



Displacing Diesel

AFC Energy PLC
Annual General Meeting

25th April 2024



Highlights

£27m
Order book

£27.4m
Cash At Bank
(2022:£40.2m)

£17.5m
Loss After Tax
(2022:£16.4m)

2 Divisions
Fuel Cells
Fuel Conversion

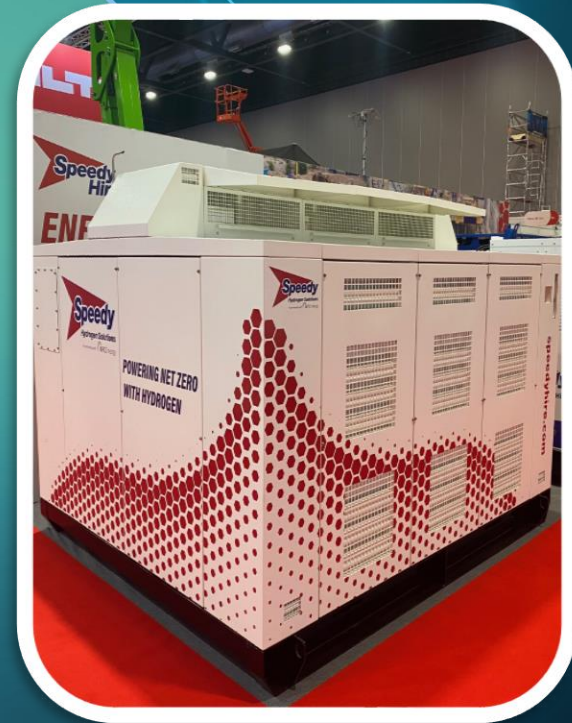
Highlights (cont'd)



H-Power Towers
Deployed to Unlock
Market



Speedy Hydrogen
Solutions Incorporated



Delivery of first 30kW
H-Power Generator

Highlights (cont'd)



First 200kW S+ Series Generator Nearing Completion



TAMGO Distribution Agreement – Unlocking MENA region



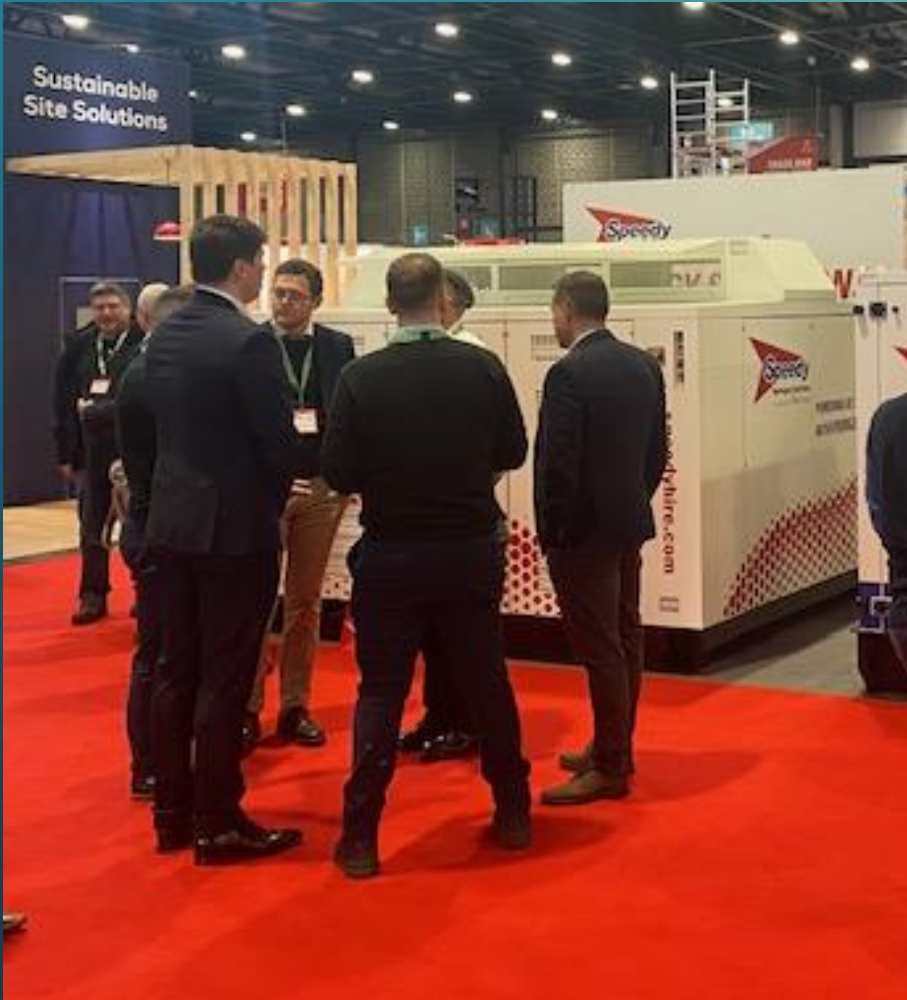
First ACCIONA H-Power Generator Order

Highlights (cont'd)

- **Validation** of focus on construction market
- **Validation** of business model for scaled deployment through rental business/dealers
- **Validation** of focus on S Series air cooled technology – quicker route to market
- **Validation** of component supply chain that has already scaled
- **Validation** of 50% cost reduction (S Series) versus 12 months ago

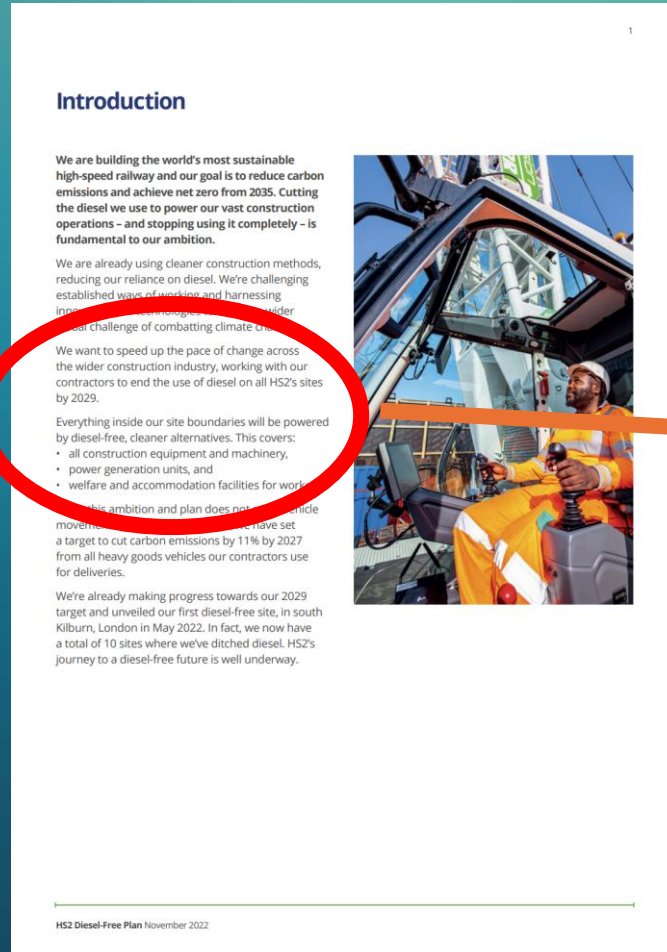
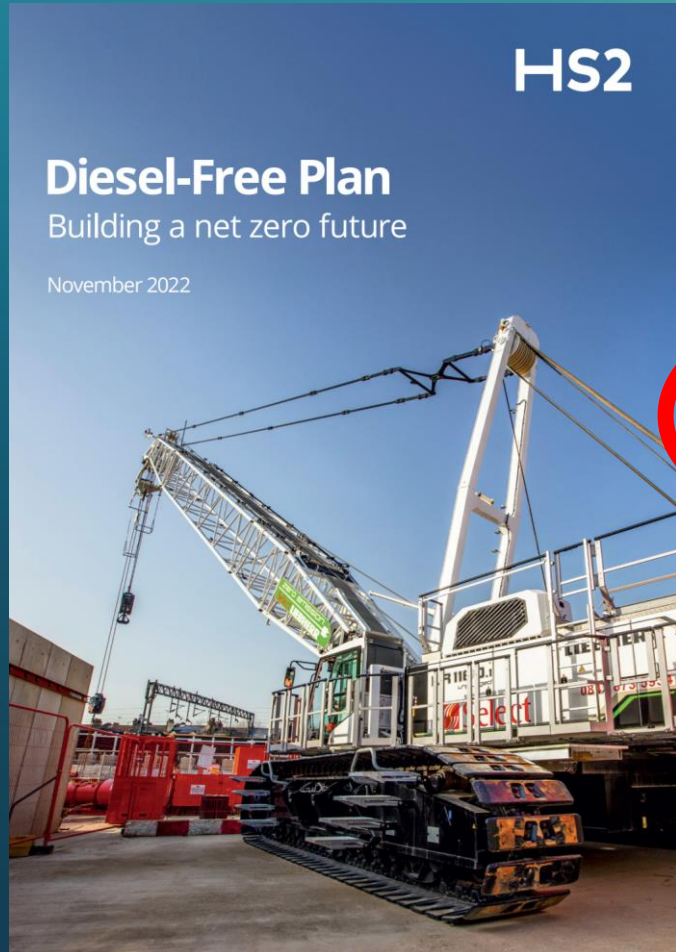


Why Construction Industry Focus?



- “Pain point” that cannot be met by renewables or batteries alone
 - Tender requirements require decarbonised solutions
 - Emission regulations driving technology choice
 - Higher cost, less efficient Stage V diesel generators
 - Tier 1 construction companies’ ESG shareholder requirements
- Global market potential with global “pain point”

HS2 Diesel Free Plan



We want to speed up the pace of change across the wider construction industry, working with our contractors to end the use of diesel on all HS2's sites by 2029.

Everything inside our site boundaries will be powered by diesel-free, cleaner alternatives. This covers:

- all construction equipment and machinery,
- power generation units, and
- welfare and accommodation facilities for workers.

Lower Thames Crossing - Diesel Free

Lower Thames Crossing to lead switch to hydrogen fuelled plant

Aaron Morby 8 months ago

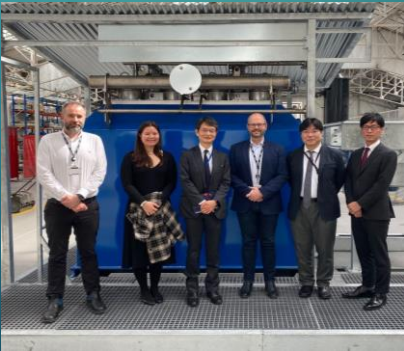
Share   

National Highways has committed to pioneering the largest-ever use of low-carbon hydrogen construction plant on the planned Lower Thames Crossing mega project.



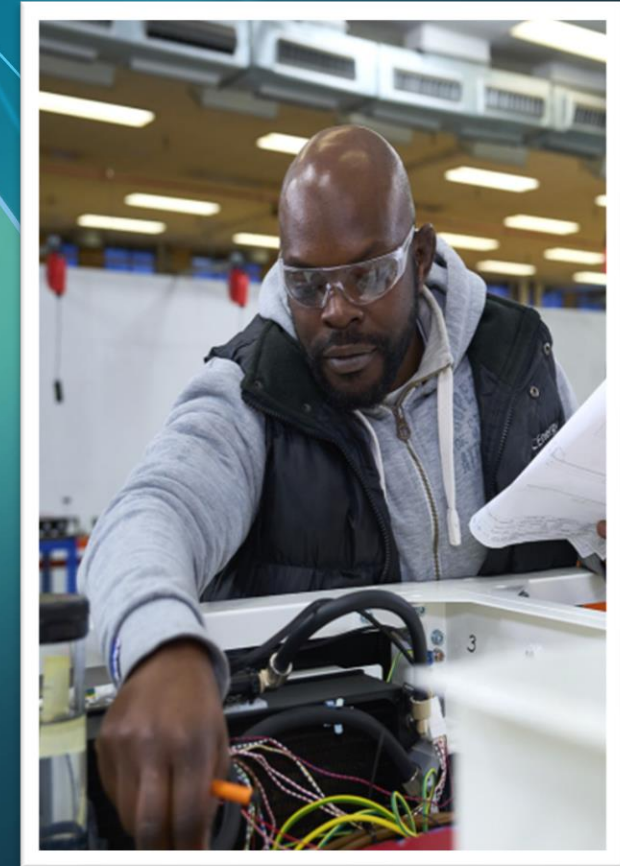
National Highways is aiming to buy the supply, storage and distribution of over 6 million kilograms of hydrogen to use on the project, which will replace around 20 million litres of diesel.

Strong Customer Interest



Scaling Up – S Series

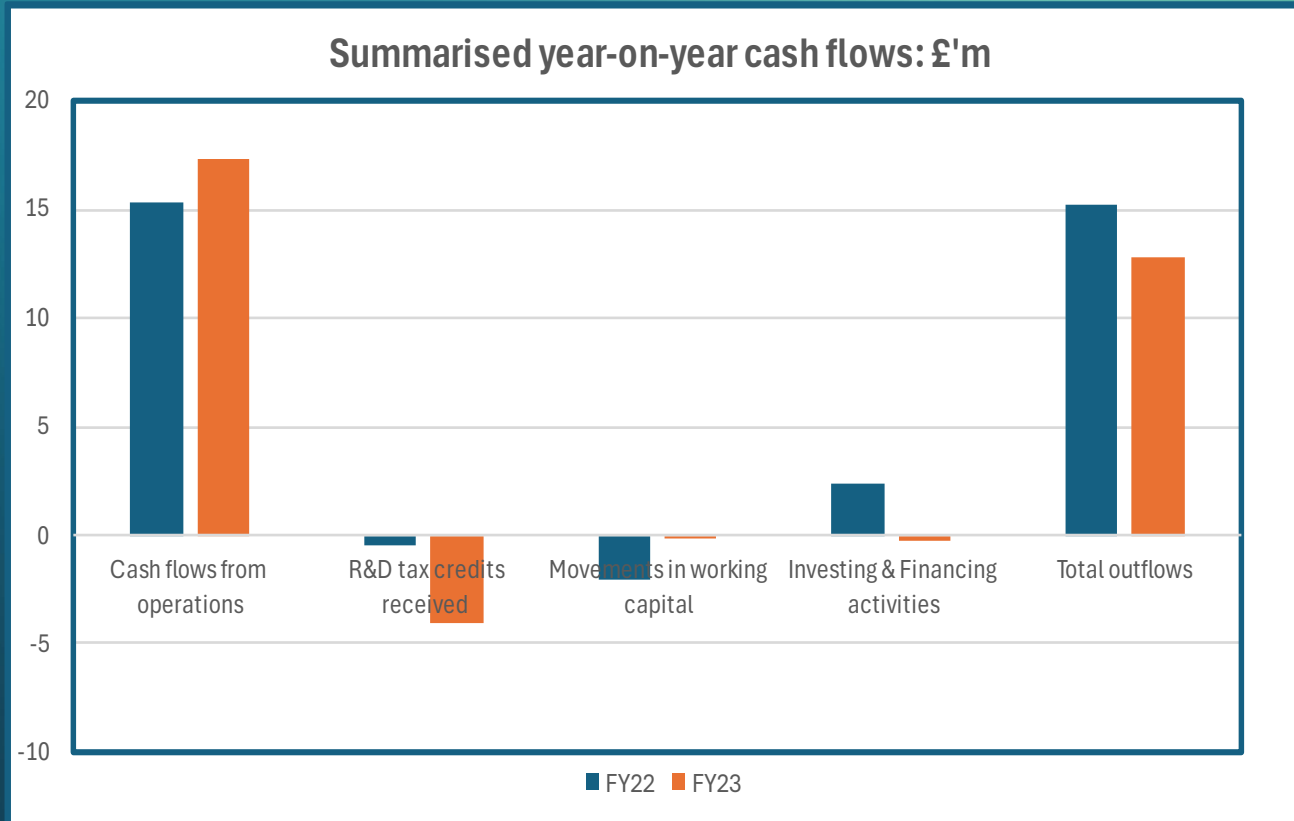
- Strategy focussed on third party contract manufacturing
- Three key sub-assemblies to H-Power Generators:
 - Fuel Cell Stacks: currently working with contract manufacturers
 - Fuel Cell Modules: advanced discussions with world class manufacturing group
 - Generator Canopy: UK, EU and MENA suppliers under review
- Suppliers selected on ability to deliver 1,000+ generator worth of components
- Scale already delivered >50% cost saving on key components
- Qualification of suppliers reflects large investment of time and resources in 2023
- Positions company for scale



Financials

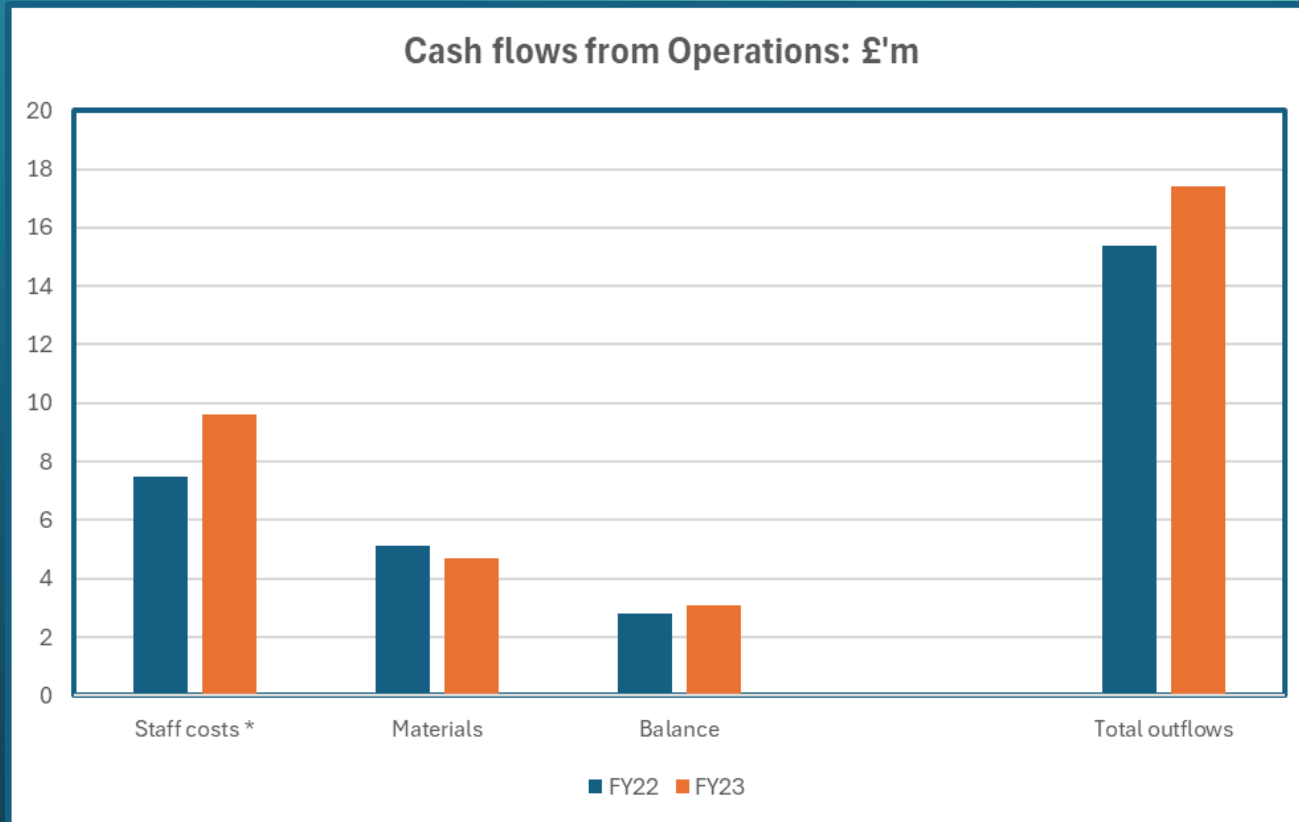
Zero emission power
for a new world

Investing in FY23 to Scale to Baseline in FY24



- Operations: £2.1m increase in staff costs (see later).
- R&D tax credit: £3.0m accelerated corporate reporting.
- Investing: £1.6m leasehold improvements.
- Financing: includes £2.0m ABB receipt.
- Total outflows reduced by £2.4m.

Investment Focus on Skillset to Deliver Baseline Capability

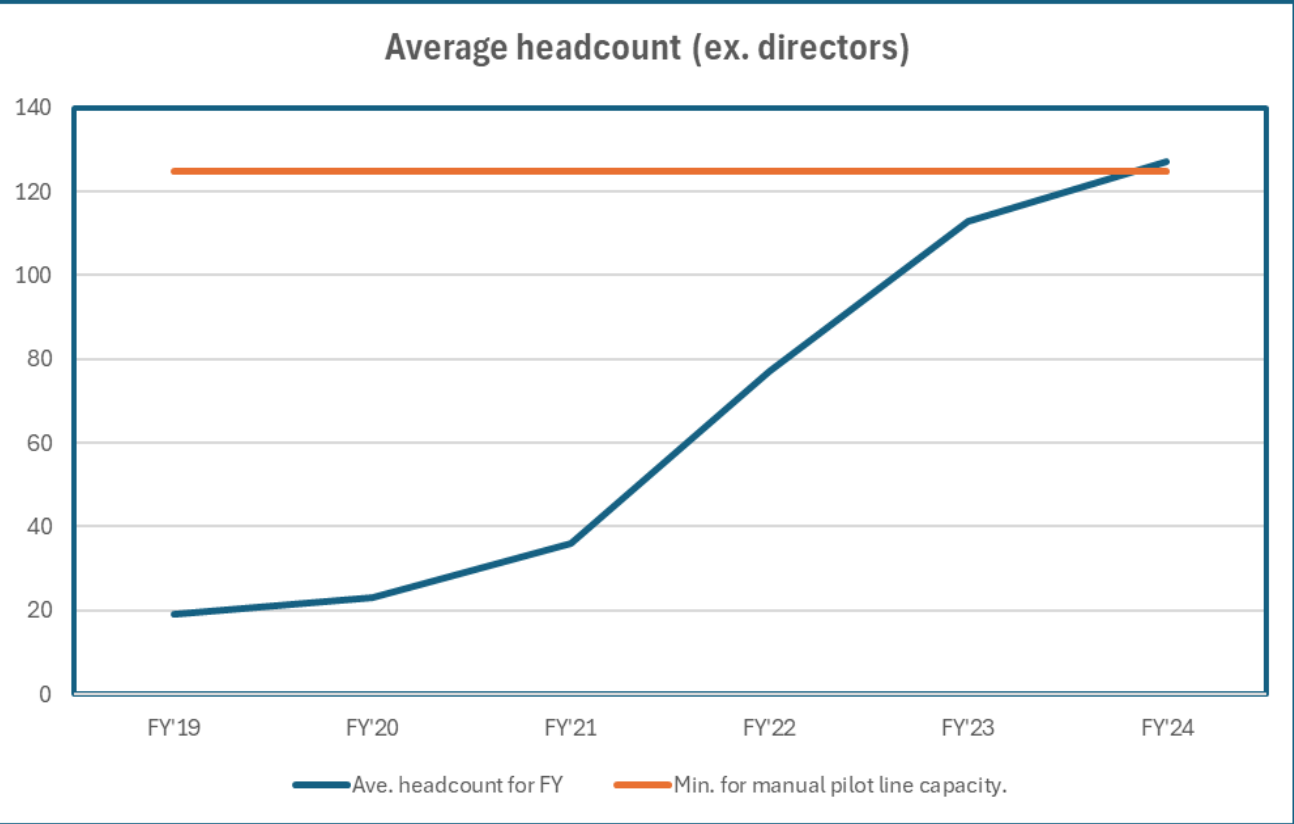


- Average headcount: increased by 47% from 77 to 113.
- Focus on engineering, manufacturing & purchasing to deliver in FY24.
- Average cost per employee ** reduced by 12% from £77,000 to £68,000.

* excluding share-based payments (as non-cash).

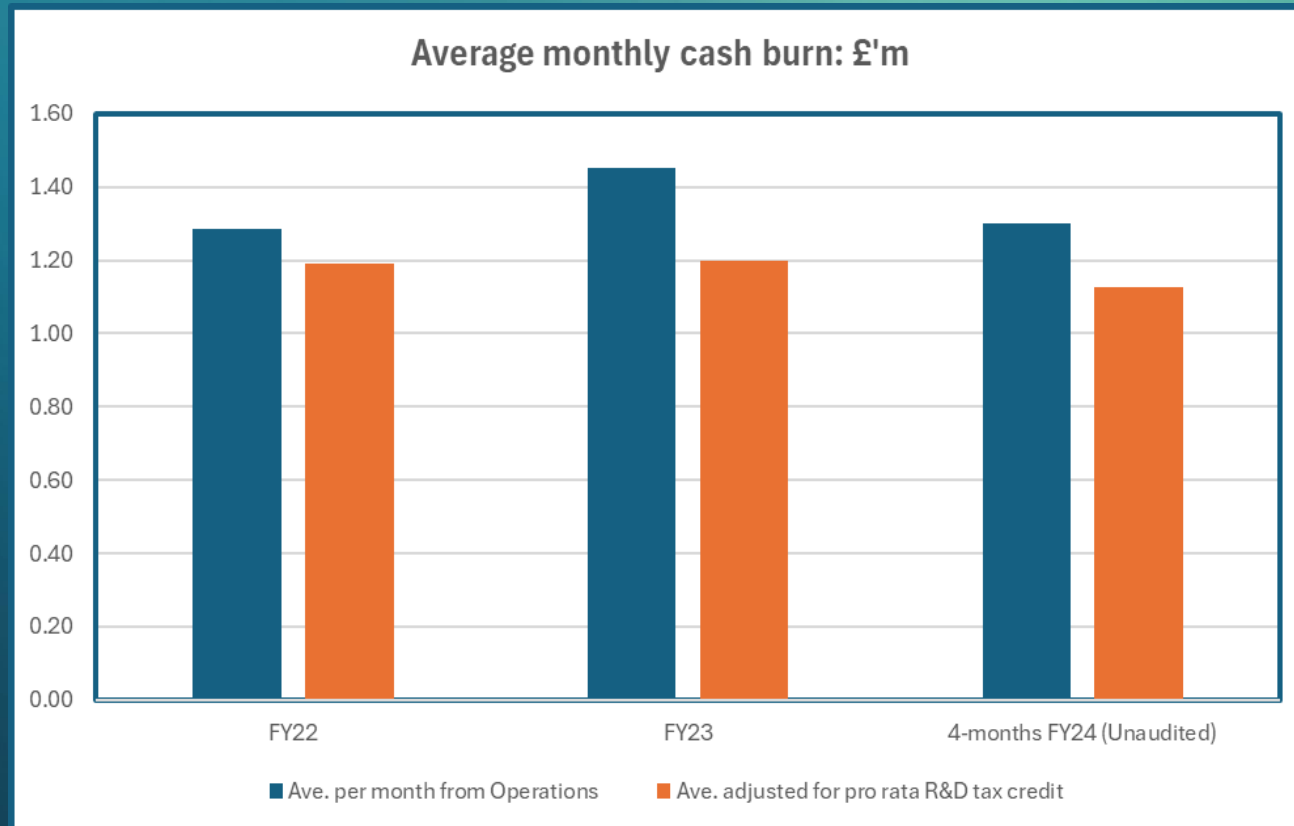
** excluding director costs & other employment costs.

Headcount at Baseline Capability Before the End of FY24



- 114% increase FY21 to FY22.
- 47% increase FY22 to FY23.
- 12% increase expected FY23 to FY24.
- Investment in skillset has created a competitive advantage.

Investment switching from pure R&D to Production and R&D



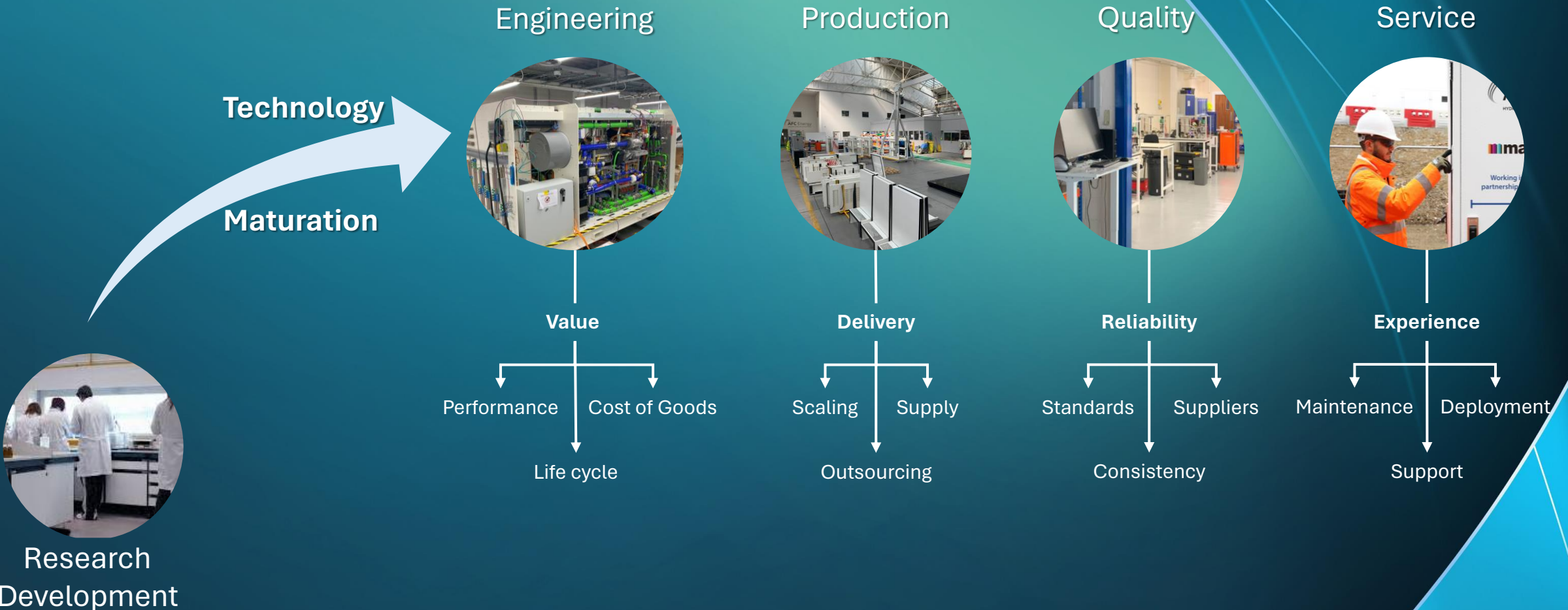
- FY24 reduction due to change of emphasis from R&D materials to inventory.
- Inventory build-up of £2.6m in first 4-months of FY24.
- Cash burn is as expected.

Fuel Cell Highlights

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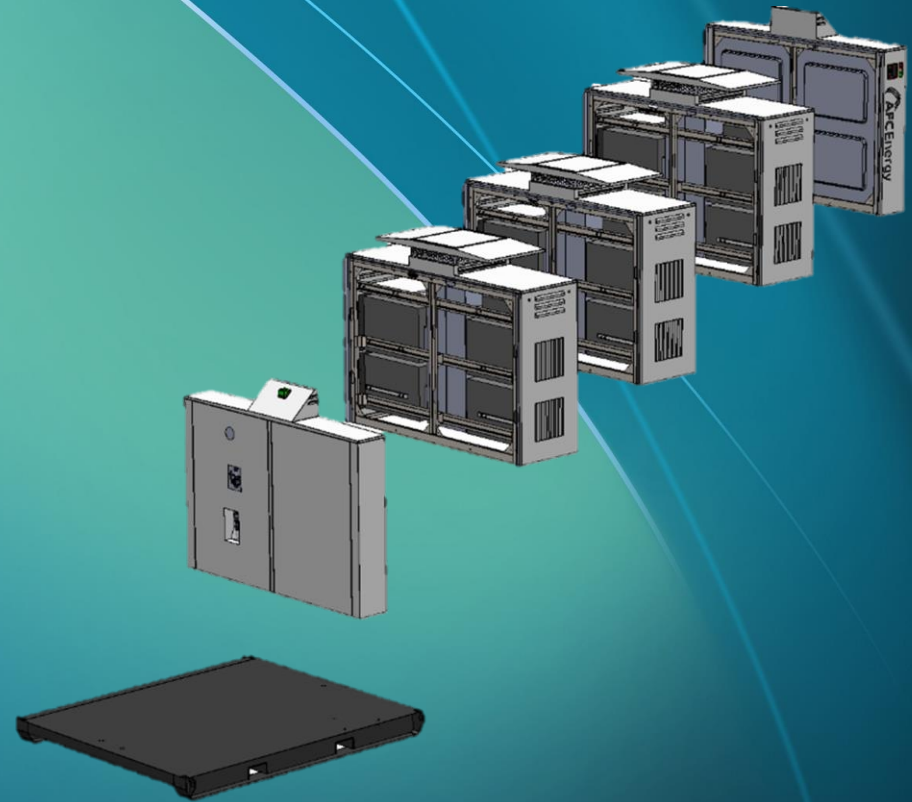
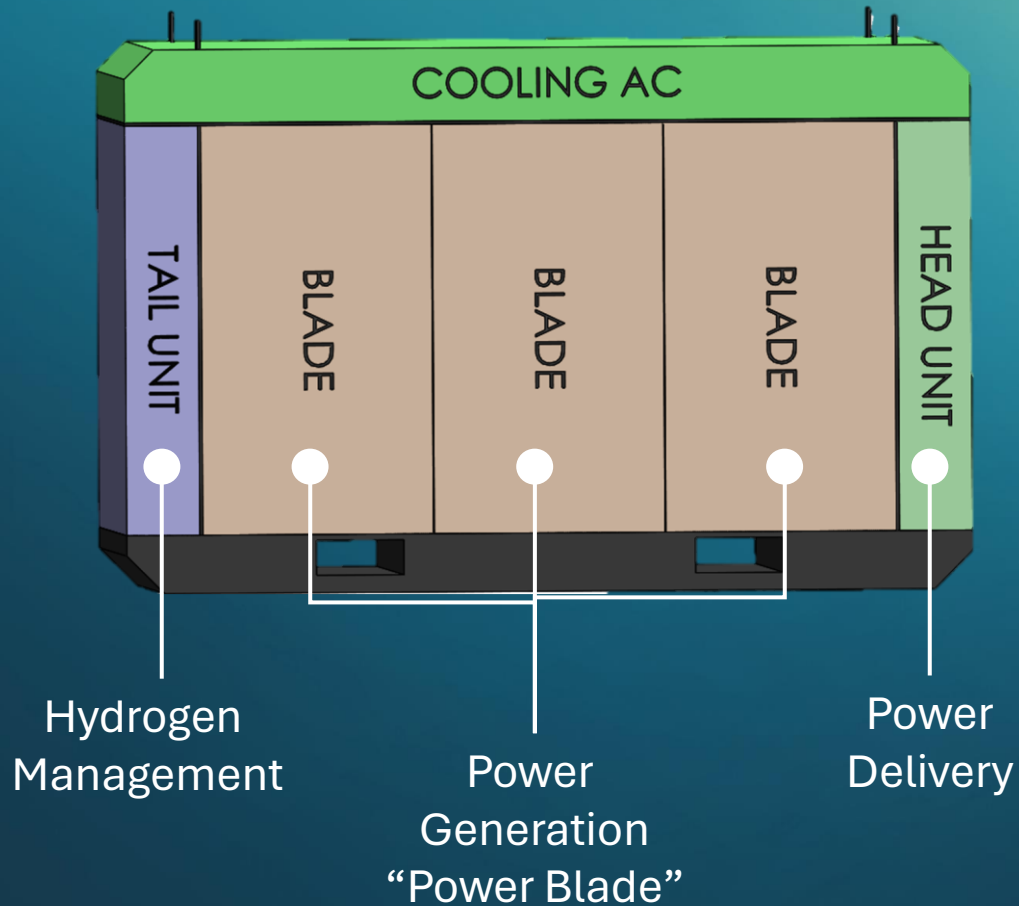
A Transforming Organisation

Growing into an Engineering & Production Company



Product Strategy

Designed for Scale and Assembly



- Mass Production of Tail, Blade, and Head Units
 - Built on sub-assemblies unlocking outsourcing
- Commonisation across S Series Power Products
 - All S Generators Products from Same Parts

Productization – S Series

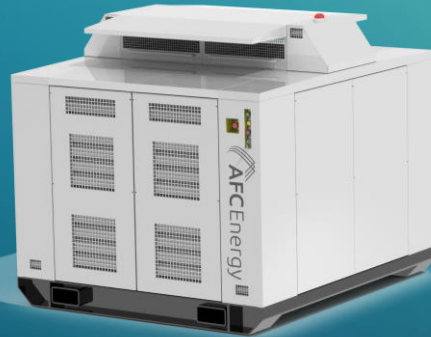
*1 Platform, 5 Products**

S10



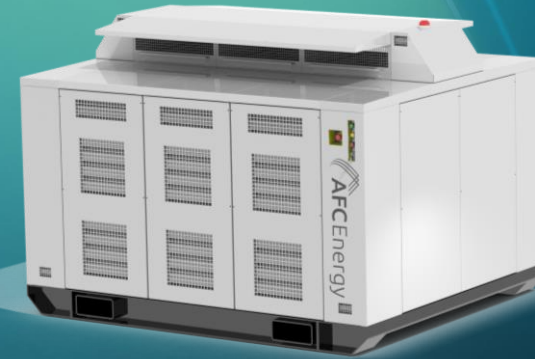
- 10 kW
- 1 Power Blade

S20



- 20 kW
- 2 Power Blades

S30



- 30 kW
- 3 Power Blades
- Now in production

*S40, S50 not shown

Productization – S+ Series



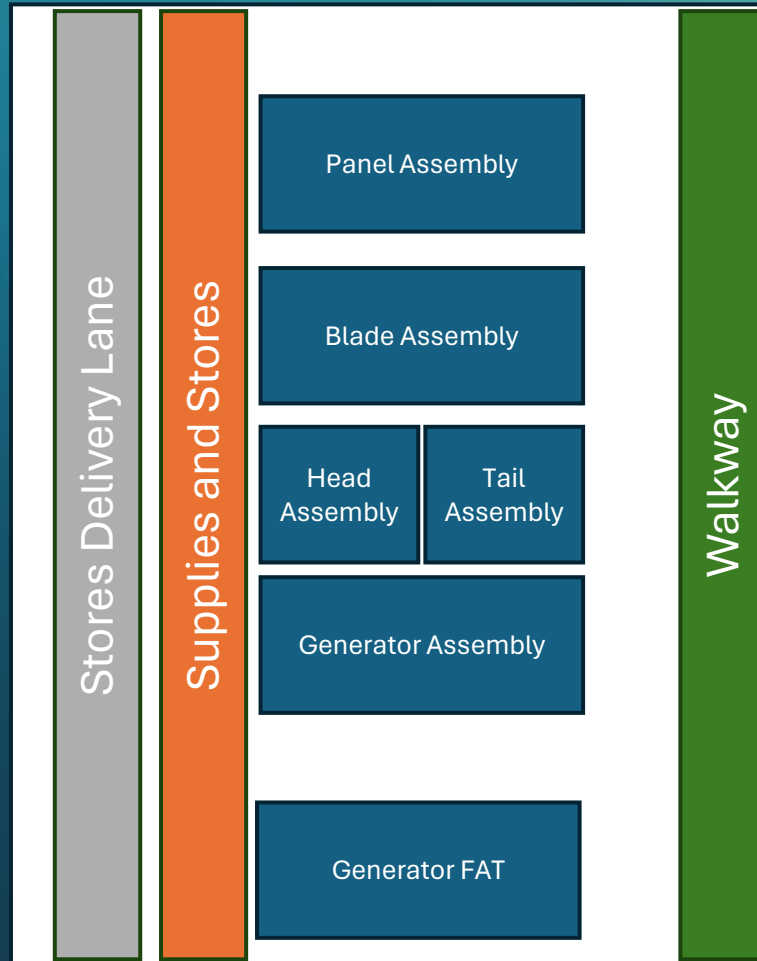
- S+ Liquid Cooled
- 200kW Net Power Output



- Alpha Build Progress
 - Design Engineering, Completed
 - Procurement, Completed
 - Mechanical Build, Completed
- Final wiring, nearing Completion
- Upcoming Milestones
 - FAT Testing
 - Attestation (CE) Marking

S Series Production - Manual Pilot Line

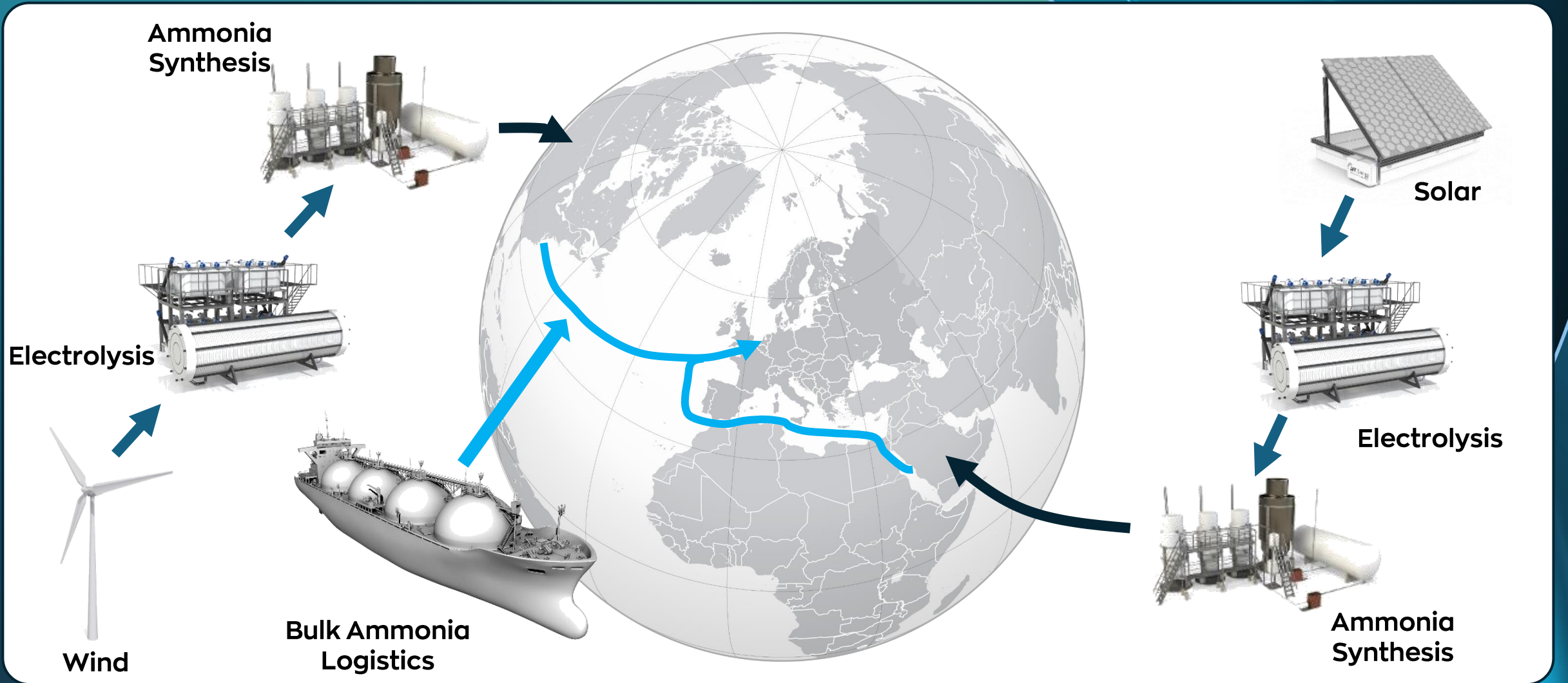
Hangar S Series Production Area



Introduction to the Ammonia Cracker



Ammonia as a Hydrogen Carrier



Cracker Technologies

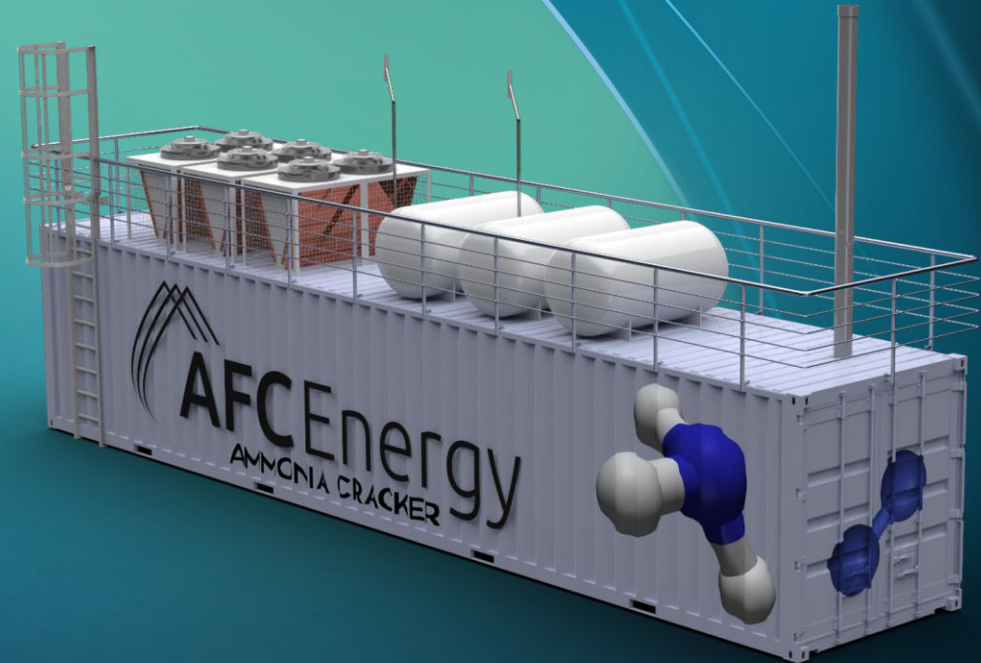


Ethylene Cracker



Naptha Cracker

Vs.



AFC Energy Modular Ammonia

Ammonia Cracker Technical Progress

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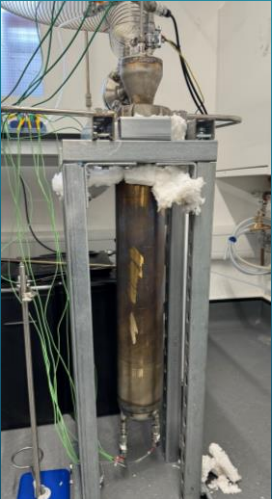
Cracker Technology Completed Milestones

September
2022



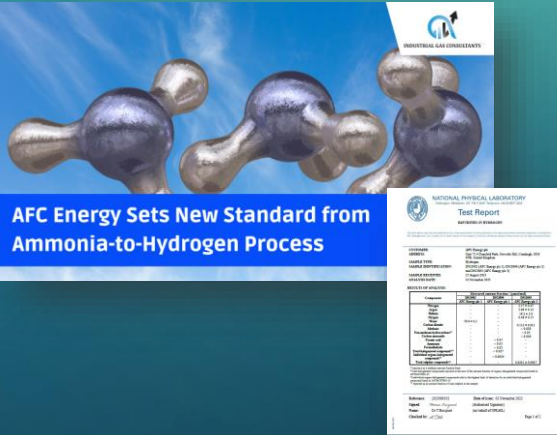
Modular Prototype
Core Reactor
Architecture Designed
– Ready for
manufacture

February
2023



Prototype Cracker
under test

July
2023



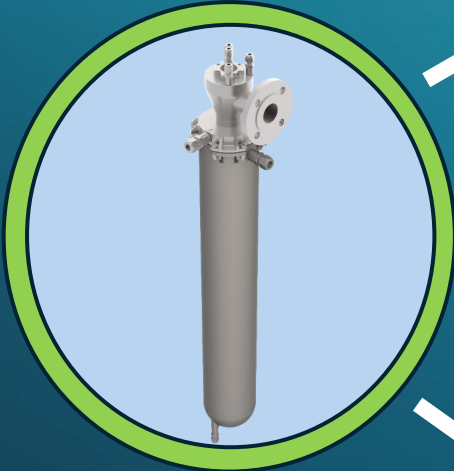
Hydrogen Quality
Independently
Verified

October
2023

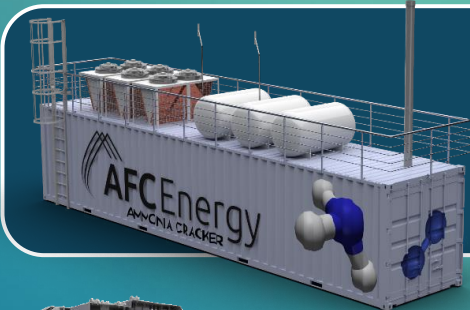


Pilot 400Kg/Day
Hydrogen Test Site
Completed

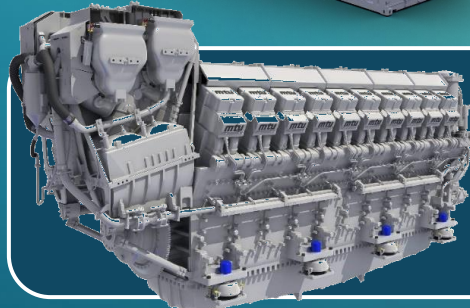
Cracker Markets – 2024 Focus



AFC Energy
Core Cracker
Architecture



Modular Purified Hydrogen
Generation for Transport & Power

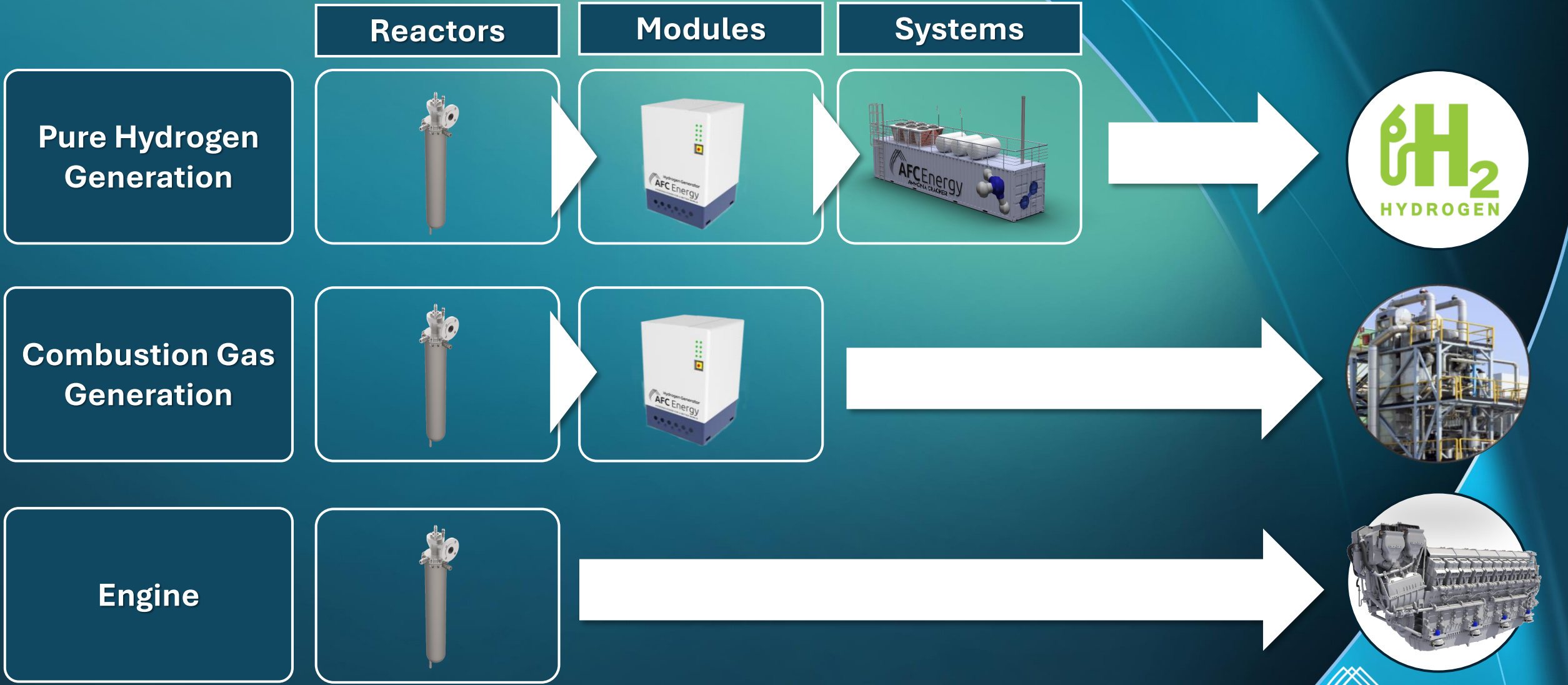


Pilot Fuel generation for Combustion
Engines



Hydrogen Rich Combustible Fuel
Gas for Industrial Applications

Value Creation



Outlook

Zero emission power
for a new world

Outlook – Revenue

- Order book of £27m (as at March 2024)
- Majority of revenue targets in analyst consensus can be met with existing customers / dealers
- Revenue forecasts and units sold heavily weighted in favour of air-cooled fuel cell technology
- In three years – targeting 200 generators annually to achieve £30m+ in sales
- Ammonia cracker sales not expected until 2025

Outlook

- **Focus is on delivery!**
- Delivery of first 30kW H-Power Generators to Speedy Hydrogen Solutions
- Delivery of first 45kVA H-Power Generator to Acciona
- First TAMGO commercial orders for Middle East market
- Delivery of 200kW ABB S+ Series H-Power Generator
- Announcement of supply chain and manufacturing partners
- Ammonia cracker validation and operation
- Announcement of Ammonia Cracker development and deployment partners