



Clean Power Hydrogen

Hydrogen & Fuel Cells Conference
2022

Green Hydrogen Production – why
Membrane-Free?

Jon Duffy | June 2022

[CPH2.com](https://www.cph2.com)



Who are we?

- CPH2 is a UK manufacturer of Membrane-Free Electrolysers™ for green hydrogen production, based in Doncaster.
- We offer a simple, safe and sustainable technology designed to deliver a modular solution to the hydrogen production market in a cost-effective, scalable, reliable and long-lasting way.
- To be the leading developer and manufacturer of green hydrogen technologies. To reduce the creation of harmful emissions by participating in the growth of the hydrogen economy.



Who are we?

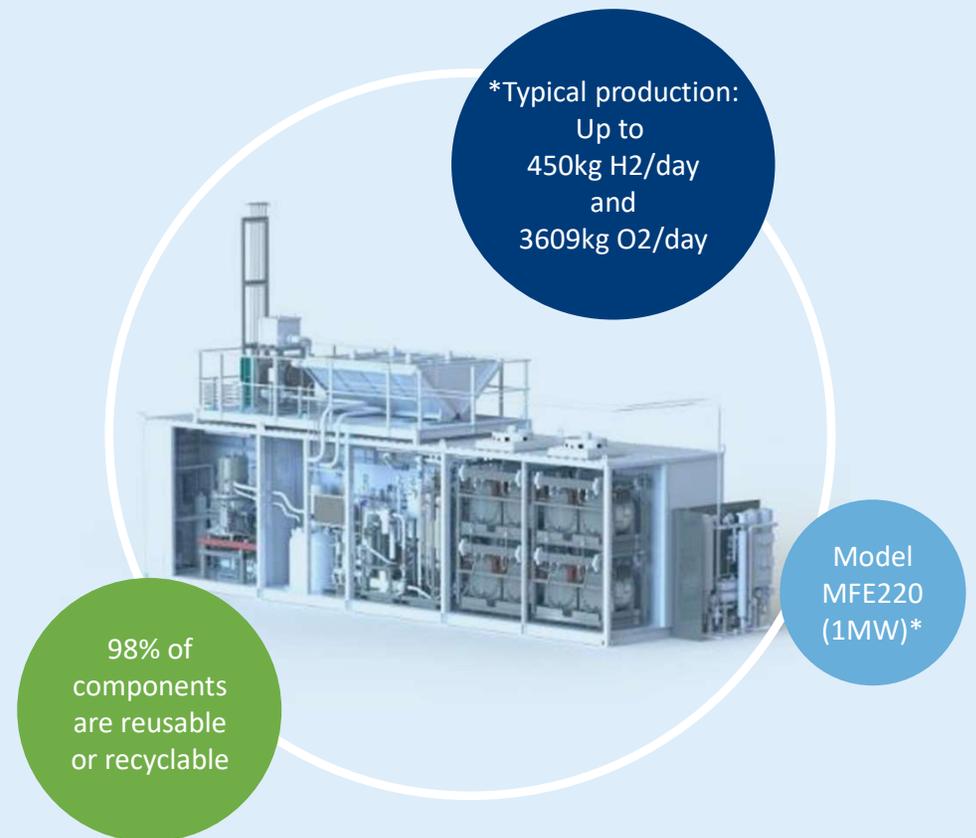


Simple. Safe. Sustainable.

Technology

Membrane-Free stack (patented)

- Eliminates Platinum Group Metals
- Reduced stack complexity and cost
- Reduces performance degradation and removes a key failure mechanism
- Greater asset longevity
- As efficient and responsive to variable input power as PEM
- Minimal water loss/waste in process
- Stack warranty offered for 25 years



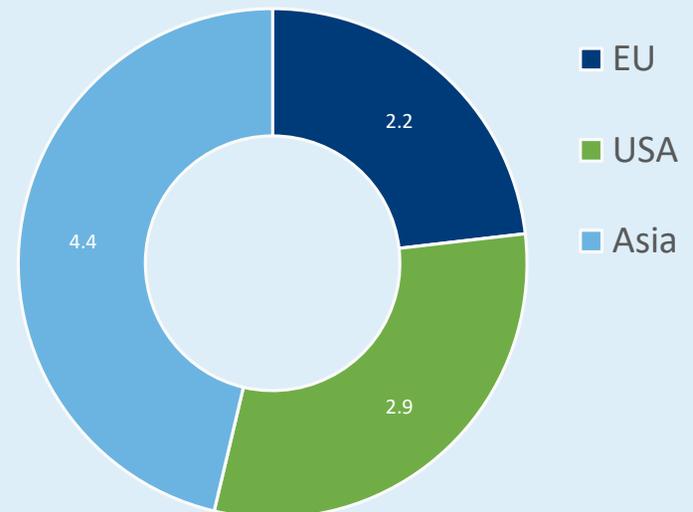
Significant Hydrogen Market Opportunity



Total Market

- Estimated global addressable hydrogen market of c. €10trn by 2050: EU: €2.2trn, USA: €2.9trn, Asia: €4.4trn
- Bloomberg forecast that Hydrogen could meet up to 24% of the world's energy needs by 2050 which would require over \$11 trillion of investment in production, storage and transport infrastructure

€10trn market by 2050

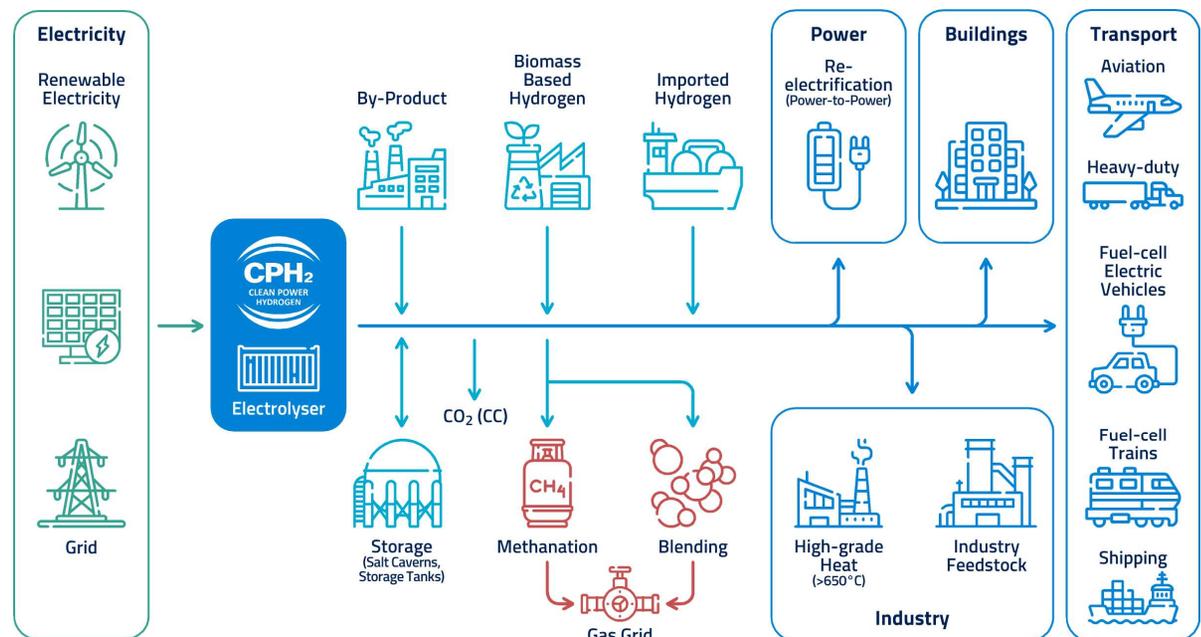


Decarbonisation of Energy – CPH2's Market

Global net zero economy

CPH2 fits into the broader decarbonisation of energy theme with potential to deliver:

- Hydrogen as an energy source
- Pure hydrogen
- Medical grade oxygen
- Hydrogen as a process enhancer

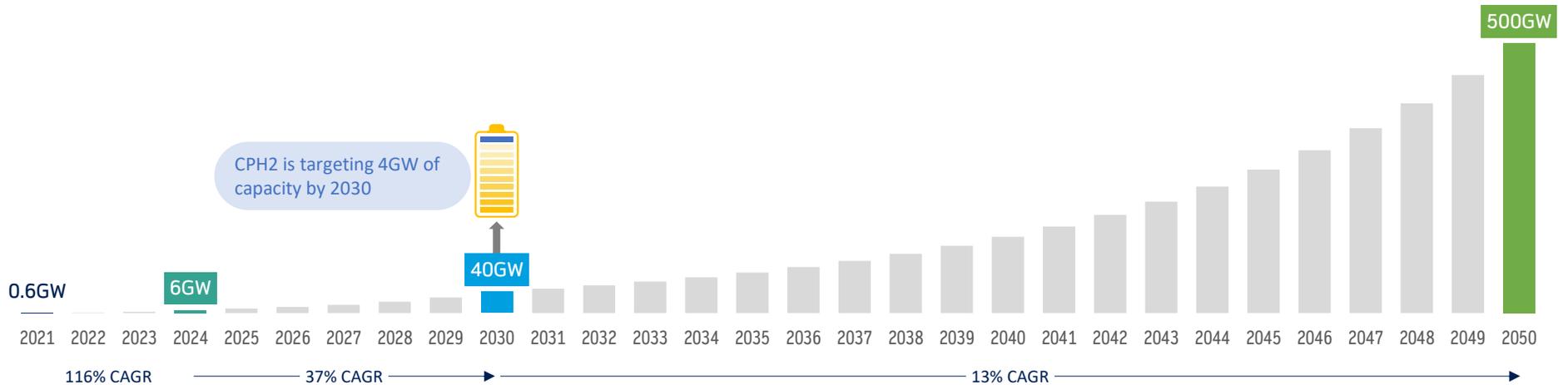


Significant Hydrogen Market Opportunity



EU Hydrogen Strategy

- The EU targets **6 GW** by 2024 and **40 GW** by 2030, with an assumption of **500 GW** by 2050
- Targeted total investments of up to c. €400bn through 2030 (with up to c. €47bn towards electrolyzers)



How CPH2 is Supporting the Energy Transition

- Design is modular for fast assembly
- License our IP-protected technology to be built in strategic regions
- New production facility in Doncaster
- Plans to open second factory in Northern Ireland with backing from Invest Northern Ireland
- Working with early adopters who have funding in place



Challenges

- Demand exceeding supply
- Lack of focus from UK government for green hydrogen
- Regulation, funding and policies needed





Thank you.

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