



# Integrated Solutions for the Hydrogen Economy

121 Conference London

Pure Hydrogen  
Corporation Limited

May 2024 (ASX: PH2)



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## Geological Information

The geological information in this presentation relating to geological information and resources is based on information compiled by Mr Lan Nguyen, who is a Member of Petroleum Exploration Society of Australia and the Society of the Petroleum Engineers and has sufficient experience to qualify as a Competent Person. Mr Nguyen consents to the inclusion of

the matters based on his information in the form and context in which they appear. The information related to the results of drilled petroleum wells has been sourced from the publicly available well completion reports. The Company has used a conversion factor of 1.05 to convert Bcf amounts to PJs equivalent.

Notes 1. As reported in Announcement dated 4 May 2021 – the 1C 87.7 Pj, 2C 130.3 Pj and 157,9 Pj – the remaining prospective resource was 536 Pj

The total of 1.1 TCF 3C AND 14.9 TCF Prospective is a combination of Windorah gas project 770 Bcf and 8.8 Tcf, Venus Gas Project 157.9Pj 3C and 536PJ Prospective and Serowe Gas Project

200.7 Bcf and 10.072 Bcf best estimate – Pure Hydrogen has a 30% working interest in the Serowe Project.

Note 2 – The Contingent resources is a summary of 2 reports for the Windorah Gas Project. One estimate prepared by DeGolyer and MacNaughton, a leading international petroleum industry consulting firm in June 2015 in respect of the Queenscliff Area and one estimate prepared by Aeon Petroleum Consultants in respect of the Tamarama area completed in August 2019. The Prospective estimate of 8.8 Tcf is based on the work by DeGolyer and MacNaughton adjusted for the permit that was relished by the Company.

Note 3 – As reported in the Announcement on the 12 April 2022 – the Serowe Project has contingent Resources of 1C 237.5, 2C 316.7 and 3C of 395.9 Bcf and best estimated of 10.07 Bcf – all figures 100%.

Building an integrated hydrogen business which manufactures/distributes hydrogen and fuel cell vehicles, and generators



**HYDROGEN FUEL CELL  
TECHNOLOGY**

**Equity interests in hydrogen fuel cell vehicle companies HDrive (majority owned) and H2X**

- ✓ Global distribution rights for HDrive vehicles across Australia, US, Europe, Malaysia and India
- ✓ Delivering at least 10 vehicles in 2024 including a Taurus Prime Mover; three waste trucks and four buses
- ✓ \$125 million funding facility partner identified, allowing Pure Hydrogen to lease vehicles and supply hydrogen on long term contracts



**H2 PRODUCTION  
AND DISTRIBUTION**

**Becoming a hydrogen utility for production/ supply companies**

- ✓ Developing Green Hydrogen production plants in modular form located close to customers
- ✓ Emerald and Turquoise Hydrogen production plants featuring partner technology
- ✓ Due diligence and approval processes are currently underway

# HYDROGEN ECO SYSTEM

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Hydrogen  
Production/  
Supply

- Green
- Turquoise
- Emerald

Hydrogen  
storage,  
transport  
and refuelling

Hydrogen fuel  
cell devices

- Trucks
- Buses
- Generators



# BUSINESS MODEL

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## BUSINESS MODEL

- ▶ FCEV and BEV vehicles  
Ground-up design
- ▶ Other Hydrogen Devices
- ▶ Services and  
Maintenance and parts
- ▶ H<sub>2</sub> supply, production  
and distribution

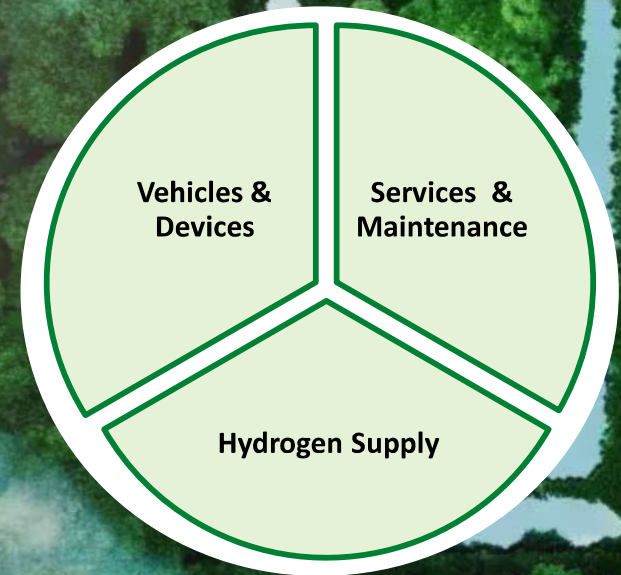
## MARKET STATS



**23%**  
of Total Road Transport  
Emissions Attributable  
to Trucks



**43%**  
Global 2022-2032  
Hydrogen Vehicle  
Market CAGR



# HDRIVE VEHICLE SUITE: TRUCKS AND BUSES

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## Refuse Truck

ENERGY TYPE:  
H2 Fuel-Cell Electric

AXLE CONFIGURATION:  
6x4

RANGE:  
≥250km

TOP SPEED:  
100km/h



## 15 - 70T Heavy Truck

ENERGY TYPE:  
H2 Fuel-Cell Electric

TRACTION BATTERY:  
73.57 kWh, CATL

RANGE:  
≥400km

HYDROGEN FUEL CELL:  
160 to 400kW, Ballard

TOP SPEED:  
100km/h



## Low Floor City Bus Range

ENERGY TYPE:  
H2 Fuel-Cell Electric  
or Battery Electric

PASSENGER CAPACITY:  
13 to 80 Passengers

RANGE:  
≥500km

HYDROGEN FUEL CELL:  
60 to 200kW, Ballard

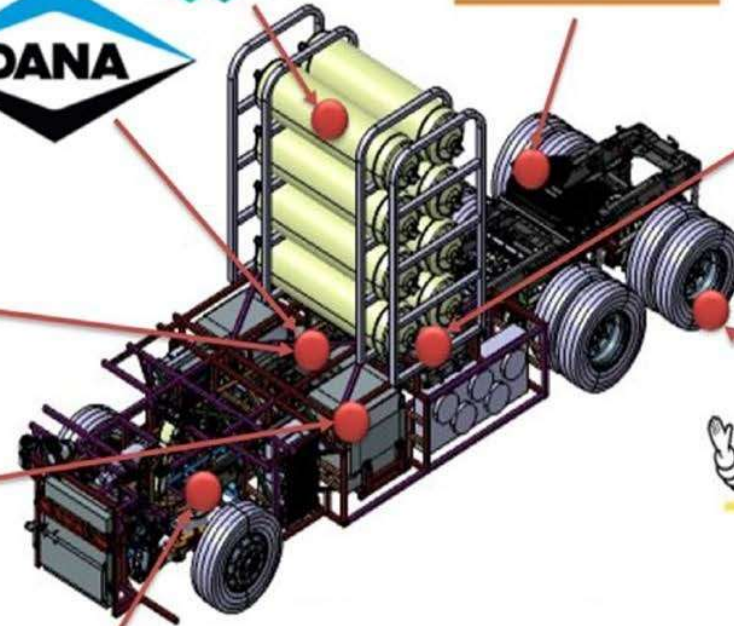
TOP SPEED:  
100km/h

HIGH  
QUALITY  
COMPONENTS

HDrive supports the leading global component suppliers, with growing support of Australian product development and assembly.



see. think. act.



SMART TECHNOLOGY  
FOR SMARTER MOBILITY



# CUSTOMERS & PIPELINE

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## KEY CLIENTS



## FLEET SIZE

>15,000

## INITIAL ORDER

1 prime mover

## STATUS

Under assessment<sup>1</sup>

## POTENTIAL FOLLOW ON

10 trucks



200

2 midi-buses

2 delivered

16 buses



2,000

1 refuse truck

Under assessment<sup>1</sup>

25 trucks



700

3 refuse trucks

2 assembled, 1 under way

83 trucks

Nutcher H2



Distributor

1 prime mover  
1 refuse truck

In build

50 trucks

<sup>1</sup>Under assessment by Australian National Heavy Vehicle regulator. <sup>2</sup>subject to conditions precedent.

## PIPELINE

As at May 2024

**3** six-month trial commitments **10** firm vehicle orders for delivery in next 12 months

**\$125m** leasing facility<sup>2</sup> **>100** vehicles options<sup>1</sup>

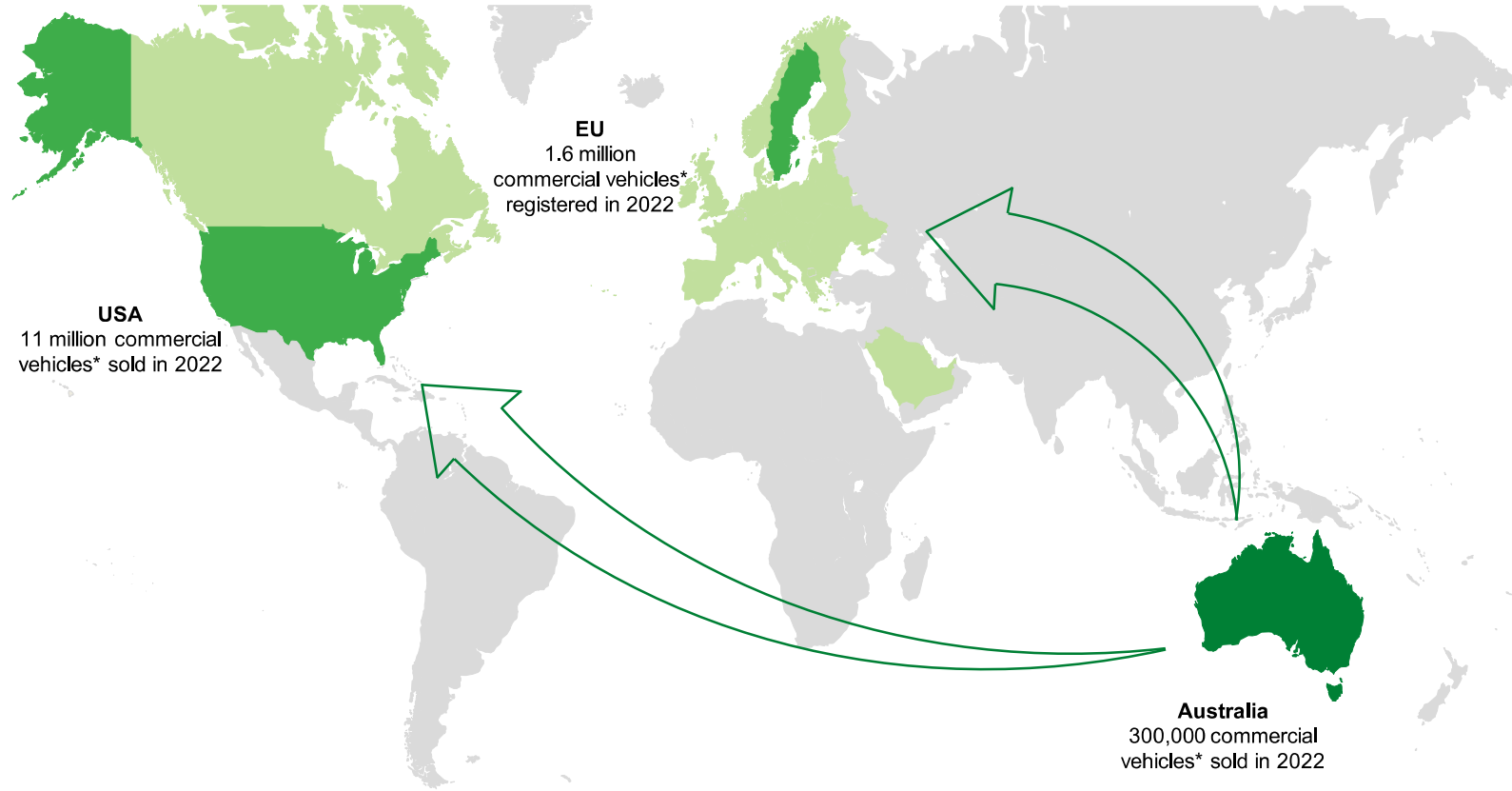
1.subject to successful trials. 2 subject to conditions precedent. Image: render of the Solo general waste collection





# CURRENT GROWTH STRATEGY

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## US MARKET ENTRY PRESENTS MASSIVE OPPORTUNITY

- ▶ Geographic expansion
- ▶ Product deployment
  - ▶ Rigid trucks (including refuse)
  - ▶ Prime movers
  - ▶ Buses / coaches
- ▶ Micro-factories (assembly)

- Current Market
- Launching Point into Future Market
- Future Market

CURRENT  
CAPACITY

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HDrive assembly capability of up to  
200 vehicles per month



 Pure Hydrogen

# GREEN ENERGY MICRO-HUB

## GREEN ENERGY MICRO- HUB

- 5-year lease signed on a strategic industrial site located at Archerfield Airport, Queensland.
- Pure intends to manufacture green hydrogen fuel at Archerfield to service commercial transport operators and the aviation industry.
- First Green Hydrogen supply anticipated Q4 CY2024 subject to approvals.
- State-of-the-art electrolyser is already on order, which will use net-zero electricity to produce green hydrogen.
- Staged development strategy, with Stage 1 based on utilisation of 1,000m<sup>2</sup> with an anticipated output of 420kg of green hydrogen fuel per day.
- Archerfield site part of PH2's strategy to develop multiple 'CAPEX light' green hydrogen micro-hubs.



# TURQUOISE GROUP

-40% OWNED BY PURE



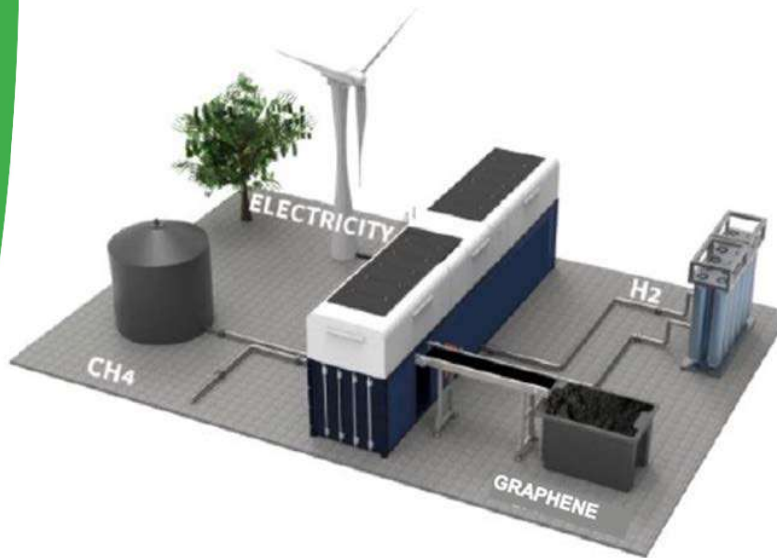
Turquoise Demonstration plant has been commissioned refined to target continuous high quality graphene production. Methane pyrolysis: Consolidating the world-first and patented 3-phase plasma torch, the 'engine' of the system.

The technology solution is highly energy efficient, is a water-free process without direct CO or CO2 emissions.

The process splits methane gas (CH4) into solid graphene powder (C) and hydrogen gas (H2) components.

Key value driver is the continuous production of bulk volumes of high-quality graphene (solid carbon powder).

## Graphene, the wonder material



### Profitable green business model

**Two valuable products manufactured with no direct emissions.**

Turquoise Group's technology is modular, allowing multiple modules to be installed to meet customer requirements.

- Each module has a production capacity of 50tpa Hydrogen and 150tpa of Graphene
- Modules are sized to a standard 40ft shipping container. When powered with renewable electricity, there are low scope 2 emissions.
- If biomethane is utilised as a feedstock, the process can become carbon negative.

## PURE HYDROGEN:

## INTEGRATED SOLUTIONS FOR A HYDROGEN ECONOMY

Australia's most diverse portfolio of hydrogen projects, from production through to end-use fuel cell products, such as prime movers, generators and waste trucks

- Trials of the Taurus Prime Mover and Garbage Trucks
- Confirmation of potential orders of Hdrive Trucks and Buses
- Commercial Demonstration plant for Turquoise Group in Brisbane
- First Green Hydrogen Micro Plant in Queensland
- Progress emerald and turquoise hydrogen efforts, alongside partners



# PORTFOLIO UPDATE: GAS RESOURCES

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## Total 2C Gas Resources 453 BcF in Queensland

- Looking to gain value for the current 100% owned gas assets
- In April 2024, Pure Hydrogen sold its strategic 30% interest in the Serowe CBM project in Botswana to the project's operator and 70% owner, Botata Energy Ltd (ASX: BTE). Transaction - 14.5 million shares plus a milestone payment of \$750,000<sup>1</sup>. Pure is expected to have greater than 20% equity interest in BTE when deal closes.

1. See Asx announcement dated 4 April 2024

## Independently Certified Contingent Gas Resources, net to Pure Hydrogen:

### 100% PROJECT VENUS SURAT BASIN CSG, QUEENSLAND



123 Bcf 2C, and 560 PJ in Prospective Resources in the Walloon CSG<sup>1</sup>

### 100% WINDORAH GAS PROJECT - COOPER BASIN GAS



330 Bcf 2C and 8.8 TCF Prospective Resources - basin centered gas<sup>2</sup>



## *Pure Hydrogen*

Pure Hydrogen's aim is to be the lowest cost hydrogen producer and supplier of hydrogen devices and equipment

### Contact

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# APPENDICES

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 Pure Hydrogen



# EXPERIENCED BOARD AND LEADERSHIP TEAM

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## Board of Directors



**Scott Brown**  
Managing Director

Scott has over 30 years' experience as a director and an executive in ASX-listed companies, including Real Energy, Objective Corporation, Allegiance Mining and Mosaic Oil.



**The Hon. Adam Giles**  
Non-Executive Director

The Hon. Adam Giles was the 10th Chief Minister of the Northern Territory and held office from 2013 thru 2016. Since leaving politics, Adam has held several senior corporate roles, including a long-term engagement with Hancock Prospecting.



**Lan Nguyen**  
Non-Executive Director

Lan has over 25 years' experience in petroleum exploration, development and production in Australia and internationally, and was the Managing Director at ASX-listed Mosaic Oil.



**Ron Prefontaine**  
Non-Executive Director

Ron has over 40 years' experience in the oil and gas industry and was the Executive and Managing Director at two successful ASX-listed companies, Arrow Energy and Bow Energy.

## Leadership team



**Les Nelson**  
GM Operations

Les has over 30 years' experience working in industrial and retail markets, including 20 years at Australia's largest Liquefied Petroleum Gas distributor, Elgas Ltd, as General Manager.



**Gareth Forde**  
Hydrogen Technology

Gareth has over 20 years' experience in hydrogen, oil and gas, water, energy and process engineering. He is a Registered Professional Engineer of Queensland in both Chemical and Environmental Engineering.



**Clint Butler**  
Sales Manager

Clint has 15 years' experience and has worked with numerous multi-nationals in the Liquid Petroleum Gas industry and was the Executive Director for an energy monitoring company for 11 years.



**Ben Kiddle**  
CEO HDrive International

Ben has significant experience across zero-emission heavy and light commercial fleet. He held senior management roles across adjacent sectors including a key role in the business of Custom Denning, across business development and aftersales support.

## Other Corporate Information

**Cash Position**  
31 Mar 2023:  
\$7.988m

**Shares on issue:**  
358m

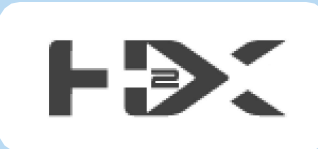
**Market Capitalisation:**  
\$m  
(based on the closing share price of \$0.105 on 13 May2024)

**A FOUNDATION OF STRATEGIC INVESTMENTS, JOINT VENTURES AND PARTNERSHIPS**

Partnering with Hydrogen truck, buses and hydrogen fuel cell devices manufacturers



Hdrive  
– Trucks and busses  
(PH2: 60%)



H2X  
– Fuel cell Utes and Vans  
(PH2: 17%)



Hydrogen Fuel Cells Generators



AusShips  
– Marine Vessels



Advik Hi-Tech  
– India JV



Ballard  
– Hydrogen fuel cells

Underpinned by market-leading Hydrogen manufacturing technology providers



Omni Emerald Hydrogen  
(PH2 100%)



Turquoise Group  
– Turquoise Hydrogen  
(PH2: 40%)



Auyun  
– Green Hydrogen



CIMC ENRIC  
– Green Hydrogen

# VEHICLE FLEET: H2 FUEL CELL TRUCK TRIAL

PepsiCo has committed to running a trial program with Pure Hydrogen to build and deliver the first hydrogen powered prime mover in Australia.

- First trial globally for PepsiCo
- Potential of an initial order of 10 or more subject to a successful six-month trial
- Pure Hydrogen have exclusive rights to the truck design globally
- Trial planned to commence Q2 CY2024 at a Pepsi Co depot in Queensland



# VEHICLE FLEET: HDRIVE WASTE COLLECTION VEHICLES

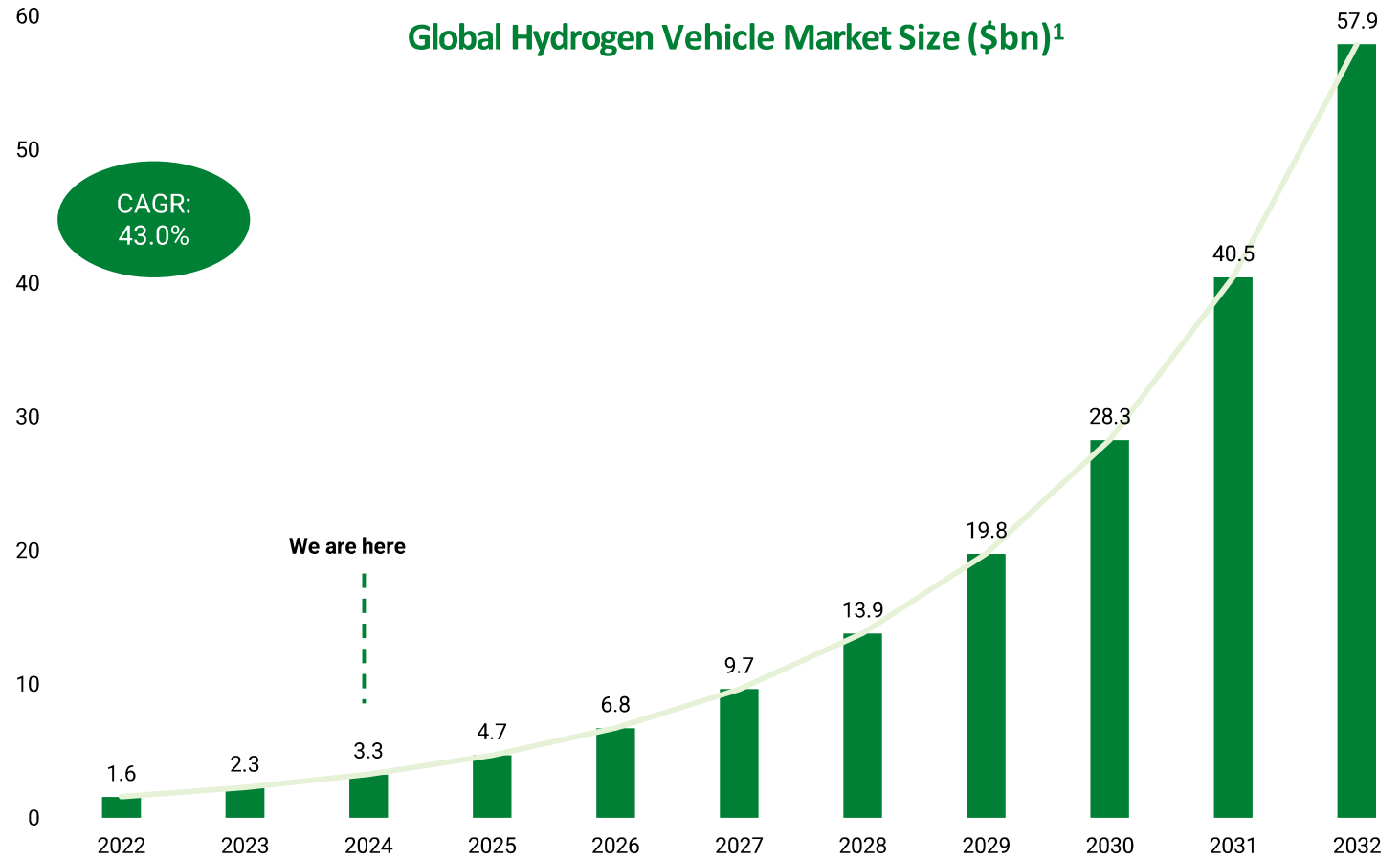
- Established a market-leading position in the waste management sector in Australia
- Trials secured with two large waste management groups in Australia - JJ Richards & Solo
- JJ's is one of the Australia's largest waste management companies with a 2,000+ vehicle fleet; early 2024 vehicle trial in SE Qld
- Solo services ~15,000 customers and has signed up for a trial of a FCEV refuse truck in Tweed region commencing mid 2024
- Potential for multi-vehicle fleet orders post successful trials



# INDUSTRY TRENDS: GLOBAL HYDROGEN VEHICLE MARKET

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### Global Hydrogen Vehicle Market Size (\$bn)<sup>1</sup>



### Global Hydrogen Vehicle Market Drivers

- The global hydrogen vehicle market is set to grow at a staggering 43% CAGR between 2022 and 2032, reaching a total market size of \$58 billion by 2032.
- The movement away from fossil fuels at a global level will drive growth in the use of hydrogen for fuel in vehicles.
- To limit global warming in accordance with the Paris Climate Change Agreement, 15% of global energy use by 2050 is forecast to be from hydrogen<sup>2</sup>. This will drive growth in the hydrogen vehicle space.
- Government regulations and subsidies are encouraging the development of hydrogen fuel cell technology and the surrounding infrastructure.
- California has committed funds for the development of 100 hydrogen refueling stations to meet its target of 1.5 million zero-emission vehicles by 2025.

<sup>1</sup>Allied Market Research, Hydrogen Fuel Cell Vehicle Market Size. <sup>2</sup>DNV – Hydrogen Forecast to 2050, 2022. <sup>3</sup>California Energy Commission

# INDUSTRY TRENDS: GLOBAL HYDROGEN DEMAND IS GROWING



**Government support** has increased as many are investing in research and development for the production and usage<sup>1</sup>



Increasing interest in using hydrogen as a **clean energy source** for powering vehicles and generating electricity, with zero emissions<sup>1</sup>

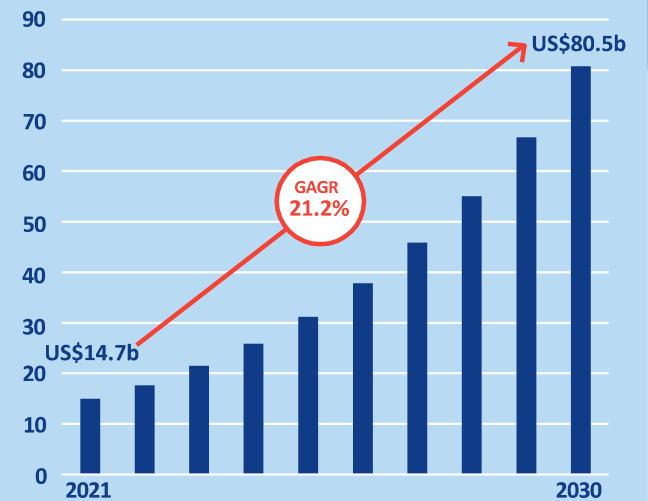


The cost of producing hydrogen is falling due to the continual **advancement in technology** making it cheaper to produce hydrogen from renewable sources<sup>1</sup>



**Growing infrastructure** for using and storing green hydrogen with increases in the number of refuelling stations for hydrogen powered vehicles and new storage facilities<sup>1</sup>

**THE GLOBAL HYDROGEN FOR FUEL CELL MARKET WAS VALUED AT US\$14.7 BILLION IN 2021 AND IS PROJECTED TO GROW AT A CAGR OF 21.2% FROM 2021 TO REACH US\$80.5 BILLION BY THE YEAR 2030<sup>1</sup>**



“Deloitte’s 2023 analysis of the global potential of the green hydrogen market predicts steady and significant growth, with the market reaching a value of US\$1.4 trillion by 2050.”

[www.springwise.com](http://www.springwise.com)

# INDUSTRY TRENDS: HYDROGEN POWER GENERATION – MYNT

## First approved Hydrogen Fuel Cell Generator in Queensland

- Mynt Technologies is a leading Australian power generator manufacturer, manufacturing hydrogen electric power generators. The Purple H2 is designed to provide a clean energy alternative solution to diesel generators in base load applications for mining, industrial, agricultural and construction clients
- Trial secured with Australian Meat Processing Corporation to be used in an Abattoir in Qld to help reduce carbon emissions in the the Red Meat industry
- H2 Generators can be used also as a conduit for the BEV market as a clean green source of remote power to help with EV Charging

