Hydrogenus Energy Limited

ACN 163 460 884

"On-demand zero-carbon electricity at a lower cost"

December 2025

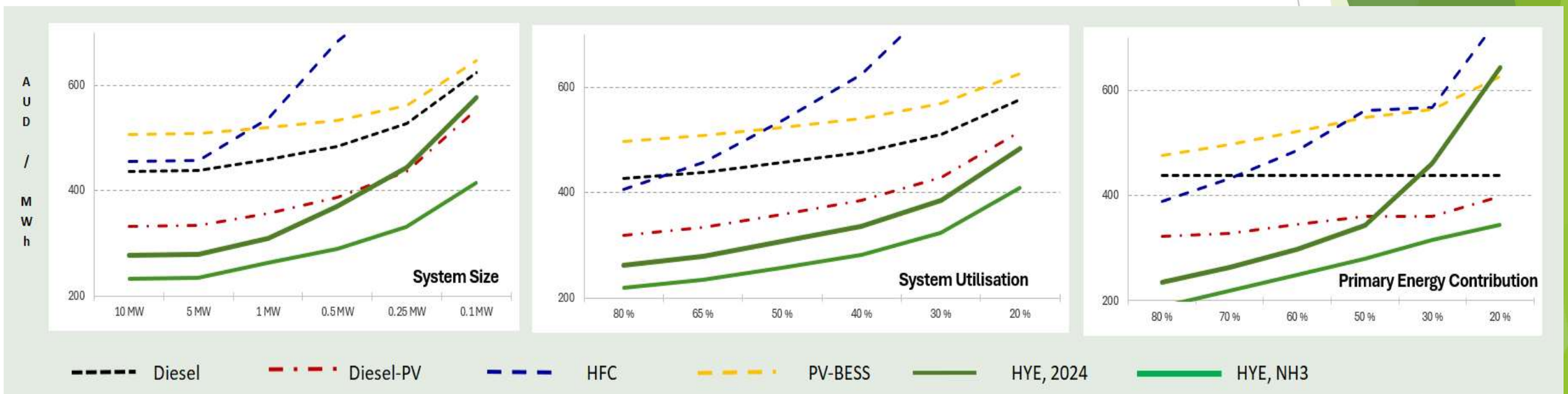
Our Unique IP

Hydrogenus Energy (“HYE”) has developed and patented modifications to an Internal Combustion Engine (“ICE”) that enable it to operate safely, effectively, and efficiently using hydrogen of almost any quality, injected at low pressure as its fuel.

- Emissions are only (pure) water ; Zero CO2, Zero particulates, Zero NOx, Zero SOx;
- Modification of a diesel engine; no moving parts;
- Using low-pressure hydrogen, avoiding the need for exotic materials and compression;
- Using less than pure Hydrogen, giving a much lower fuel cost;
- Easy to operate, like a diesel, making it ideal for remote locations;
- Lower maintenance; zero carbon in the fuel means less wear, and the oil has a longer life;
- Ease of maintenance;
- Long duration storage has a lower cost if needed for at least 3 hours.

Lowest Cost electricity on Demand

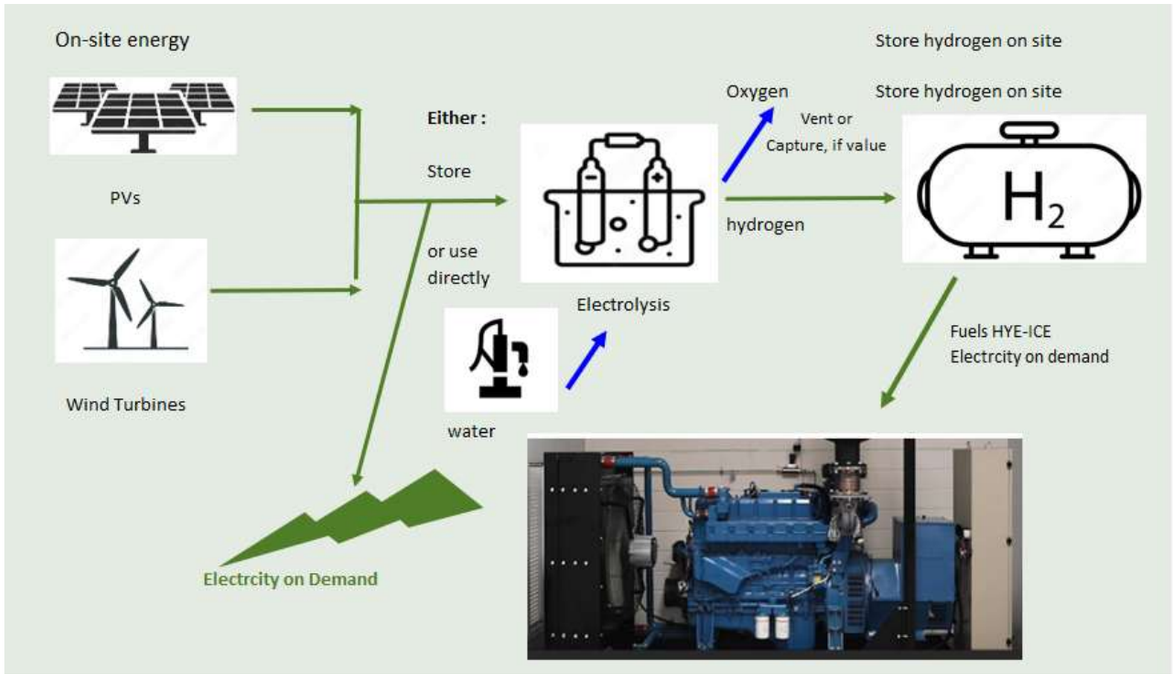
Back-Up, Off-grid, Grid Firming



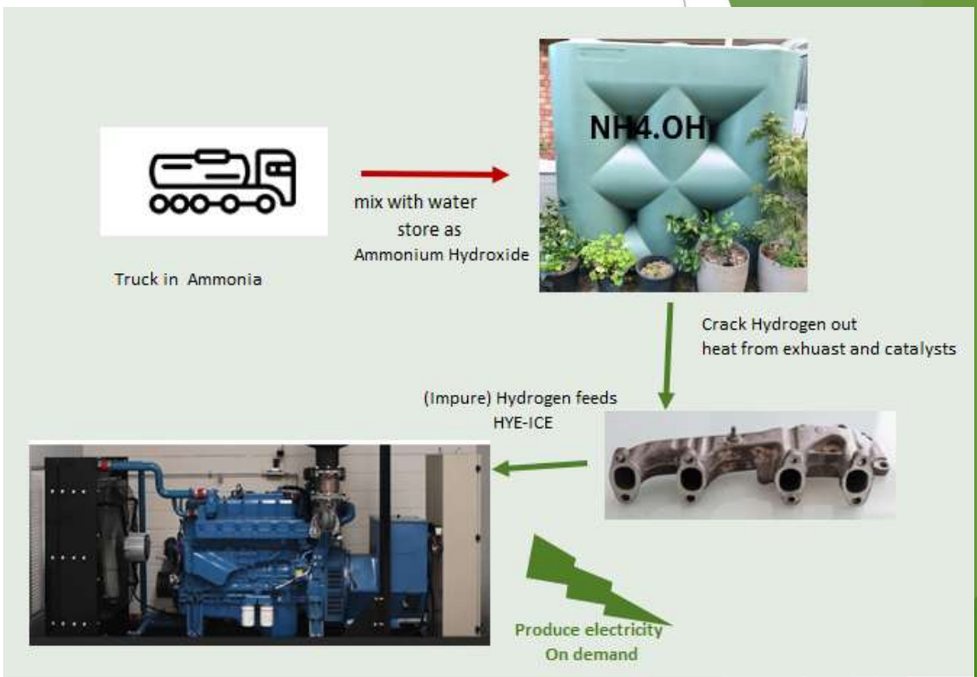
2024 technology – lowest overall cost, but high capital cost

2026: even lower cost and greater flexibility as truck in ammonia as an energy source

2024 technology



2026 technology



- Electrolysers are expensive; only c. 60% efficiency
- 2026: even lower cost and greater flexibility as truck in ammonia as an energy source

HYE is developing an ammonia cracker for HYE-ICE

- Simple, compact, does not require high pressure
- Utilises waste heat from exhaust
- Product does not require high-purity hydrogen, resulting in lower cost

Markets / Revenue - Cost

5 potential sources of revenue

Assume only

- One-off margin on supply of equipment; and
- On-going management / maintenance / servicing / IP fees.

Do not include potential :

- “Green” bonus;
- Return on debt + equity investment; and
- Part of the project margin between cost and revenue.

Assessed potential addressable market

Energy: of 720m MWh supplied by liquid fuels in 2023, potential SAM 530m MWh

- c. USD 1.0B annually for the supply of HYE-ICE powered gen sets
- c. USD 2.5B for annual fees, net of cost

Ammonia :

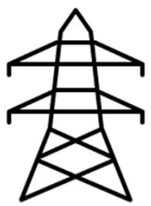
- Current market 190Mt; need 230Mt for 530m MWh

Grid Forming

Variable Renewable Energy is an increasing part of our electricity supply.

While it is environmentally beneficial and low cost in the base case :

- We need more backup for when the sun is not shining / wind is not blowing
- Low load on the grid, on sunny / windy days, can cause the grid to fail
- Over 30% of green electricity is dumped, and more is stranded; and
- Transmission is getting more difficult and expensive.



Transmission capacity limits Lines not in the right place Variable Energy – low utilisation	**Supply/Demand mismatch Financial risk, poor utilisation**	**Battery Energy storage is expensive & risky**	**BESS not able to restore grid frequency**

The DWC enabled HYE-Forming Box

DW Controls (“DWC”)

- Licensed to add capacity to the grid, plus grid synchronising

HYE-ICE

- Provides mechanical inertia; responds virtually instantaneously (if at 20% load)

New Electrolyser

- Use excess electricity to store initially as hydrogen
- 95% efficiency; nearly any quality of water; lower cost

New Ammonia technology

- Energy efficient; cost effective at modest scale; able to use VRE

Further enhancement

- HYE has an exclusive option over a device shown in the lab to significantly reduce the electricity required for electrolysis.

Total solution to be contained within a 40-foot shipping container.

Markets / Revenue - Quality

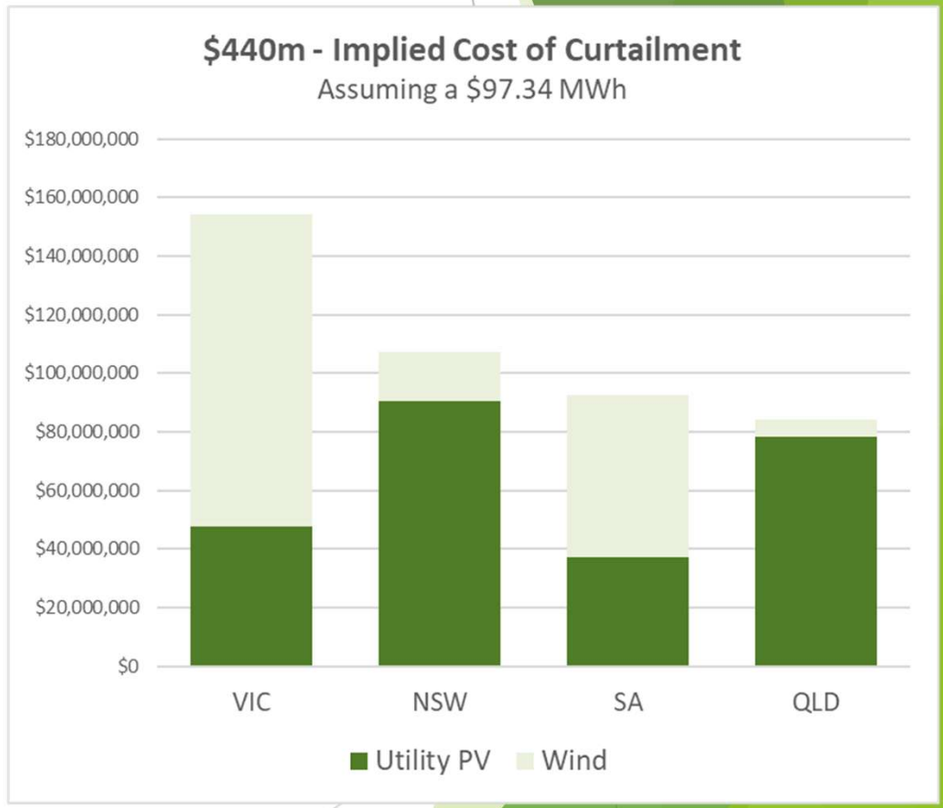
An emerging and increasing opportunity

The DWC HYE-Forming Box

- Very low energy cost – ideal for Long Duration Energy Storage
- Lower cost than batteries, if needed to store for 3 hours or more
- Inherent mechanical inertia; no need for added syn-cons or synthetic inertia

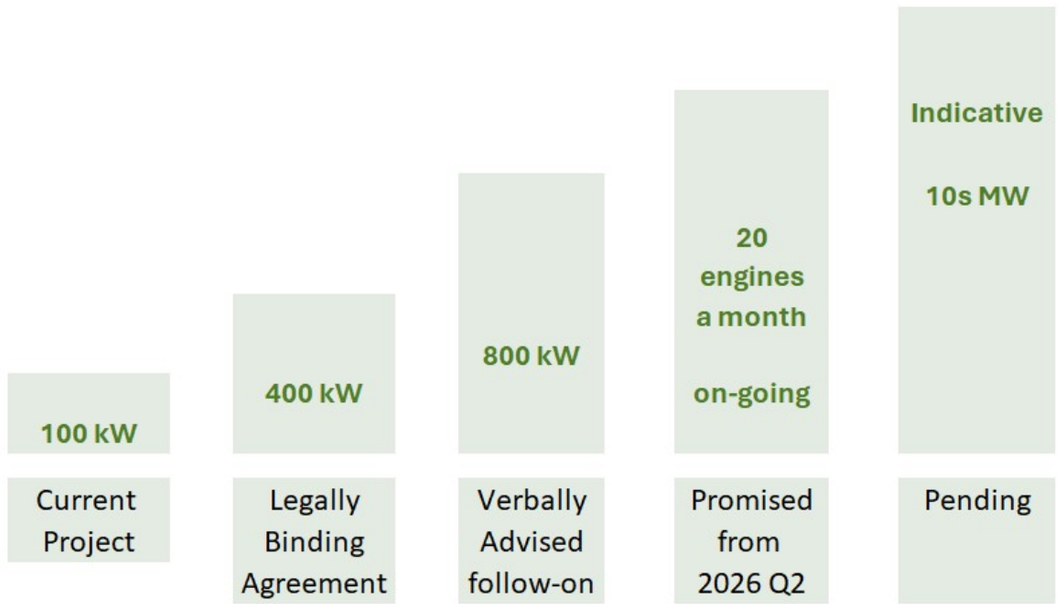
Market Estimate

On 2 July 2025, Wood Mackenzie announced the publication of a report that concluded that investment of US$1.2 trillion in 1.4 TW of grid-forming batteries will be required to support the installation of over 5.9 TW of new wind and solar capacity globally through 2034.



Validation

- **<u>Demonstration plant in Ballarat, Victoria</u>** commencing operations in mid December 2025.
- Many expressions pending demonstration
- Requests for Information (RFI) for commercial pilot sites that are likely to lead to broad-scale adoption.



- Zero Marketing to date; to start with demonstration operation in December 2025.
- Compelling proposition from 2026 Q2, when ammonia cracker developed

Investment Opportunity

USD 25m for 35% stake in HYE

- Includes controlling stake in Ammonia technology to :
  - Ensure product is developed in time;
  - Establish early-stage manufacturing capability; and
  - Capture some of the value from a much greater market size
- Includes a significant stake in a new electrolyser to :
  - Ensure product is developed in time;
  - Establish early-stage manufacturing capability; and
  - Capture some of the value from a much greater market size
- Develop HYE products
  - ammonia cracker, 30kW HYE-ICE, 250kW HYE-ICRE, HYE-Forming Box, test device to enhance electrolyser and enhance manufacturability
- Sell much more Product profitably

Hydrogenus Energy People

Mark Smith

Non-Executive Chairperson

Mark has over 40 years' experience in management and geoscience in energy with BHP, and Karoon Energy, of which he was a founder.

Mark was Executive Director & Exploration Manager with Karoon, growing its value from $5m to $1,500m.

Marcus Clayton

Chief Technology Officer & Executive Director (Founder)

Marcus is formally trained in electronics. He joined John Bennett to form Bennett Clayton in 1990, developing an Internal Combustion Engines to operate using alternative fuels, including alcohol fuels, LPG for diesel buses and natural gas for back-up generators.

Shay O'Brien

Chief Executive Officer

Shay has a background in accounting, HR, and senior management in small and medium sized enterprises across a range of business sectors.

Prior to Hydrogenus Energy, he was General Manager of a group of business in the scientific instrumentation and supplies industries.

Pieter Bruinstroop

Executive Director, CFO & Company Secretary

Pieter has degrees in economics and finance and a long history as an analyst in energy and mining Markets.

Peter has extensive experience in business case and viability modelling in wind and solar power in the 1980s and as a fund manager and corporate adviser since 1996.

Earle Harper

Chief Commercial Officer

Earle has over 25 years of corporate, ASX and commercialisation experience across multiple industry verticals.

Prior to joining Hydrogenus, Earle was the CCO of ClearVue Technologies, a nanotechnology within the renewable energy sector.

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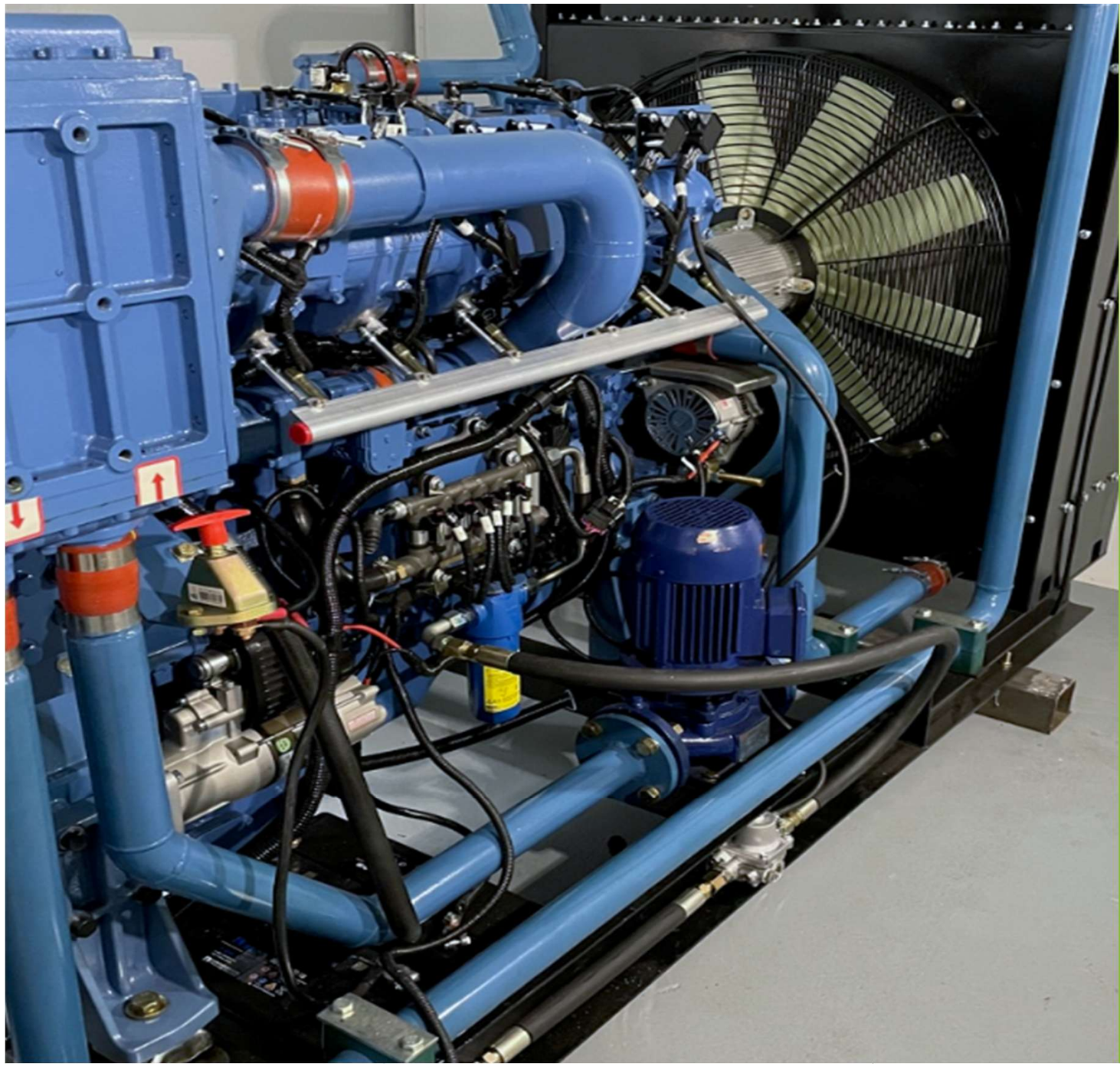

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