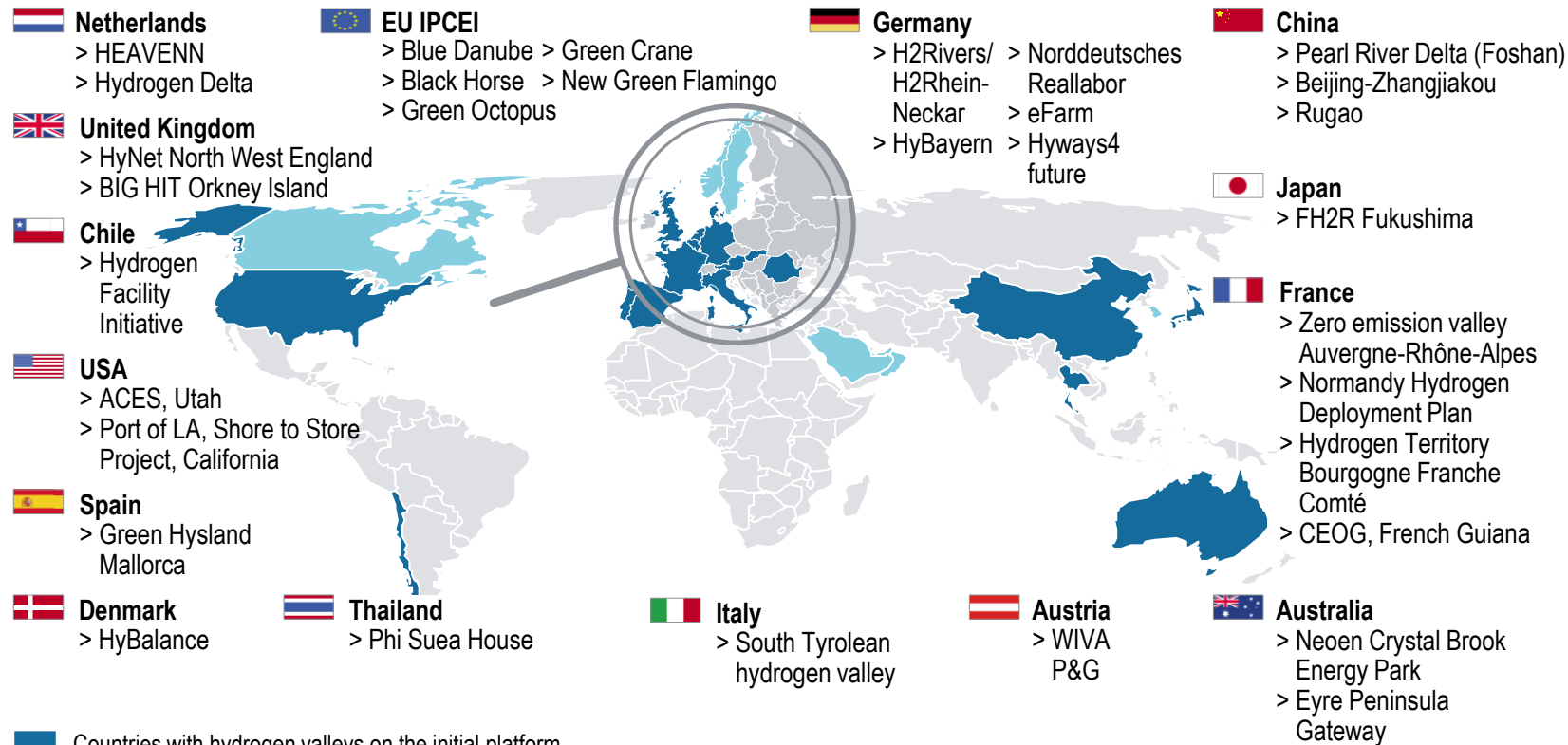
The underlying drivers



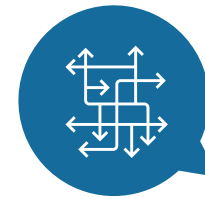
Hydrogen Valleys have become a global phenomenon, with integrated projects emerging all around the world

A fast-growing landscape of globally leading projects ...

... featured on a new platform



■ Countries with hydrogen valleys on the initial platform
 ■ Additional countries with major hydrogen valley activity where outreach is ongoing



> 30 valleys from 18 countries

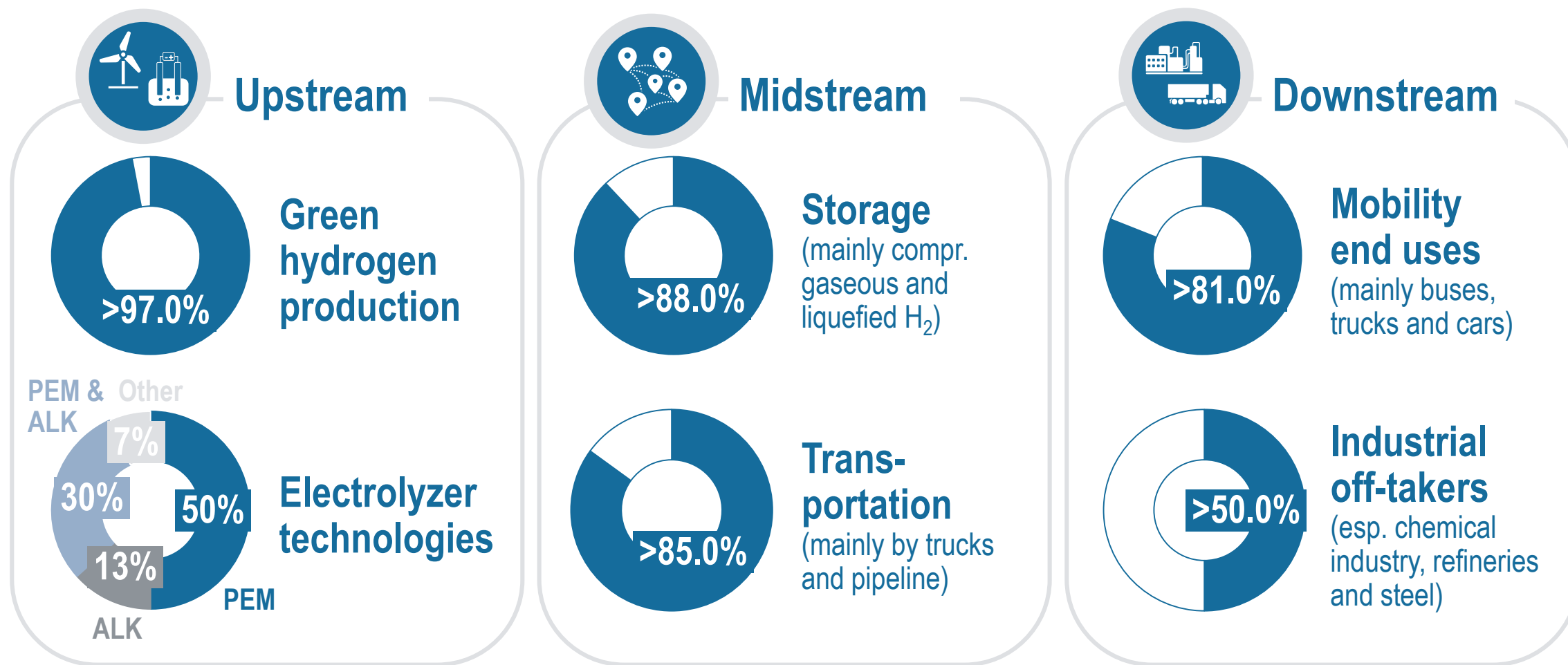


> 3,000 data points



10 in-depth best-practice profiles

The valleys are diverse in almost every way, but all feature different signs of a maturing market (1/2)

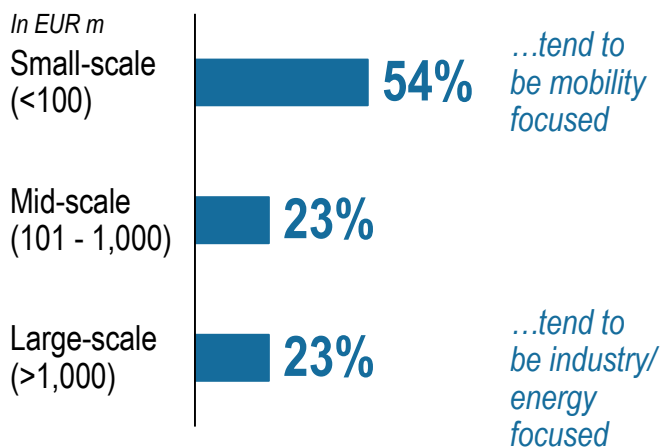


The valleys are diverse in almost every way, but all feature different signs of a maturing market (2/2)



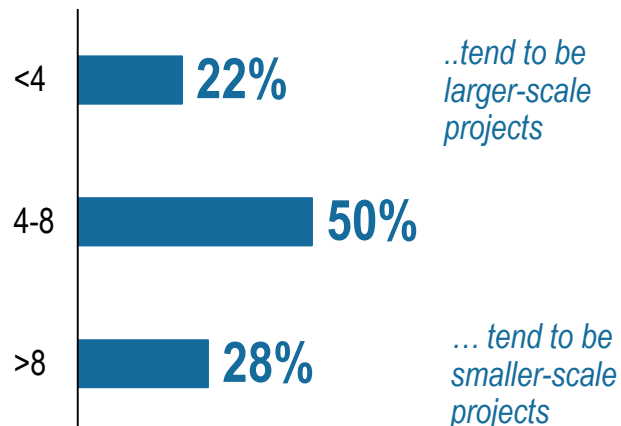
Investment

> EUR 30 bn
total investment



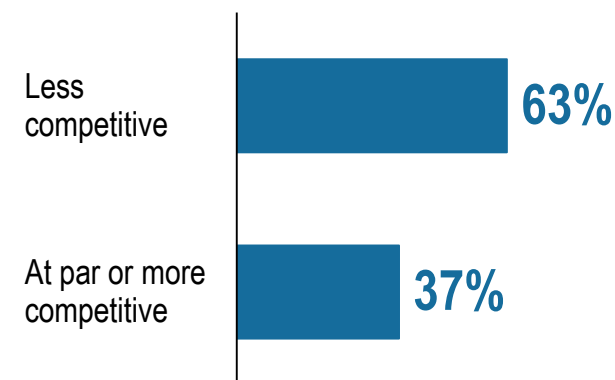
Hydrogen cost

Ø 6.3 EUR/kg
hydrogen cost



Competitiveness

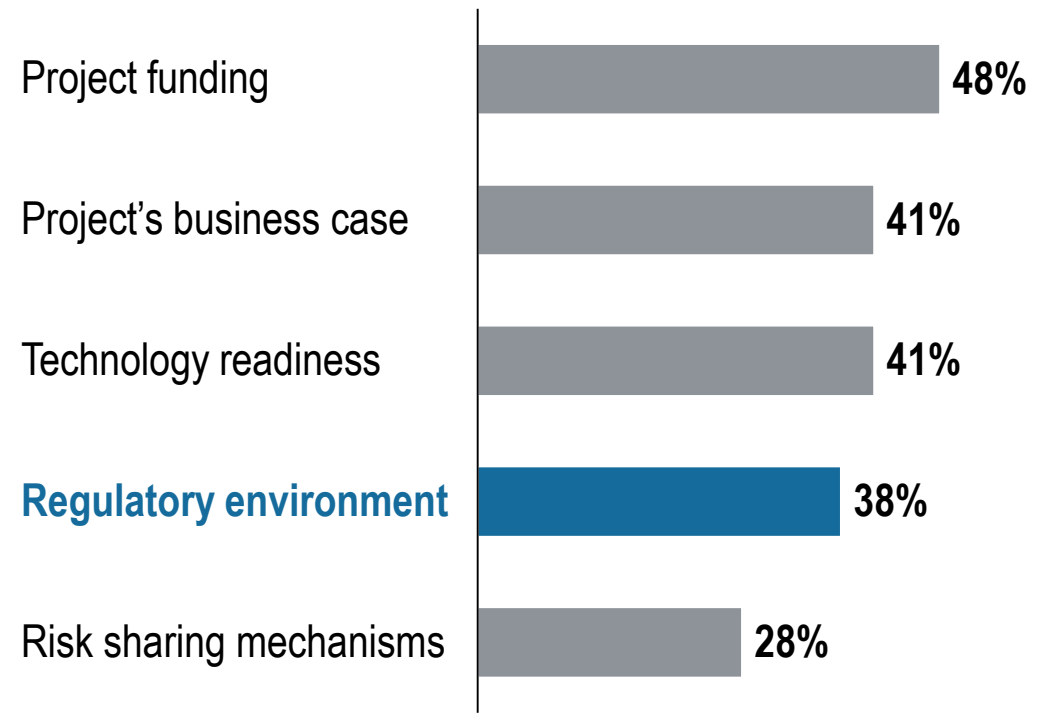
...and more confident commercially



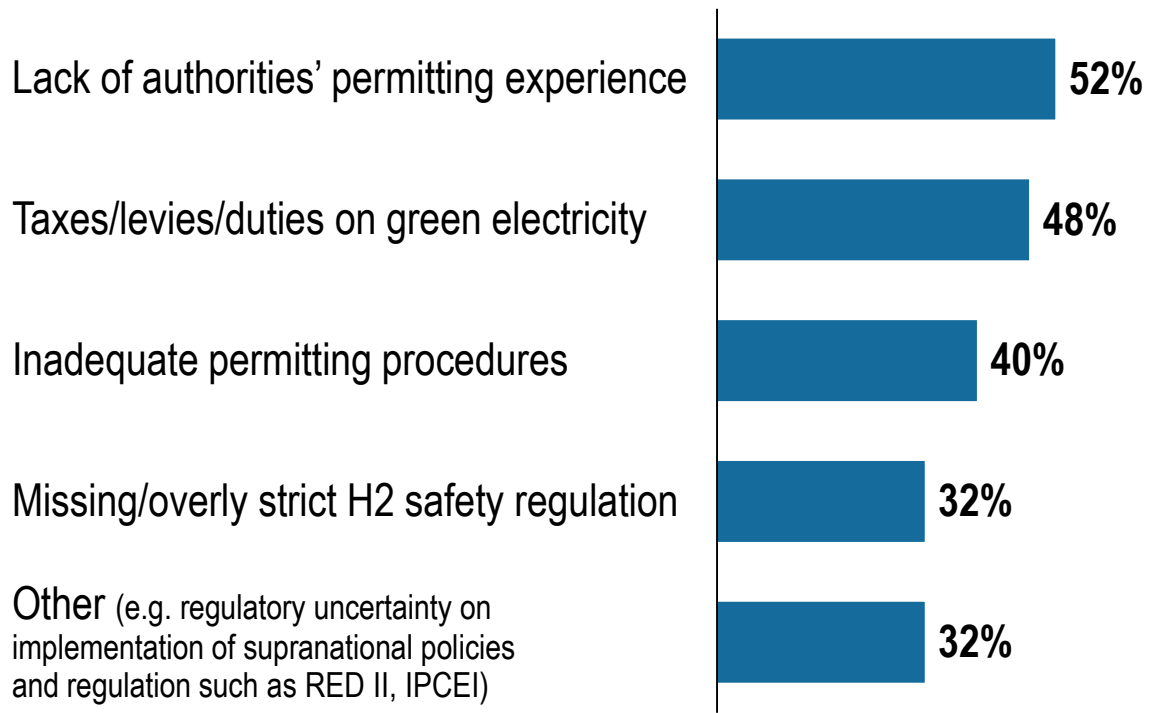
Compared to conventional offering, as per developers' own assessment

Developers face common challenges, especially concerning business cases and regulation

Top overall challenges when developing hydrogen valley initiatives¹



Most significant regulatory hurdles when developing hydrogen valley initiatives¹

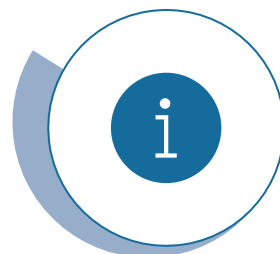


1) Top 5 answers from survey; multiple answers possible

What's next for Hydrogen Valleys?

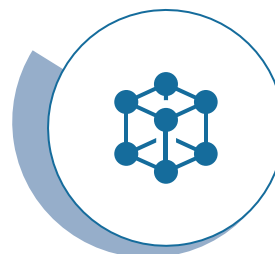
Vision

Hydrogen Valleys will play an integral part in building further momentum in the market



"More of the same":

Hydrogen Valleys can help develop first H₂ projects in new markets and geographies



Connected Valleys:

Connecting existing Hydrogen Valleys (e.g., NL and DE) can enable the market



Maturing commercially:

Pioneering more mature and innovative derisking and financing models



The broader "look & feel"

Raising awareness and social acceptance on local and regional level

A short break before we continue

12:00 – 12:10
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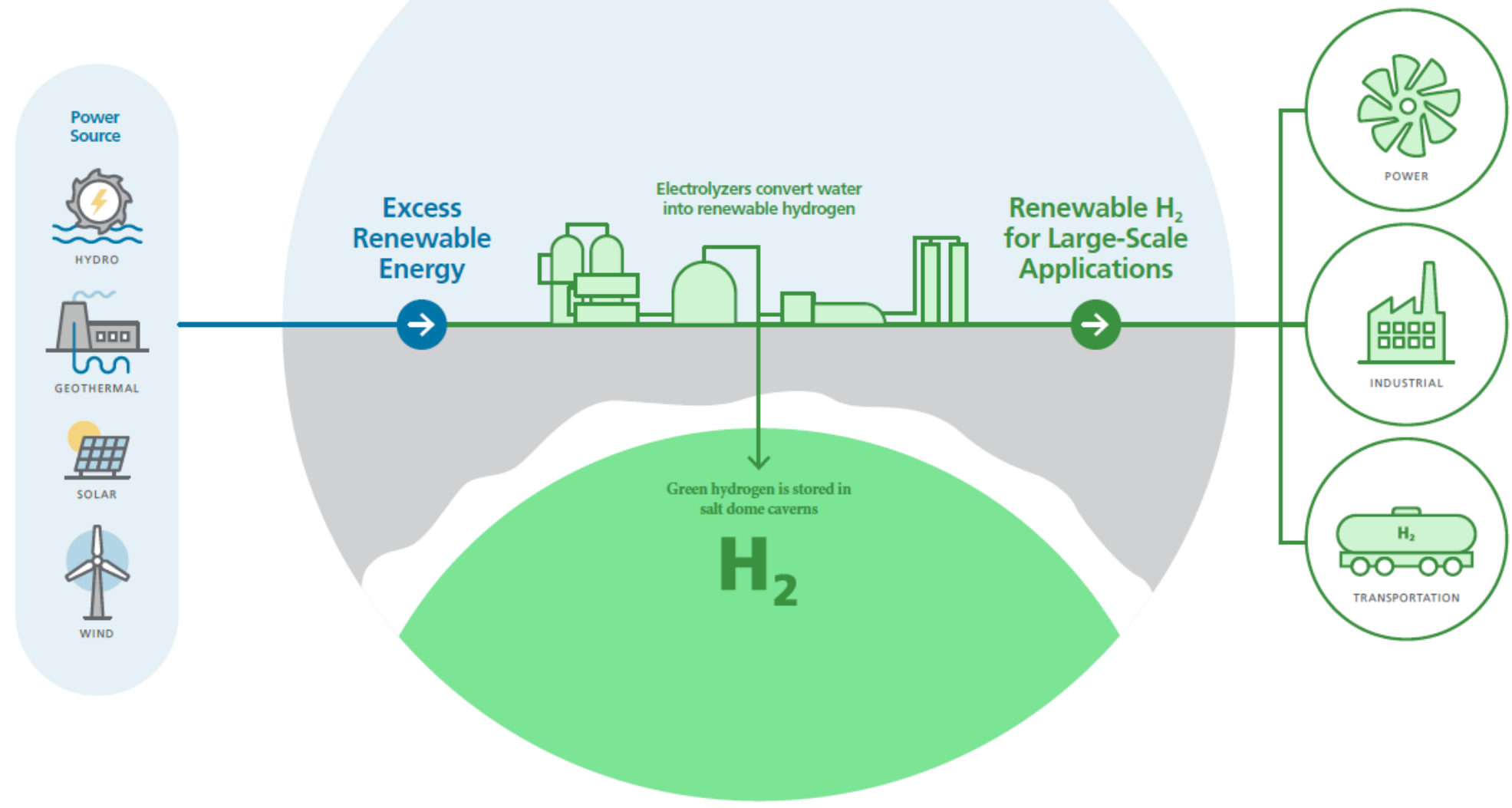
Moderated panel discussion: Tour du Monde of Hydrogen Valleys

- > **Advanced Clean Energy Storage, USA:** Michael Ducker, Vice President, Renewable Fuels, Mitsubishi Power
- > **Eyre Peninsula Gateway, Australia:** Attilio Pigneri, CEO, H2U - the Hydrogen Utility
- > **Green Hysland, Spain:** María Jaén Caparrós, Innovation & New Energies, Enagás
- > **Living Lab Northern Germany:** Mike Blicker, Strategic Project Development and Scientific Team Coordination, CC4E, Hamburg University of Applied Sciences
- > **Uwe Weichenhain and Markus Kaufmann, Roland Berger**
- > **Moderation: Mirela Atanasiu, FCH JU**

Advanced Clean Energy Storage, USA

Michael Ducker
Vice President, Renewable Fuels, Mitsubishi Power

The Advanced Clean Energy Storage Project

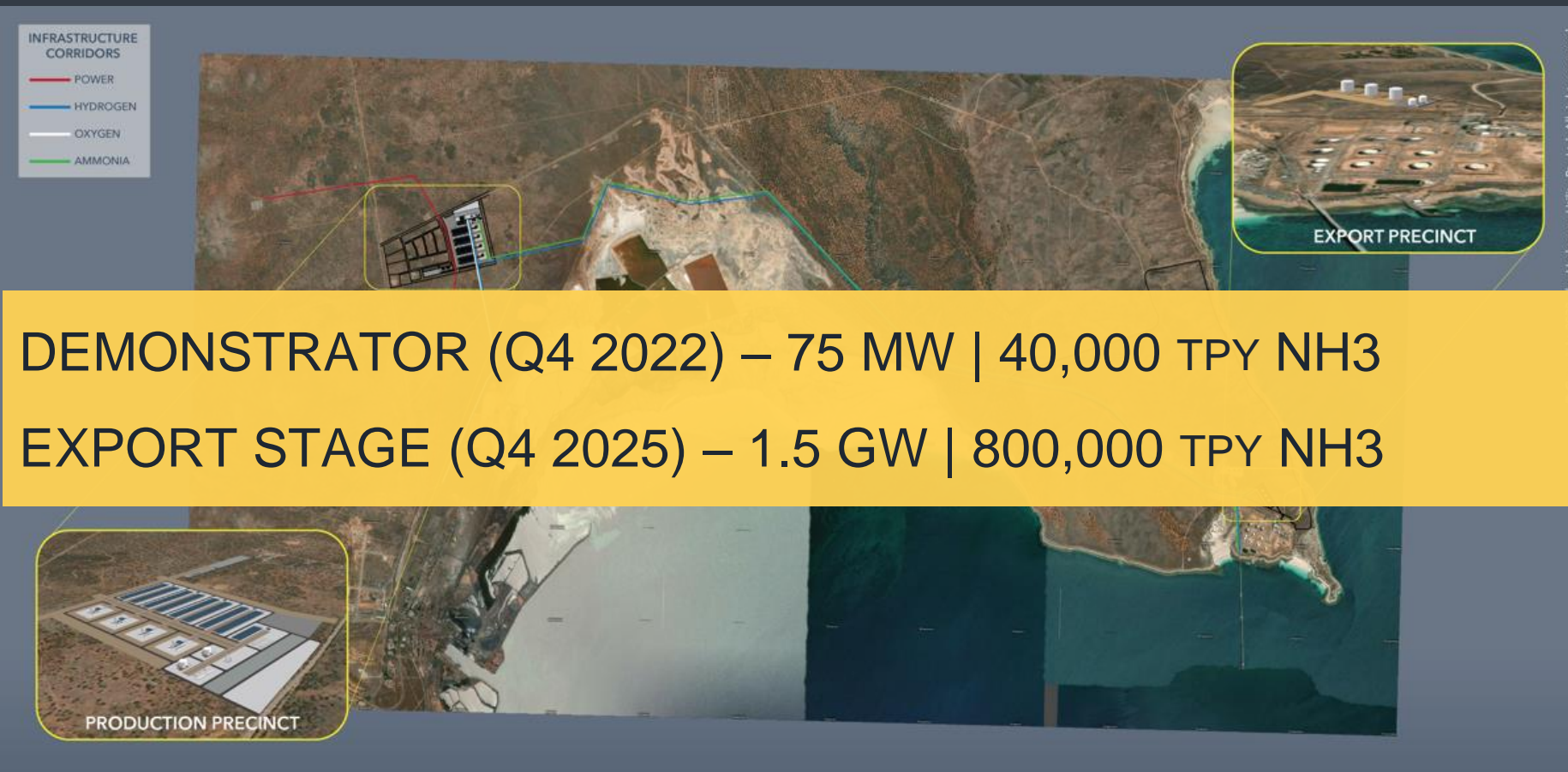


Eyre Peninsula Gateway, Australia

Attilio Pigneri
CEO, H2U - the Hydrogen Utility

EYRE PENINSULA GATEWAY™

GREEN HYDROGEN AND AMMONIA AT INDUSTRIAL SCALE



DEMONSTRATOR (Q4 2022) – 75 MW | 40,000 TPY NH₃
EXPORT STAGE (Q4 2025) – 1.5 GW | 800,000 TPY NH₃



THE HYDROGEN UTILITY™



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H2U

THE HYDROGEN UTILITY™

Green Hysland, Spain

María Jaén Caparrós
Innovation & New Energies, Enagás

MI H₂ Valley Platform GREEN HYSLAND

Funded by:



Project description

Production of green hydrogen by using renewable energy (PV) for its use in multiple applications: mobility (fleet of buses, rent a car...), heat and power for commercial/residential buildings, service sector and industry (CHP, electric supply,...) and injection into the gas grid.

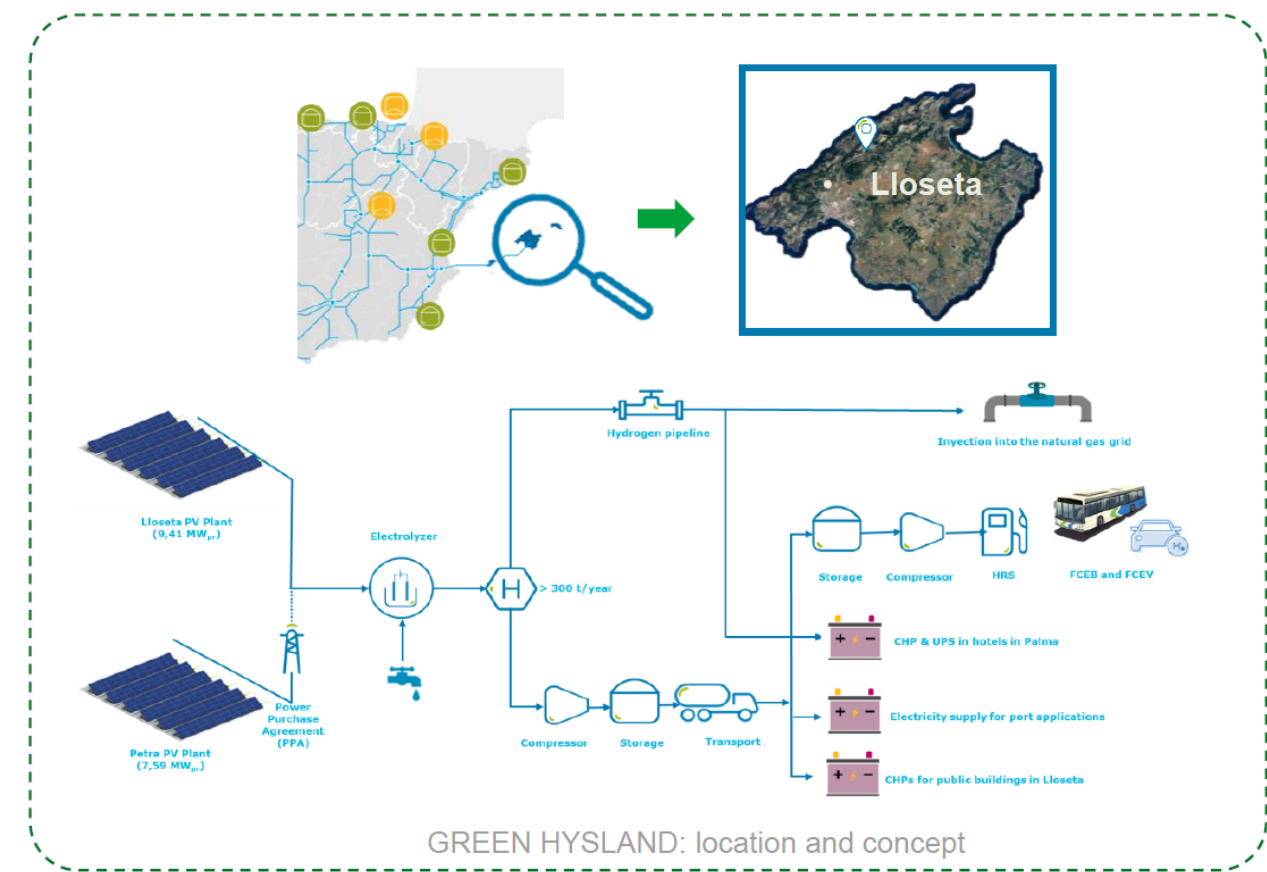
Current status

Grant Agreement signed with the FCH JU on December 2020.

Starting Date: 1st January 2021

Relevance

The project will deploy and demonstrate an integrated energy and transport system based on hydrogen in the island of Mallorca. The project will also aim for replication in other EU and non-EU islands.



Living Lab Northern Germany

Mike Blicher
Strategic Project Development and Scientific Team
Coordination, CC4E, Hamburg University of Applied
Sciences

Living Lab of Northern Germany: project description

The **Living Lab of Northern Germany** shows an holistic approach to transform the energy system within all sectors. It develops a path towards a 75% decarbonisation till 2035 within the model region.



Sector coupling with hydrogen and energy optimised urban districts are being tested in an systemic approach.



25 projects with **18** demonstration plants work towards an hydrogen production capacity of **43 MW** and waste heat recovery of **700 GWh/a**. A decarbonisation of **570,000** tons of CO₂ p.a. will be reached.



All projects are being clustered in **4 hubs** which are placed in regions Hamburg, Schleswig-Holstein and Mecklenburg-Vorpommern.



50 partners of business, science and politics are committed to develop sustainable innovations as well as profitable impulses to overall strengthen North Germany as an industrial location.



The investment volume is **€325 million**, of which **€130 million** of public funding has been applied for.



Moderated panel discussion: Tour du Monde of Hydrogen Valleys

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- > **Moderation: Mirela Atanasiu, FCH JU**

Closing remarks

Bart Biebuyck
Executive Director, Fuel Cells and Hydrogen Joint
Undertaking (FCH JU)

Thank you for your attention –

visit www.h2v.eu and do not hesitate to reach out

Your contacts at the FCH JU



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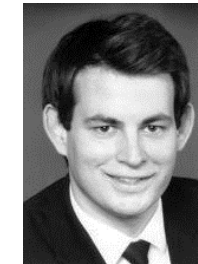
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