



*Pure Hydrogen*

Noosa Mining Investment Conference

# Building the Hydrogen Ecosystem



**Pure Hydrogen Corporation Limited**  
November 2023 (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.

Page 29 - 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 3Cand 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 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%.

**Australia's First Hydrogen  
Fuel Cell Prime Mover,  
introducing**



**TAURUS**

# HOLISTIC HYDROGEN PORTFOLIO

*Building an integrated hydrogen business which manufactures, distributes hydrogen and fuel cell vehicles, vessels, and generators.*

## HYDROGEN FUEL CELL TECHNOLOGY

**Equity interests in hydrogen fuel cell vehicle companies HDrive and H2X**

- ✓ Global distribution rights for HDrive vehicles and rights to distribute H2X vehicles and equipment across Australia, Europe, Malaysia and India.
- ✓ Delivering a Taurus Prime Mover; two waste trucks and two buses in early 2024.
- ✓ \$125 million funding facility partner identified, allowing Pure Hydrogen to lease vehicles and supply hydrogen on long term contracts.
- ✓ Commitments from quality clients are building with orders expected subject to successful truck trials.

## H2 PRODUCTION & DISTRIBUTION

**Becoming a hydrogen utility as third-party sellers for production/supply companies.**

- ✓ **Short-term:** Developing Green Hydrogen production plants in modular form located close to customers.
- ✓ **Medium-term:** Emerald and Turquoise Hydrogen production plants featuring partner technology.
- ✓ A network of hydrogen production sites have been identified along Australia's East Coast.
- ✓ Due diligence and approval processes are currently underway across several sites.

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# AN EMERGING INTEGRATED HYDROGEN UTILITY

Pure Hydrogen is committed to:

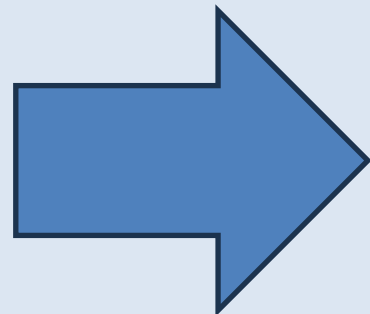
- Supplying high-quality, low-cost Hydrogen on long-term contracts
- Selling Hydrogen-electric devices and vehicles, generating ongoing demand for Hydrogen supply
- Offering ancillary services to support Hydrogen-electric devices, including the supply and service of electrolysers and refueling pods
- Maintaining a **CAPEX-light** approach to Hydrogen production, through partnering with investors and companies seeking carbon abatement opportunities and access to valuable carbon by-products



# Pure Hydrogen Business Model

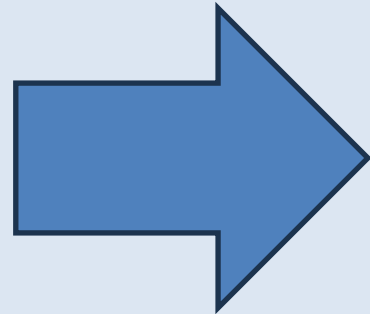
## Providing Hydrogen Solutions to Customers

## Potential Margin



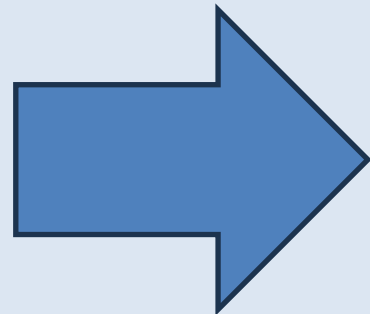
Selling Hydrogen Fuel Cell Trucks and Buses.  
These are the hook for a customer

15 to 25%



Selling and supplying Hydrogen on long term  
contract.

100% +



Services relating to the above. – Parts, Service,  
Lease rentals and Vehicle Refurbishment

10 to 100% +

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# BUILT ON A FOUNDATION OF STRATEGIC INVESTMENTS, JOINT VENTURES AND PARTNERSHIPS

## PARTNERING WITH HYDROGEN MANUFACTURING TECHNOLOGY COMPANIES



Omni Emerald Hydrogen (PH2 100%)



Turquoise Group – Turquoise Hydrogen (PH2: 40%)



AUYAN Auyun – Green Hydrogen



Hdrive – Trucks and busses (PH2: 60%)



H2X – Fuel cell generators (PH2: 20%)



Loop Energy – Hydrogen Fuel Cells



AusShips – Marine Vessels



Advik Hi-Tech – India JV



Ballard – Hydrogen fuel cells

# HDRIVE INTERNATIONAL A WORLD CLASS PROVIDER OF HEAVY H<sup>2</sup> FUEL CELL VEHICLES + BEV

- Significant Range of Vehicle types – runs on same platform – one of the few companies that can supply HFC vehicles now.
- Global reach – Term Sheet with a presence from US, Strong interest from NZ, EU, US, Asia, South Pacific, Africa and UAE.
- Original Complete Build Unit (CBU) not **Retrofit** Vehicles
- Pure Hydrogen has majority stake in Hdrive International likely to be diluted over time.
- Agency model to be adopted
- Key deployments in Prime Movers, Refuse Trucks, Cement Agitator and Bus/Coach





# H2 FUEL CELL TRUCK TRIAL

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

- Launched in July 2023 and displayed at the Brisbane Truck Show in June
- 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 Q1 CY2024 at a Pepsi Co depot in Queensland



# GROWING DEMAND FOR H<sup>2</sup> FUEL CELL VEHICLES + BEV

As at November 2023

**3** six-month trial commitments

**> 100** truck options<sup>1</sup>

**5** firm vehicle orders for delivery in 2024

**\$125m** leasing facility<sup>2</sup>



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

# 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>

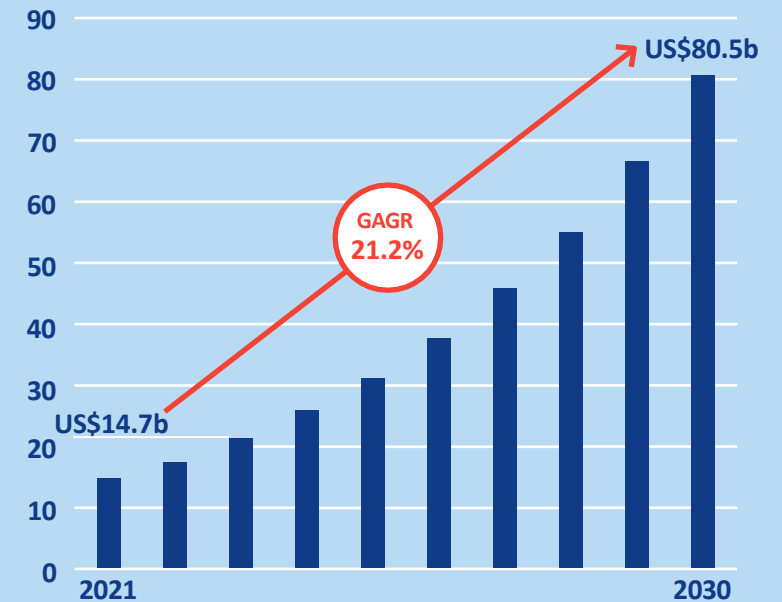


The cost of producing hydrogen is falling due to the continual **advancement in technology** making it cheaper to produce hydrogen from renewable sources<sup>1</sup>



**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 DEMAND 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)

# HYDROGEN FUEL TO REPLACE IMPORTED FOSSIL FUELS

Pure Hydrogen is executing on a multi-faceted and integrated growth strategy

## POWER GENERATION

- Off grid
- EV charging
- Back up for solar/wind
- Construction sites
- Farms and Mines



## TRUCKS AND BUSES

- Garbage Trucks
- Prime movers
- Short and long haul buses
- Long term supplying service Stations



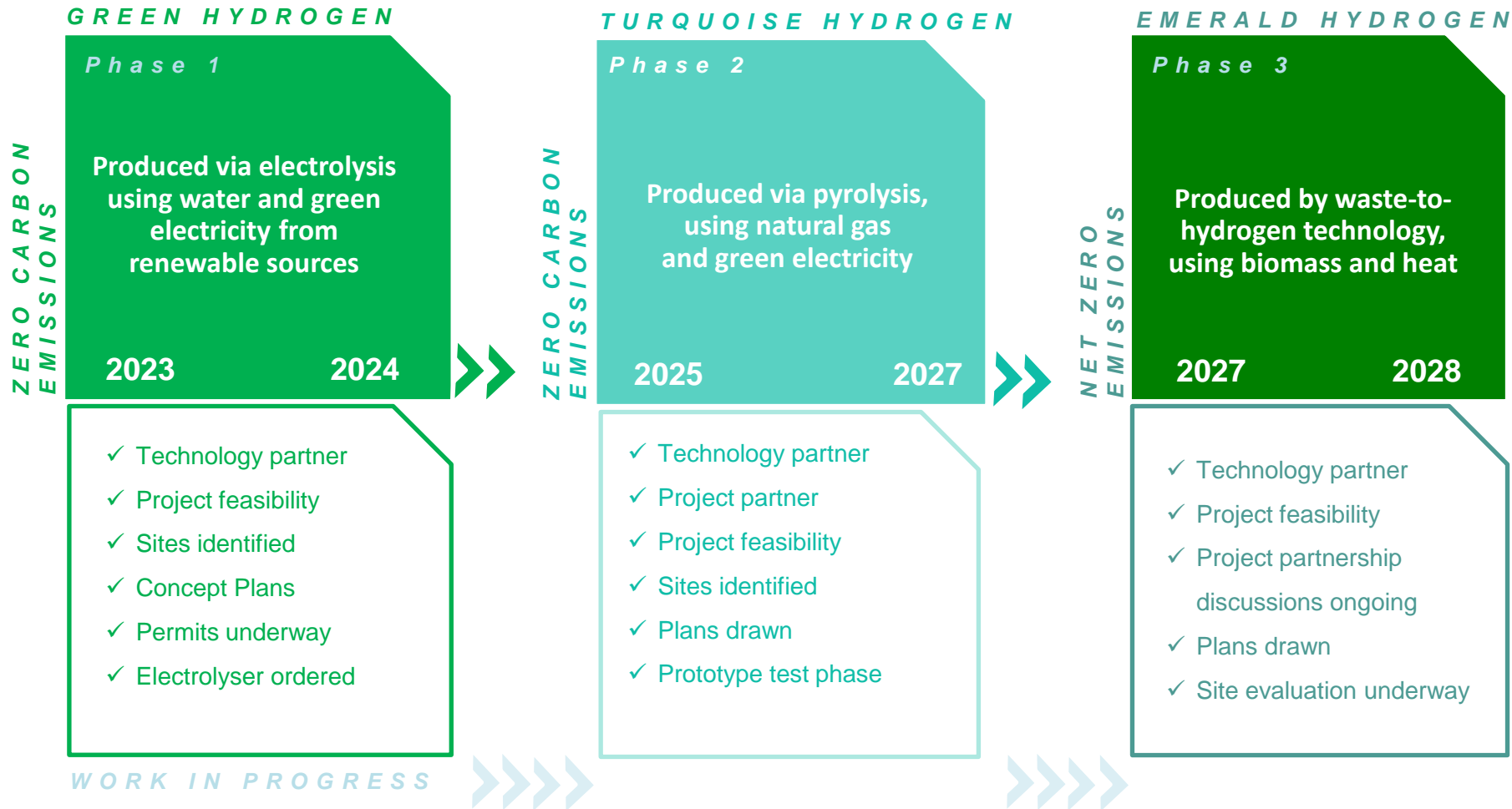
## MARINE

- JV Aus Ships
- Battery Charging/  
Hydrogen Fuel Cells
- Establishing marine refuelling stations



# HYDROGEN PRODUCTION TIMELINE

*Pure Hydrogen will produce Green Hydrogen initially, progressing to Turquoise and then Emerald Hydrogen production in the medium-term*



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# GREEN HYDROGEN MICRO-HUB

In FY24, Pure Hydrogen plans to produce green hydrogen from a micro-hub.

- Pure Hydrogen plans concept sites for its micro- hub strategy, within close proximity to its customers
- Micro-hubs will produce green hydrogen using on-site solar and green electricity
- Electrolysers will be module built and delivered to sites fully assembled
- Micro-hubs are easily scalable in-line with increasing demand
- There will be 24-hour refuelling for hydrogen fuel cell technology vehicles, trucks and devices
- Pure Hydrogen is exploring partnership opportunities with its customers to install micro-hubs within their depots.



# GREEN HYDROGEN MICRO-HUB

- Low capex - small modular electrolyser
- Electrolyser already build for Pure Hydrogen – next completing factory acceptance testing
- Will look to partner with existing service station operators once we prove the model
- We are working with several larger vendors about modularising the compression and load out.
- Reviewing several sites in major capital cities.



# STRATEGICALLY DIVERSIFIED AND CAPITAL LIGHT STRUCTURE

- Expecting commercial production of hydrogen — Green in the short term — Emerald and Turquoise in the medium term, which will be cost competitive
- No debt and cash position of ~\$9.6 million at 30 Sept 2023 provides strong platform for growth & project advancement

## Strategy de-risked by capital light structure:

- Means where possible **raising funds at the subsidiary or Project level not in Pure Hydrogen**
- Having Partnership Model for hydrogen technology and the supply of hydrogen
- A utility model where Pure Hydrogen is a third-party seller of the hydrogen for suppliers/producers.





# PURE HYDROGEN PRIORITIES

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
- Pilot plant for Turquoise Group in Brisbane
- First Green Hydrogen Micro Plant in Queensland
- Progress emerald and turquoise hydrogen efforts, alongside partners



1 subject to successful trials.

2 subject to conditions precedent.

Image: render of the Solo general waste collection



## **Pure Hydrogen**

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

### **Contact**

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E: [scott.brown@purehydrogen.com.au](mailto:scott.brown@purehydrogen.com.au)



# EXPERIENCED BOARD AND LEADERSHIP TEAM

## 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 till 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.



**Brendan Evans**  
Chief Financial Officer

Brendan is a Chartered Accountant with over 20 years' experience across a diverse range of commercial finance and management roles across oil and gas, mining and engineering sectors.



**Gareth Ford**  
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 30 Sept 2023: \$9.6 million**

**Shares on issue: 355m**

**Market Capitalisation: \$46.15m**  
*(based on the closing share price of \$0.13 on 16 November 2023)*  
on 20 October 2023)

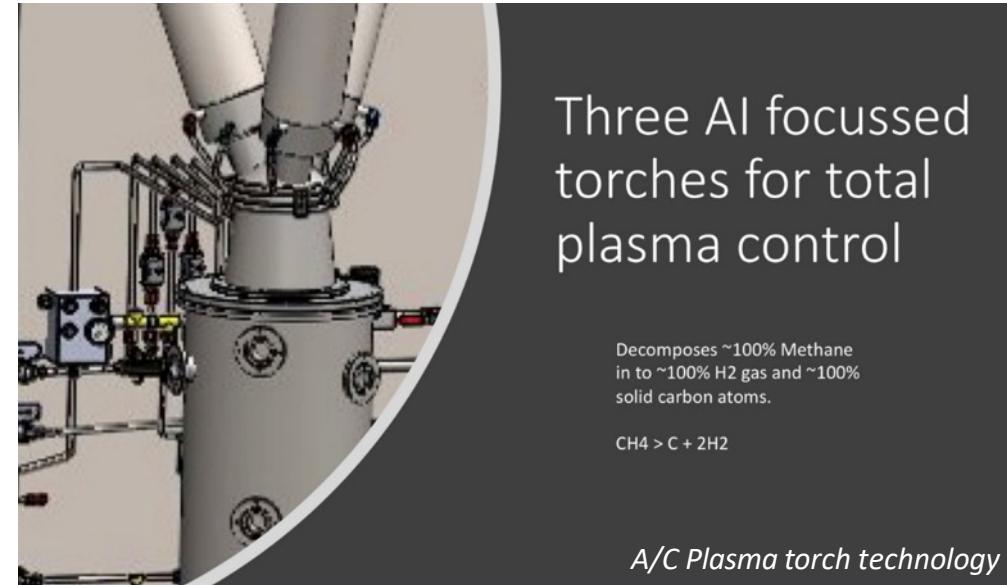
# TURQUOISE HYDROGEN PRODUCTION

## STRATEGIC 40% STAKE IN TURQUOISE GROUP

### *Pure Hydrogen successfully secured seed funding to commercialise its turquoise hydrogen technology*

The strategic transaction with Turquoise Group allows Pure Hydrogen to:

- ✓ Establishing a utility operating model
- ✓ Partner with companies who have the technology and expertise allowing us to maintain our focus on selling and distribution
- ✓ retain a 40% equity interest in Turquoise Group with no working capital contribution during the commercialisation phase
- ✓ exclusive offtake rights to all hydrogen produced at competitive pricing



Access to Turquoise Hydrogen will allow Pure Hydrogen to:

- move favourably along the cost curve with access to Turquoise Hydrogen at competitive rates for a period of 20 years
- enter long-term hydrogen supply agreements with customers on competitive terms
- create a strong platform for growth

# EMERALD HYDROGEN PRODUCTION

*Pure Hydrogen, alongside partners, is seeking to commercialise Emerald Hydrogen technology*

*Currently, potential sites are being considered with the view to operating two trains per production facility*

**Based on two trains of production:**

- 30 tonnes per day capacity
- Emerald hydrogen purity at 99.7%
- Plant construction leveraging Omni CT & KP Engineering technology
- Average conversion rate per annum: 120,000 tonnes of wood/MSW waste to 10,000 tonnes of hydrogen

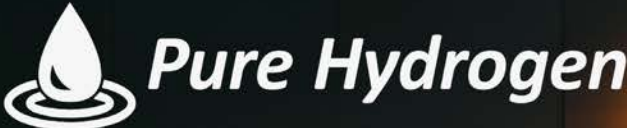


*Render of planned two train emerald hydrogen production facility*

**Access to Emerald Hydrogen will allow Pure Hydrogen to:**

- move favourably along the cost curve with access to long-term hydrogen supply at competitive pricing
- enter long-term hydrogen supply agreements with customers on competitive terms
- create a strong platform for growth

# PURE CAN SUPPLY AND MAINTAIN COMMERCIAL VEHICLE FLEETS



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# ....AND PRIME MOVERS



## 18 - 70T Prime Mover

**Energy Type:**

H2 Fuel-Cell Electric

**Top Speed:** 100km/h

**Range:** ≥400km

**Passenger Capacity:**

1 Driver / 1 Passenger

**Traction Battery:**

73.57 kWh, CATL

**Hydrogen fuel cell:**

160 to 400kW, Ballard



# CAPABILITY TO DELIVER A RANGE OF BUSES

## – HFC AND BATTERY ELECTRIC

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### Bus Range

**Energy Type:** H2 Fuel-Cell Electric or Battery Electric

**Top Speed:** 100km/h

**Range:** ≥500km

**Passenger Capacity:** 1 Driver /13 to 80 Passengers

**Traction Battery:** 73.57 kWh, CATL

**Hydrogen fuel cell:** 122 to 522kW, Ballard





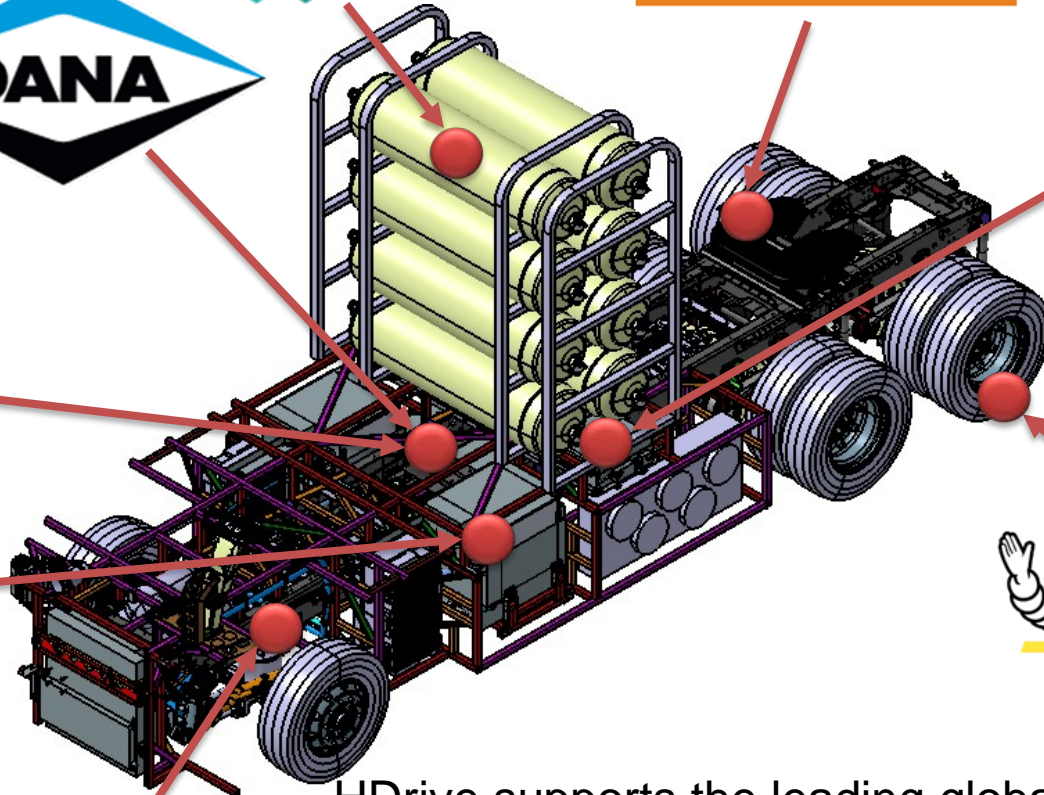
# HDRIVE USES HIGH QUALITY COMPONENTS



see. think. act.



SMART TECHNOLOGY  
FOR SMARTER MOBILITY



*The World Rides On Us®*

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



5

# PURE HYDROGEN IS SUPPLYING MARKET LEADERS

## Trial 1: PepsiCo

PepsiCo Australia - the 'Taurus' Hydrogen Fuel Cell Electric Prime Mover has been custom designed for their Australian operations in Brisbane. The 'Taurus' will be the first zero emission hydrogen truck to enter their fleet as a test case for PepsiCo International. PepsiCo is the largest fleet owner in North America.



### PepsiCo ANZ Sustainability Manager, Brent Gapes

*"This trial demonstrates our commitment to net zero emissions across our value chain by 2040 - a goal that forms an integral component of PepsiCo Positive, a sustainability framework for how we operate within planetary boundaries and inspire positive change for the planet and people. As one of the largest food manufacturers in Australia, we recognise we have a role to play in reducing our impact on the environment and I look forward to working with Pure Hydrogen on how we can extend the trial further."*



# PURE HYDROGEN IS SUPPLYING MARKET LEADERS

## Trial 2: JJ Richards

JJ Richards waste and recycling is one of the largest waste management companies in Australia with a fleet of more than 2,000 trucks. Pure Hydrogen is supplying a Hydrogen fuel cell electric refuse collection truck in early 2024 for trial across the customers South-East Queensland operations.



### JJ's Richards Waste's Owen Burton

*"Vehicle technology is rapidly changing, and we want to be able to offer our council customers the latest in environmentally-friendly vehicle options whilst ensuring maximum safety and reliability for our drivers and the public. JJ's Waste feel it is important to assist in the development of these technologies by partnering with companies such as Pure Hydrogen to conduct vehicle trials and we look forward to seeing the results later this year".*



# PURE HYDROGEN IS SUPPLYING MARKET LEADERS

## Trial 3: Solo

Solo Resource Recovery have signed up to trial our FCEV refuse truck across their Tweed operations in far north New South Wales. Solo have been in operation since 1932 providing over 1.2 million domestic collections per week and services over 15,000 commercial customers throughout Australia. The trial is scheduled to commence in mid 2024 and subject to a successful trial period, includes a series of purchase options.



### Solo Resource Recovery

#### National Fleet Manager, Mark Taylor

*"We are pleased to have signed this agreement. Solo has always seen innovation as a core part of our long involvement with the waste industry. This partnership is the natural next step, ensuring a reliant and sustainable waste sector. Importantly, this potentially will enable our valued customers to transition towards a circular economy where the Environment, Consumers and Industry all benefit."*



# UNCOMMITTED NATURAL GAS ASSETS

Independently Certified Contingent Gas Resources, net to Pure Hydrogen:

1C: 286 PJ • 2C: 576 PJ • 3C: 1,091 PJ

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>

30% PROJECT SEROWE  
CSG, BOTSWANA  
+ 18.7% OF BOTALA ENERGY



160 Bcf 2C and Prospective Resource 10.7 TCF CSG<sup>3</sup>

**Pure plans to utilise its gas field assets as feedstock to manufacture turquoise hydrogen and high value carbon products.**