

5th Virtual Continental Europe Energy Council Meeting

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23.02.2022



Hydrogen Europe in Numbers

330+ Members

We represent the whole value
chain from producers to end users

35+ Employees

103k+ Followers
on Social Media

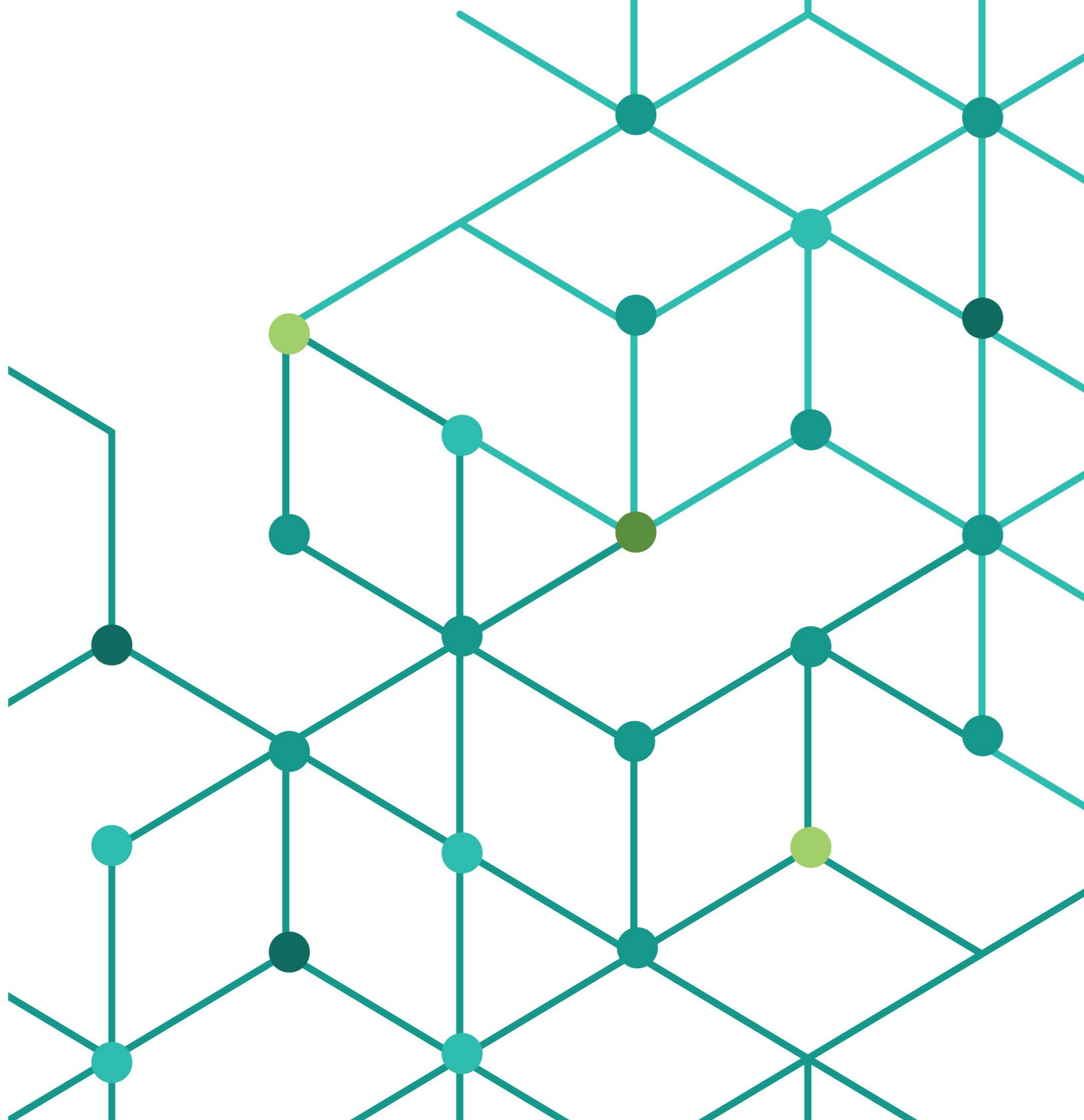
**We are the fastest
growing Association
in Europe.**



Hydrogen Europe

Flagship Event

25-27 October 2022 • Brussels, Belgium



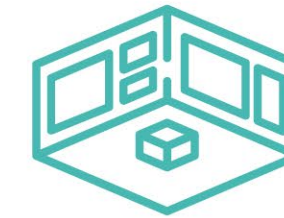
WHAT TO EXPECT?



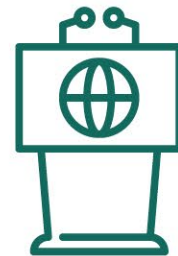
3 day exhibition



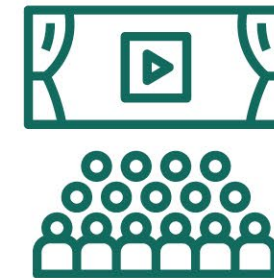
3000+ visitors



Over 4000+ sqm+



3 day high level
political conference



600+ conference
attendees



2 networking
opportunities



Show cases & demos



40 start ups



100 B2B meetings

How do the great economic paradigm shifts in history emerge?



We are in the midst of the 3rd Industrial Revolution

19th century 1st revolution



- Steam power
- Telegraph
- Abundant coal
- Locomotives

20th century 2nd revolution



- Centralised power
- Telephone
- Cheap oil
- ICE cars

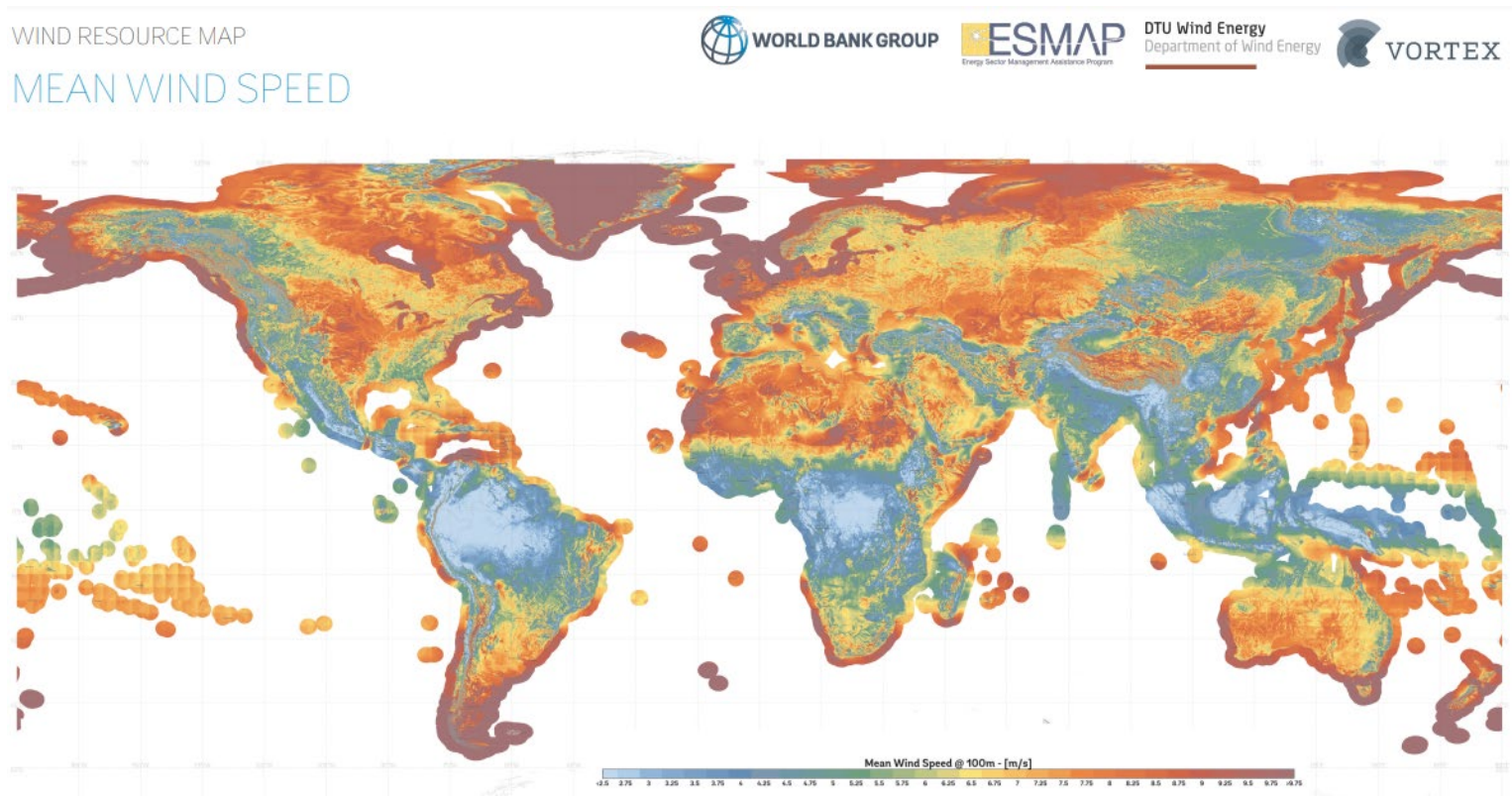
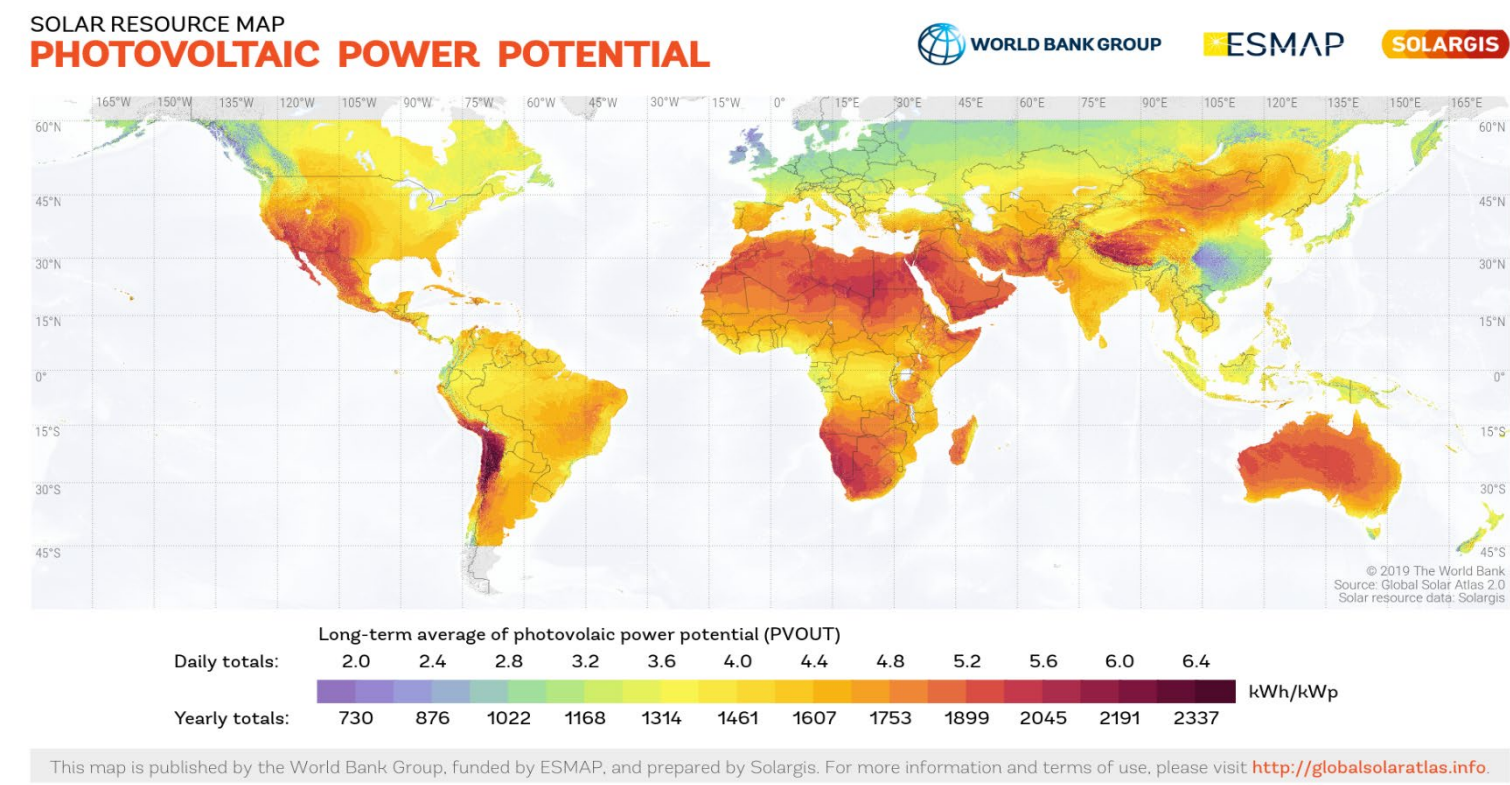
21st century 3rd revolution



- Solar & wind
- Internet
- HydroGenewables
- Digital mobility

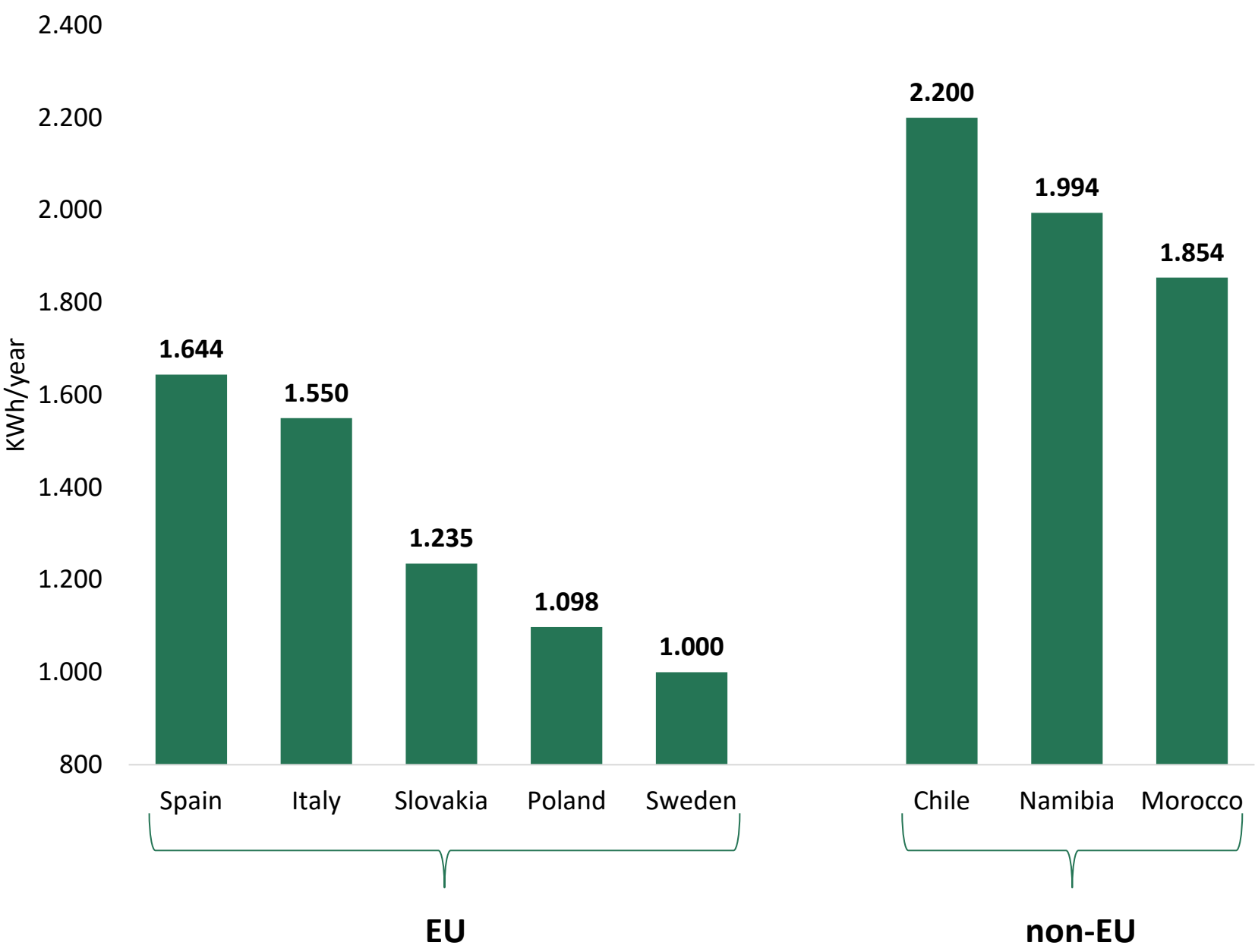
What does that actually mean?

Large variations of RES production efficiency in Europe and around the world



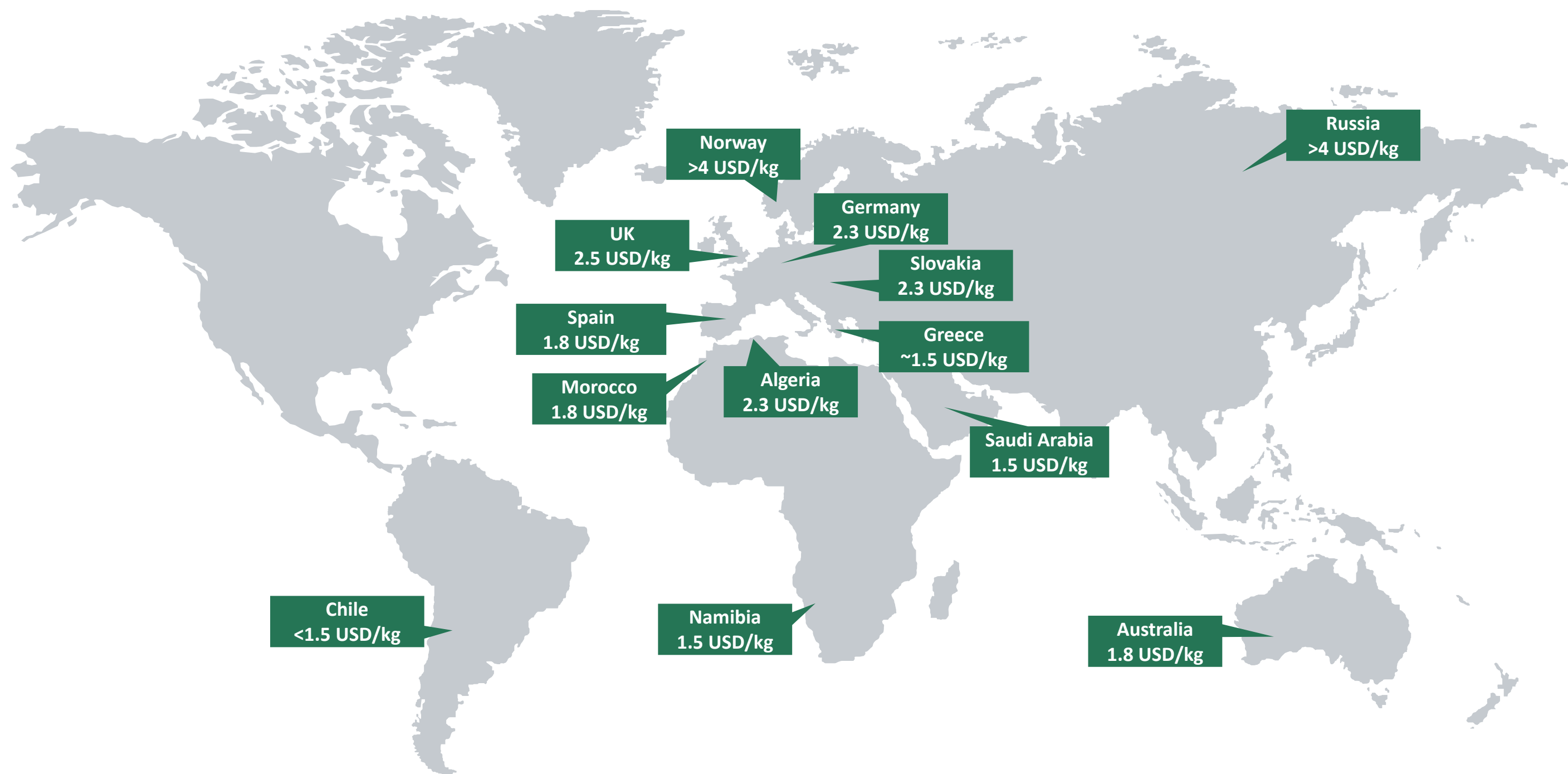
Source: World Bank Group

Annual yield from a 1 KW PV



Hydrogen production cost varies and will continue to depend on available RES

Power-to-hydrogen production costs by 2030 based on hybrid wind and PV systems



Notes: Indicative numbers per country based on IEA's Global Hydrogen Review 2021. For countries with multiple different prices, the lowest value is displayed
Source: IEA

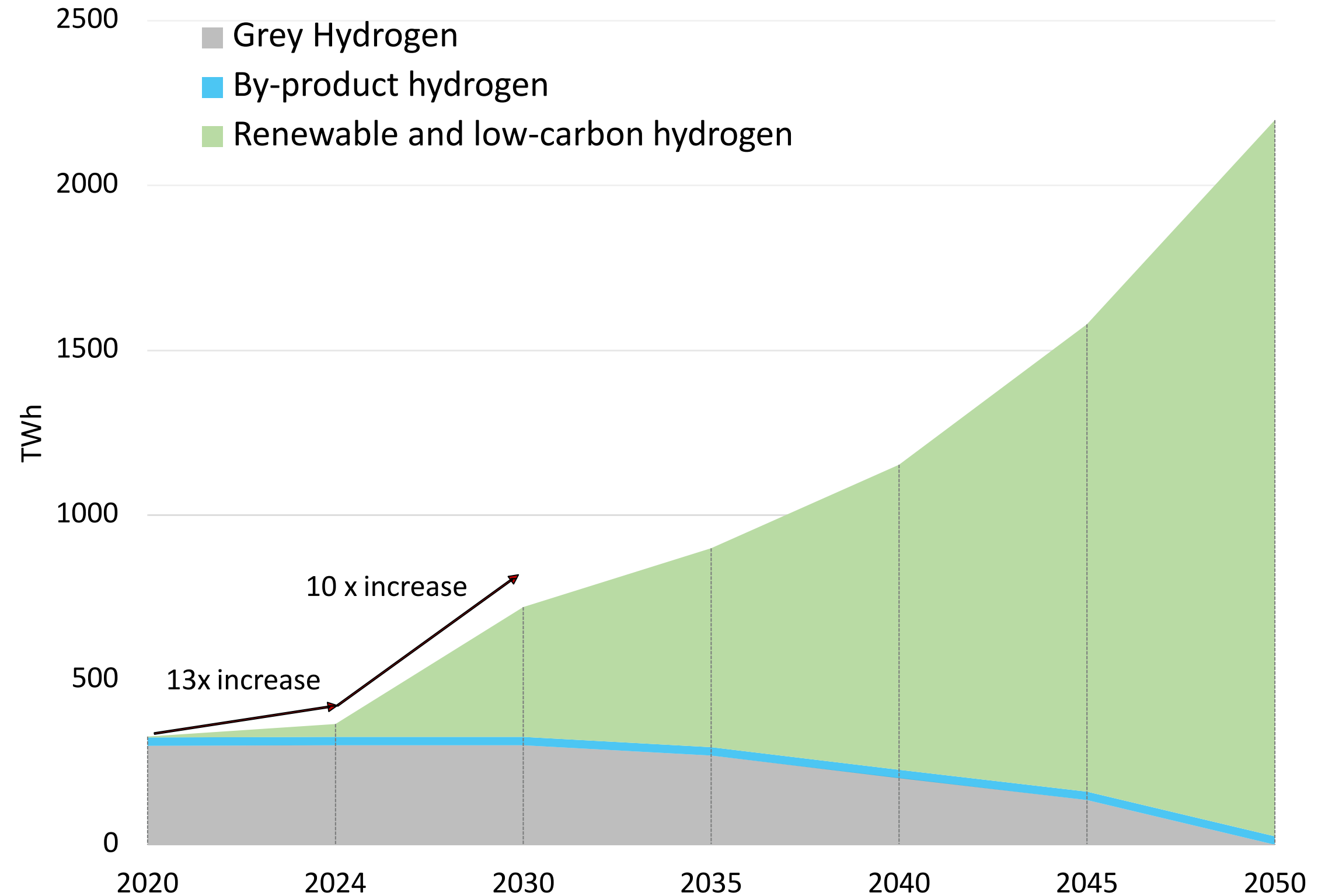
What does that actually mean?

What we want

Enable clean hydrogen to:

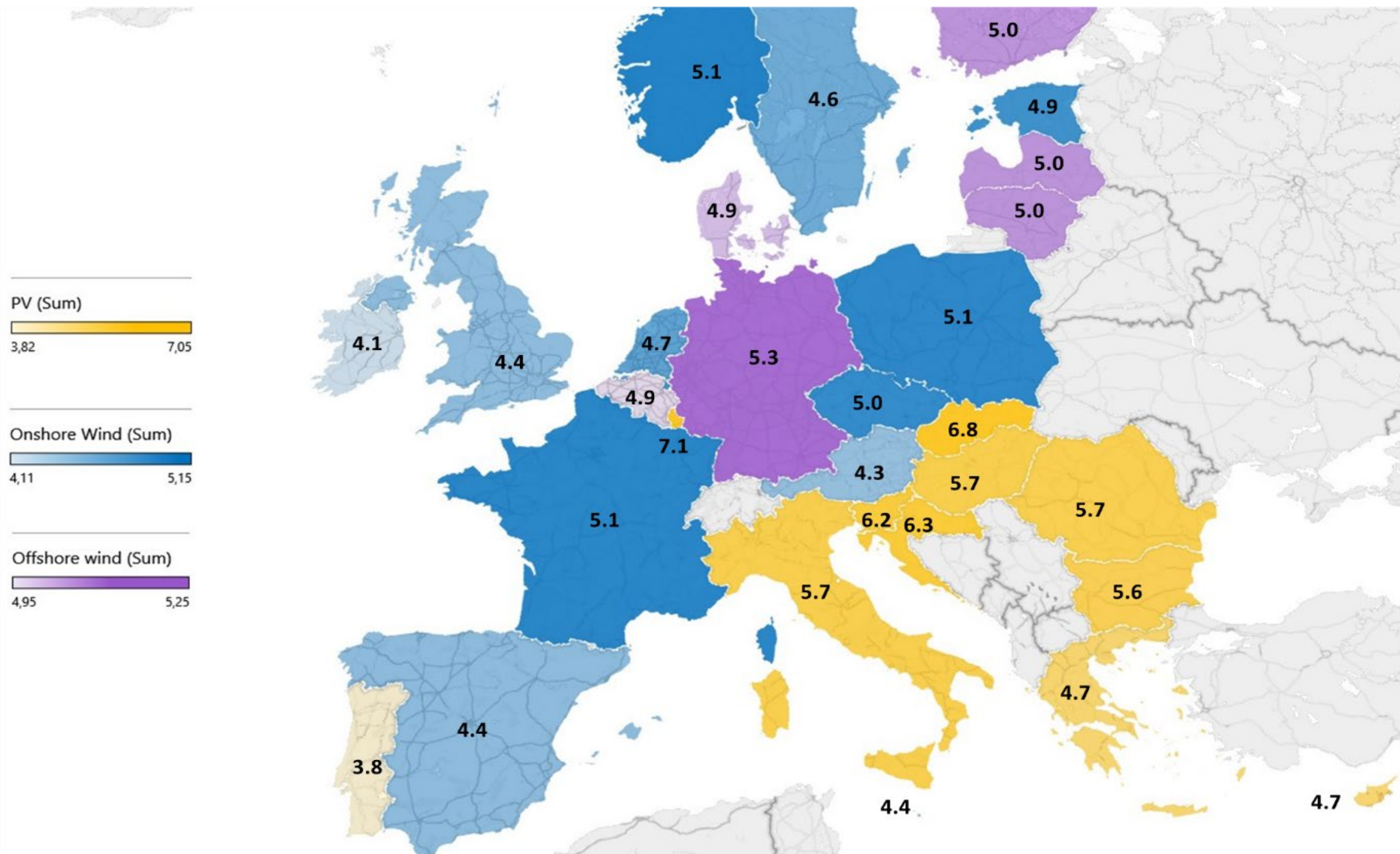
- Replace all unabated fossil hydrogen consumption
- Replace fossil fuels and feedstocks in sectors where hydrogen can play a role.

By 2024 clean hydrogen production should be 13x times that of 2019 and by 2030, it should be 130 times larger.



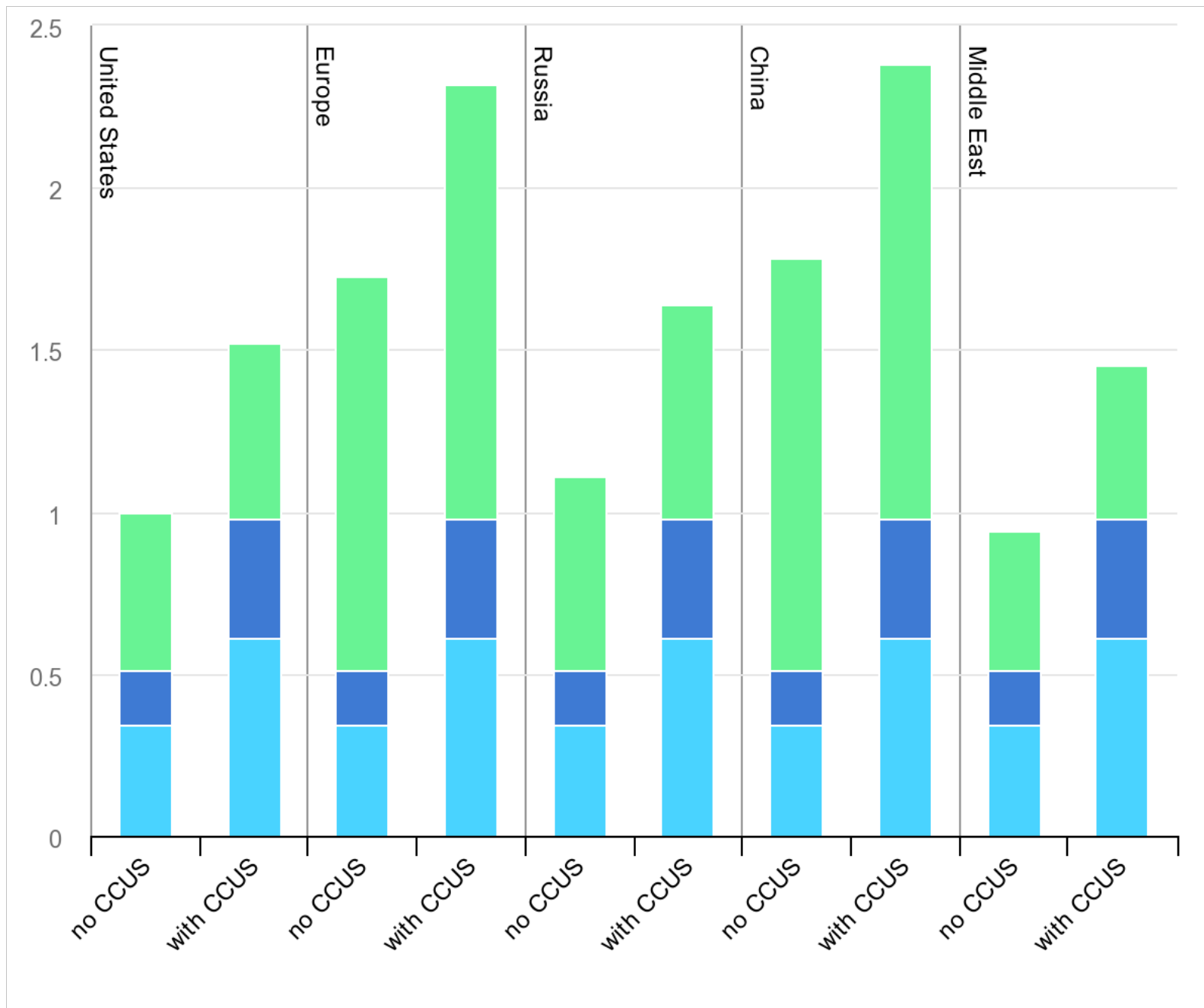
Source: Hydrogen Europe

How much does renewable hydrogen cost now in the EU?



The ever-decreasing costs of renewable electricity are making it possible to produce renewable hydrogen at prices that are not far off from being competitive in most EU countries.

Low carbon hydrogen production costs

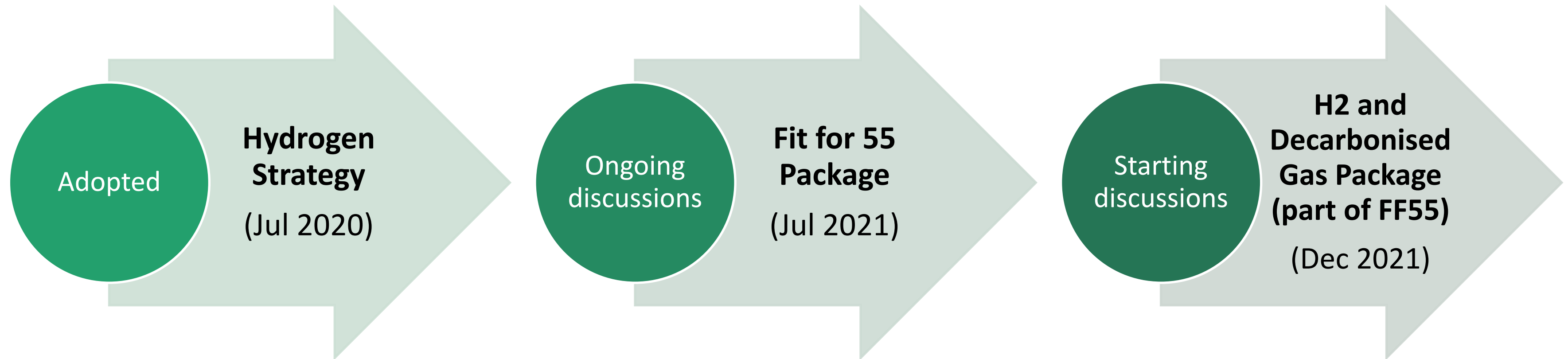


The production cost of hydrogen from natural gas is influenced by a range of technical and economic factors, with **gas prices** and **capital expenditures** being the two most important.

Fuel cost – 45-75% of cost

Policy developments

Legislative frameworks for H2: Overview



Fit for 55 – General Assessment

Fit-for-55 in a nutshell:

- Most significant shake-up of EU legislation since the completion of the Single Market
- Transformative of multiple areas of the economy
- Impacts across the board

Most important legal acts for H2:

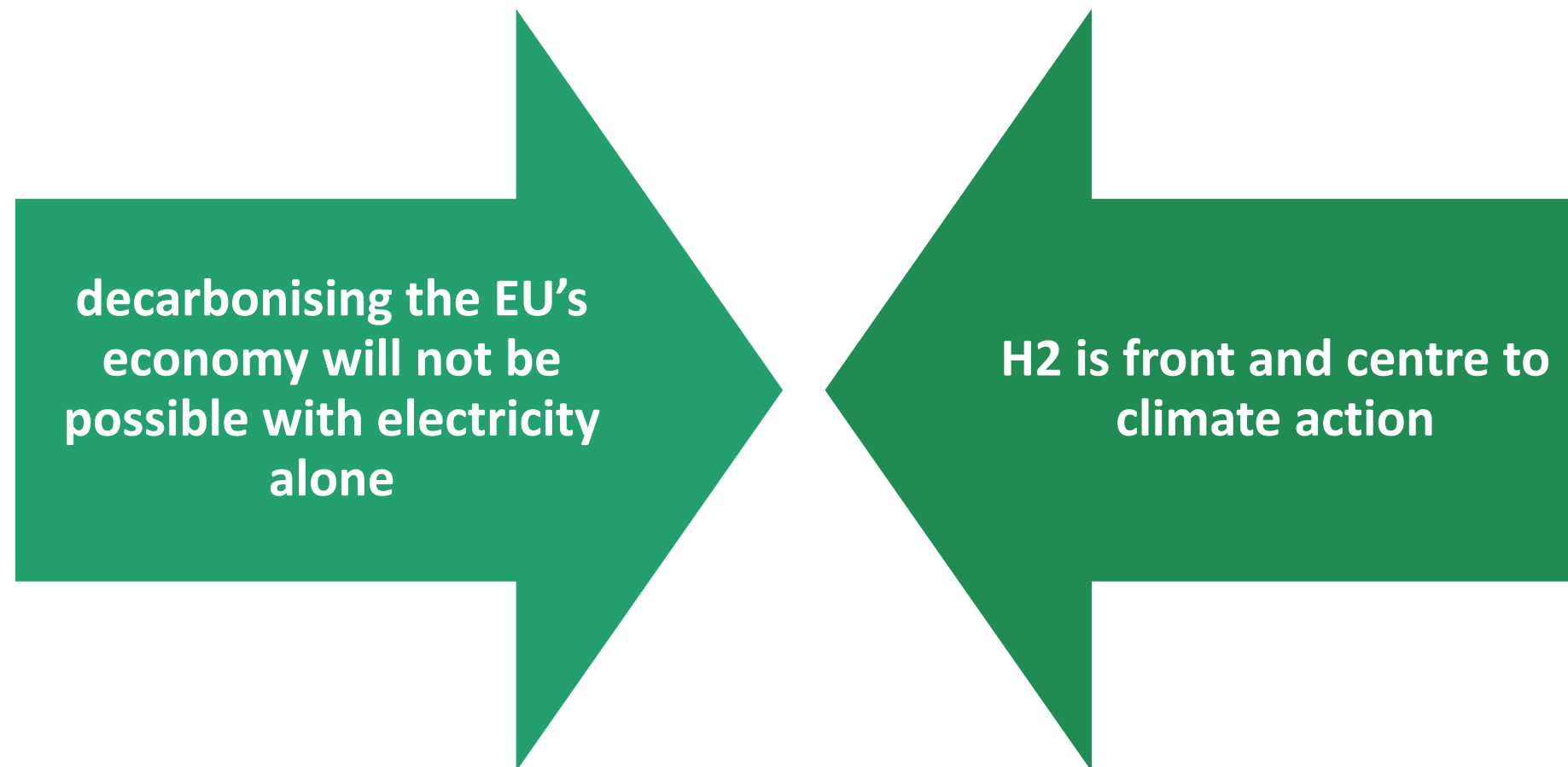
- Renewable Energy Directive (Revision of RED II)
- Energy Tax Directive
- Emission Trading System (including CBAM)
- Alternative Fuel Infrastructure Regulation (AFIR)
- RefuelEU Aviation and FuelsEU Maritime
- CO2 Emission Standards

Overall – positive for hydrogen:

- Incentives
- Targets and mandates
 - Exclusive for H2 (e.g. RED III, AFIR)
 - In competition with other fuels (e.g. FuelsEU Maritime and Refuel EU Aviation)
- Indirect support
 - ETS allowances for renewable hydrogen producers
- Direct support
 - Carbon Contracts for Difference in the Innovation Fund
- Closing competitive gap with fossil fuels
 - High taxation for fossil fuels
 - Low taxation or exemption for hydrogen
 - Lower ETS cap, fewer free ETS allowances, broader coverage of ETS (Transport and Buildings)

Hydrogen and Gas Package

Presented on 15 December 2021, the **Hydrogen and decarbonised gas package** comes with two clear messages:



Package of proposals on energy and climate action

- Proposal of the revised gas markets and H2 directive
- Proposal of the revised gas markets and H2 regulation
- Reducing methane emissions in the energy sector
- Revision of the energy performance of Buildings Directive
- Commission communication - Restoring sustainable carbon cycles



Any questions ?



Hydrogen
Europe

*Propelling global carbon neutrality by accelerating the
European hydrogen industry.*