

The Markets for De-centralised Ammonia Cracking Solutions

Dr Mike Rendall
Chief Technology Officer – Fuel processing

15th November 2023



Who are we and what's our mission?

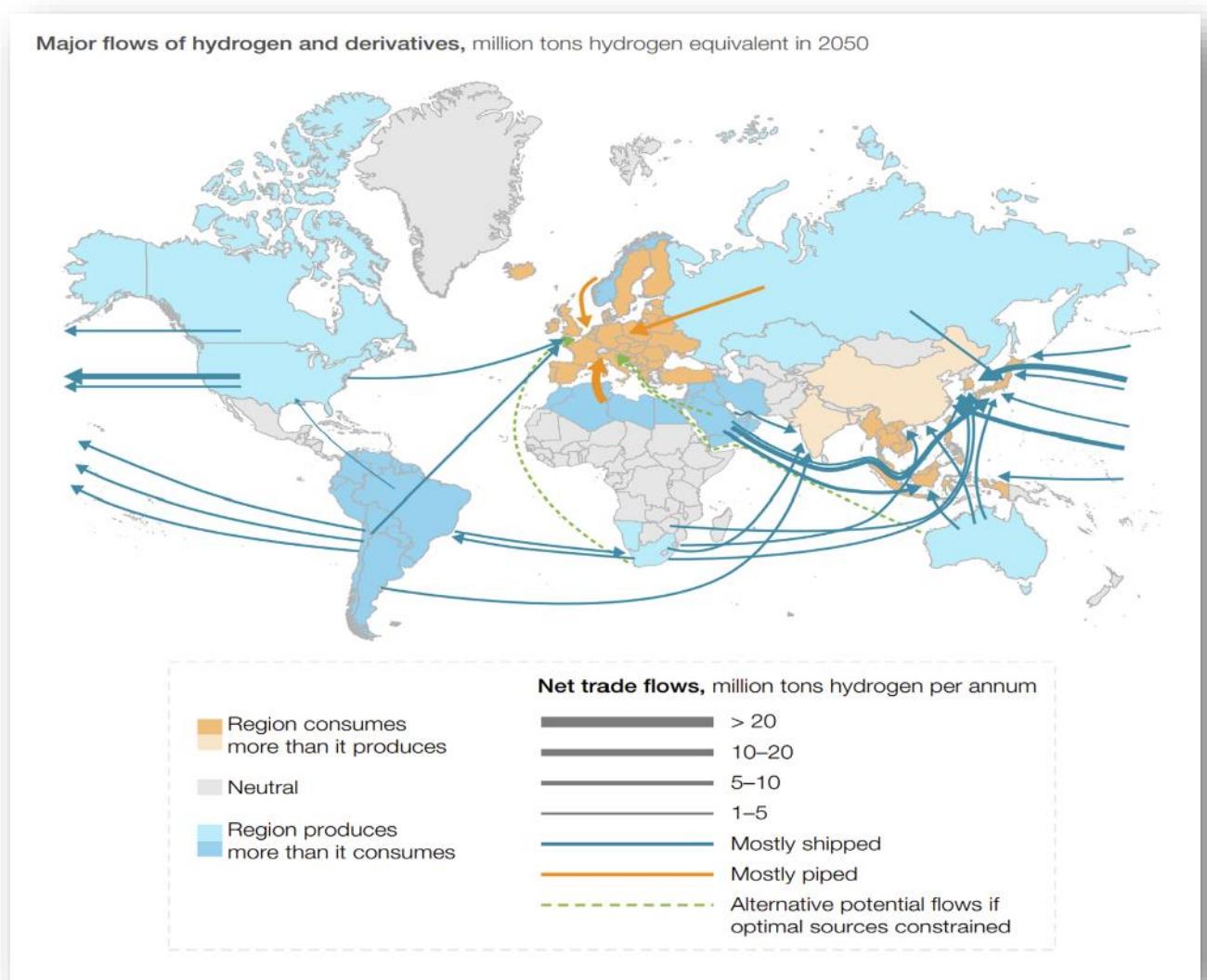


#ditch.diesel.this.decade

- 130+ highly skilled & motivated engineers and technical staff
- Ruggedised Zero Emission Hydrogen Power Generation Products (2 – 200kW)
- Diesel Generator replacements for construction
- Millions invested in facilities & infrastructure
- AIM listed (London Stock Exchange)
- Carrier Fuel Conversion Technology



Predicted Global Hydrogen Movements



REUTERS®

World ▾ Business ▾ Legal ▾ Markets ▾ More ▾

2 minute read · August 23, 2022 1:16 PM GMT+1 · Last Updated 5 months ago

Germany's Uniper, E.ON to import green ammonia from Canada

Port of Rotterdam Shipping Doing business Explore the port About us News

Home > News Overview > OCI expands import terminal for (green) ammonia

Energy transition

OCI expands import terminal for (green) ammonia

15 June 2022

How is green hydrogen produced and transported?

1 Clean Energy Generation
Renewables such as solar and wind generate electricity.

2 Green Hydrogen Production
Renewable electricity splits desalinated water to produce green hydrogen.

3 Processing
Green nitrogen is combined with the hydrogen to form ammonia, enabling the renewable energy to be transported.

4 Shipping
The renewable energy arrives by ship to the Port of Immingham, where it is stored.

5 Immingham Green Hydrogen Production Facility
Green hydrogen is produced and conditioned in Immingham using the stored renewable energy and is then distributed to users.

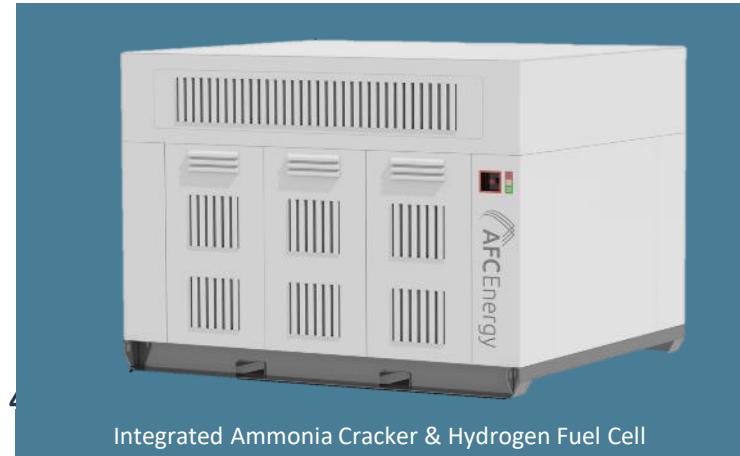
6 Usage
Green hydrogen fuels HCVs, buses, trains and planes.

H₂M
Hydrogen for Mobility

What we do - Hydrogen from Ammonia



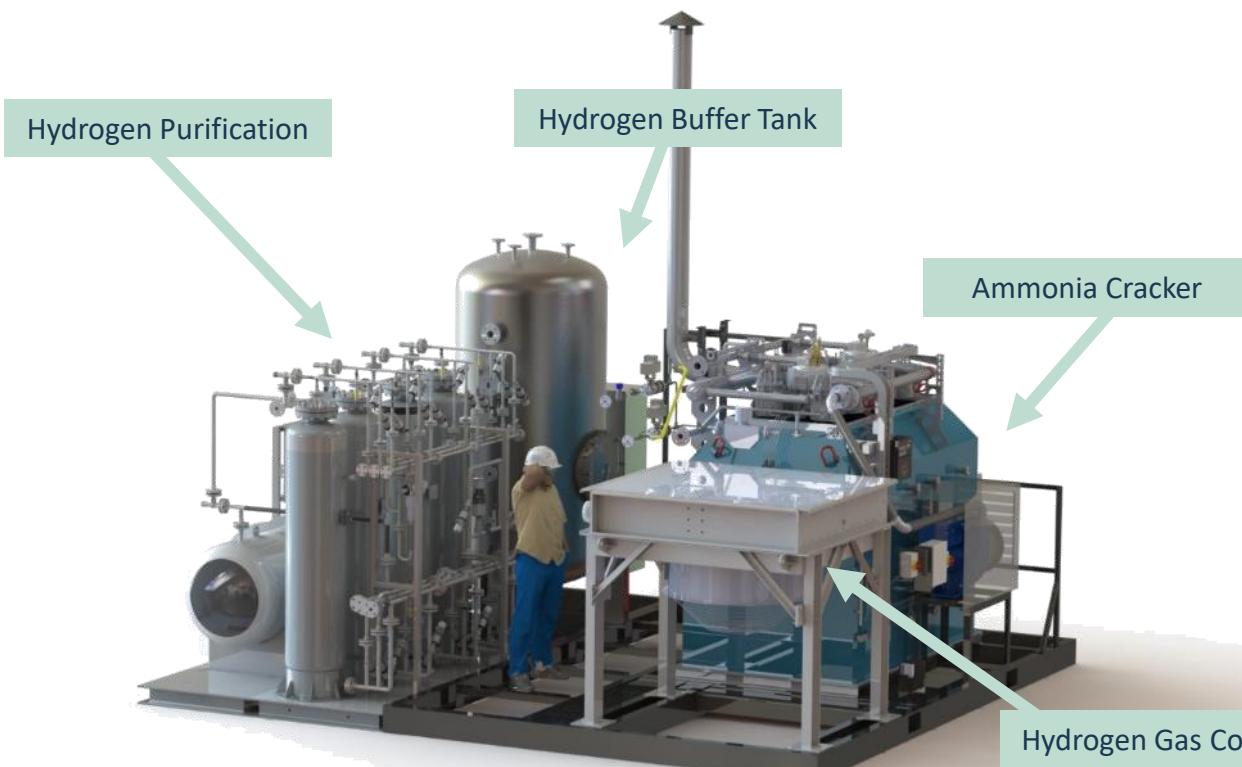
Modular Ammonia Cracker



Scale : 1 - 200Kg / Hr
Ammonia



UK Pilot Test Facility (Under Construction)



Decentralised Hydrogen Generation



Electrolyser

Cracker



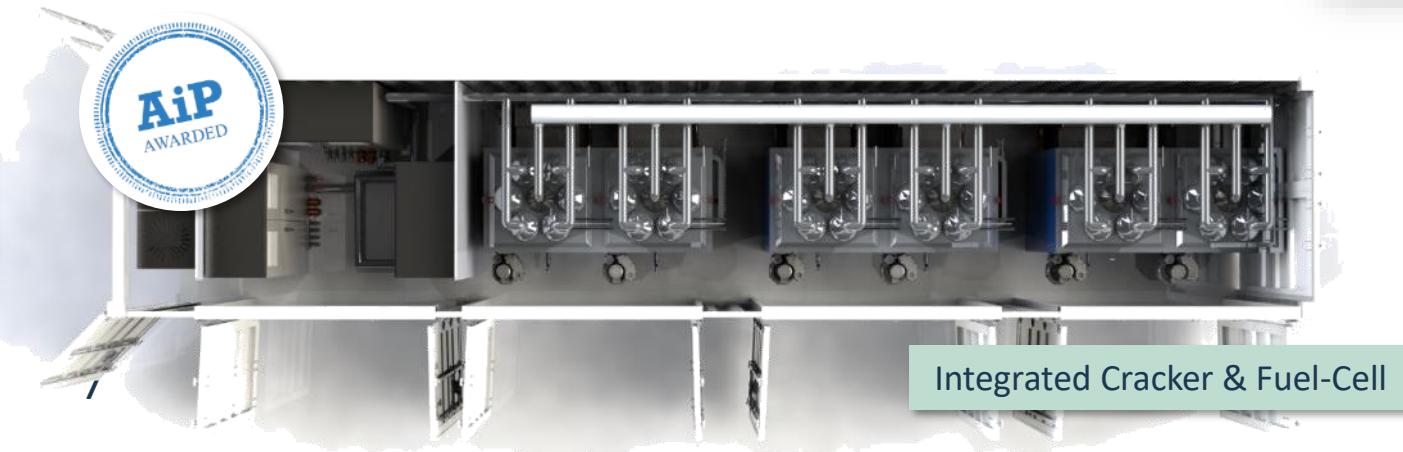
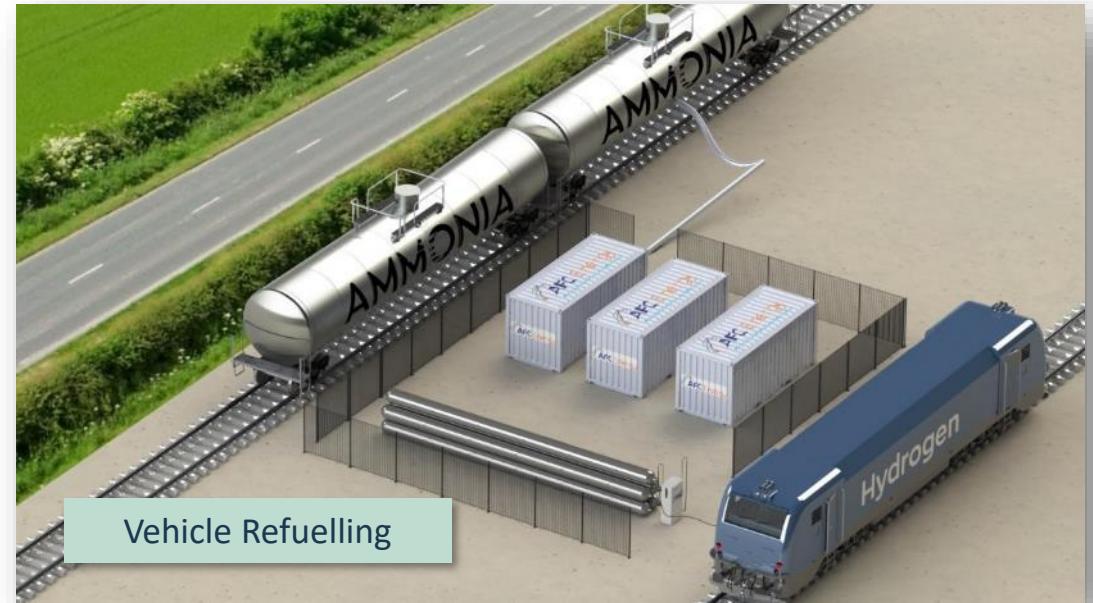
Ammonia Cracker
~400 Kg / Day H₂



- Requires
 - High Power Grid Connection
 - Water Supply
 - Civils & Permanent Infrastructure

- Low Power demand (< 10%)
- Rapid Deployment (Temporary & Permanent)

Ammonia as a Fuel in the Power Sector



- Easier Logistics & Deployment
- Low levelised cost of Hydrogen
- Lower volumes of ammonia stored
- Well suited to Hub-Spoke Hydrogen distribution



Thank you for your interest

mrendall@afcenergy.com

www.afcenergy.com