

## Integrated Solutions for the Hydrogen Economy

Pure Hydrogen Corporation Limited

September 2024 (ASX: PH2)



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## Pure Hydrogen

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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.

Note 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 Pi

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%.

### HOLISTIC HYDROGEN PORTFOLIO

## Pure Hydrogen

## Building an integrated hydrogen business which manufactures and distributes zero emission vehicles and hydrogen equipment



HYDROGEN FUEL CELL TECHNOLOGY

## Equity interests in HFC vehicle companies, HDrive and H2X

Technology and IP for numerous designs of vehicles

Full suite of heavy vehicles including Taurus Prime Mover; 3 waste trucks and 4 buses

Ground up design

– no retrofitting FCE
technology into legacy
equipment

Partnerships with highprofile vehicle parts manufacturers



HYDROGEN EQUIPMENT

## Sale of hydrogen equipment

Signed an MOU to sell equipment into Vietnam

Agreements in place to resell hydrogen equipment

First approved hydrogen fuel cell generator in QLD

Mobile refuelling options

Quick deployment of equipment as built into shipping containers



H2 PRODUCTION AND DISTRIBUTION

## Becoming a hydrogen utility for production/ supply companies

Developing modular Green Hydrogen production plants located within reach to customers

Emerald and Turquoise Hydrogen production plants featuring partner technology

Due diligence and approval processes are currently underway

## COMPELLING INVESTMENT PROPOSITION

## Pure Hydrogen



### ESTABLISHED TECHNOLOGY BASE

Zero Emission Fleet with numerous vehicle options, including buses, waste trucks and prime movers



### FIRM ORDERS AND GROWING PIPELINE

Potential for larger scale orders

Clients include PepsiCo, JJ Richards and Solo



### GROWING INTERNATIONAL EXPOSURE

Planning has advanced for entry into the US and European markets



### ESTABLISHED MANUFACTURING CAPACITY

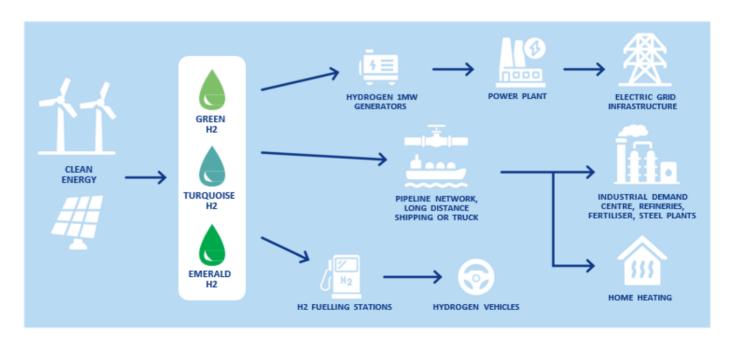
200 hydrogen fuel-cell or battery electric vehicles per month



### GOVERNMENT STIMULUS PROGRAMS

Governments around the world are spending big on hydrogen

In Australia the Federal Govt has incentives of \$22.7bn over the next 10 years



## FY24 HIGHLIGHTS & ACHIEVEMENTS

Pure Hydrogen

### Sales Pipeline Momentum Building in Australia

### **Taurus Prime Mover**

PepsiCo and Barwon Water

### Waste collection trucks

JJ's Waste & Recycling, Solo Resource Recovery, City of Newcastle

### **Buses**

**Transport NSW and Sapphire Coast Buslines** 

## Growing International Market Opportunity

Nutcher Hydrogen (CA, USA)

Riverview International Trucks (CA, USA)

Vietnam ASEAN Hydrogen Club

ARMS Group (UAE)

Brazil's Piauí state



### GREEN ENERGY MICRO-HUB

### First Hydrogen Hub in Development at Archerfield Airport

- 5-year lease signed in April 2024 on a strategic industrial site located at Archerfield Airport (QLD)
- Pure intends to manufacture green hydrogen fuel at Archerfield to service commercial transport operators and the aviation industry
- 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 is part of PH2's strategy to develop multiple 'CAPEX light' green hydrogen micro-hubs



## HYDROGEN EQUIPMENT

## Pure Hydrogen

### Pure Hydrogen can sell or rent Electrolysers, Refuellers and Generators

All of the hydrogen equipment and power chargers are plug in play.

Pure Hydrogen is standardising equipment so that it can be delivered using shipping containers.

Pure Hydrogen have already signed an MOU with Vietnam ASEAN Hydrogen Club for the sale of an electrolyser and refuelling equipment.

### **ELECTROLYSERS**

State-of-the-art electrolyser is already on order, which will use net-zero electricity to produce green hydrogen

### **GENERATORS**

Ideally suited to replace standard diesel generators and to switch to emissionfree hydrogen fuel cell solutions

### **REFUELLING**

Developing refuelling stations and pods for hydrogen powered vehicles

### **PODS**

Portable storage containers that hold 88kg of hydrogen (equivalent to 800L of diesel)



## CUSTOMERS & PIPELINE

# Pure Hydrogen

KEY CLIENTS	DESCRIPTION	FLEET SIZE	INITIAL ORDER	STATUS	POTENTIAL FOLLOW ON
PEPSICO	Trialling HCF prime mover at manufacturing site in Brisbane	>15,000	1 prime mover	Trial commenced	10 trucks
Transport for NSW  sapphire coast BUSLINES	Delivered 2 BEV mini-buses	200	2 mini-buses	2 delivered	16 buses
Waste & Recycling	Developing HCF Side-Left RCV truck and supplying Emerald hydrogen	2,000	1 refuse truck	Under assessment <sup>1</sup>	25 trucks
Solo Recovery	Sales agreement to supply a HCF powered waste collection truck	700	3 refuse trucks	2 assembled, 1 In build <sup>2</sup>	83 trucks
Nutcher H <sup>2</sup>	Supplying HFCEVs in California	Distributor	1 prime mover, 1 refuse truck	In build²	50 trucks
City of Newcastle	Lease agreement for a HFC waste collection vehicle, including a 12-month trial	30	1 refuse truck	In build²	30 trucks
<b>○</b> Barwon Water	Sold a Taurus HFC Prime Mover	N/A	1 prime mover	In build²	10 trucks
EVERTOUR PRUPS LLC	MOU to negotiate the distribution and supply of HFC EV and BEV into California	Distributor	-	Awaiting certification <sup>3</sup>	100 trucks
VIETNAM ASEAN Hydrogen Clu	MOU for the supply of 5 buses in Ho Chi Minh City	N/A	3 mini-buses, 2 coaches, 1 electrolyser, 1 refueller	In build²	10 buses
ARMS GROUP	MOU for the supply of battery electric and HFC electric commercial vehicles	Distributor	-	Awaiting certification <sup>3</sup>	100 trucks

- 1. Under assessment by Australian National Heavy Vehicle regulator
- 2. In build: the process of commencing building a vehicle
- 3. Awaiting certification on a particular component of the vehicle in compliance with regulation

## INDUSTRY TRENDS

# ure Hydrogen

### **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.

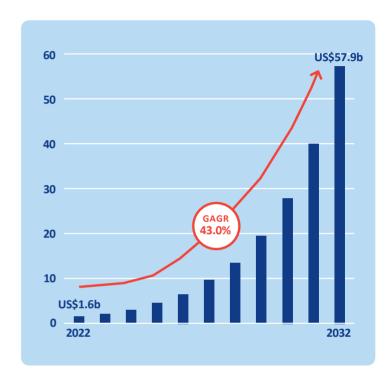
The movement away from fossil fuels at a global level will **drive growth in the use of hydrogen for fuel** in vehicles.

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>3</sup>.

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

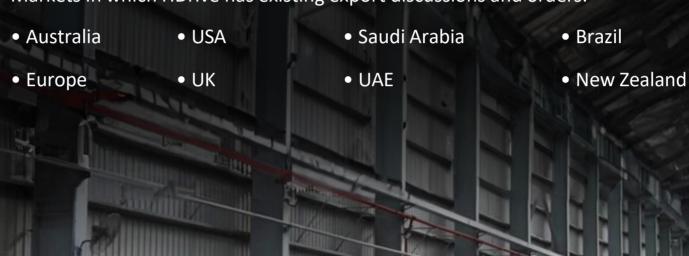


HDRIVE INTERNATIONAL 70% OWNED<sup>1</sup>

### The World's Leading Hydrogen Vehicle Company

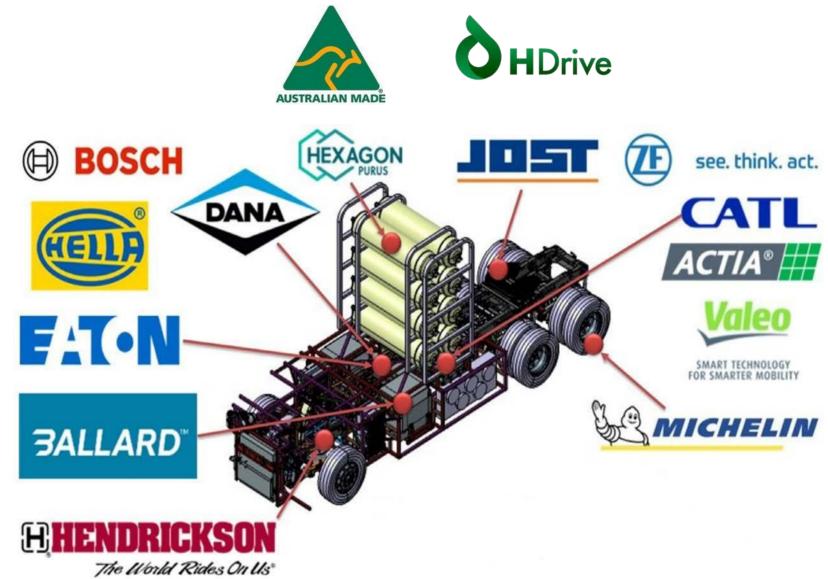
HDrive International is a global provider of hydrogen and electric vehicles for commercial transport, such as buses, trucks, prime movers and more. It offers a range of zero-emissions options and aims to decarbonise the transport industry.

Markets in which HDrive has existing export discussions and orders:



1. Pure Hydrogen's ownership of HDrive is currently 70% but is likely to change depending on a number of factors

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



### **HDRIVE VEHICLE SUITE**

## Pure Hydrogen





### **Refuse Truck**

**ENERGY TYPE: AXLE CONFIGURATION:** H2 Fuel-Cell Electric 6×4

RANGE: ≥250km

**TOP SPEED:** 100km/h

### **Low Floor City Bus Range**

**ENERGY TYPE:** H2 Fuel-Cell Electric

or Battery Electric

**RANGE:** ≥500km

**TOP SPEED:** 100km/h

**PASSENGER CAPACITY:** 13 to 80 Passengers

> HYDROGEN FUEL CELL: 60 to 200kW, Ballard

### 15 - 70T Heavy Truck

**ENERGY TYPE:** TRACTION BATTERY: H2 Fuel-Cell Electric 73.57 kWh, CATL

**HYDROGEN FUEL CELL: RANGE:** 

≥400km 160 to 400kW, Ballard

**TOP SPEED:** 100km/h

### HDRIVE MANUFACTURING AND EXPORT

## HDrive is currently working towards vehicle assembly within Australia for local and international deployments

HDrive's long term goal is to assemble vehicles for export and for the local market

HDrive will employ local staff within the first year of production. HDrive will support local manufacturers and suppliers for up to 15% of materials and finished products







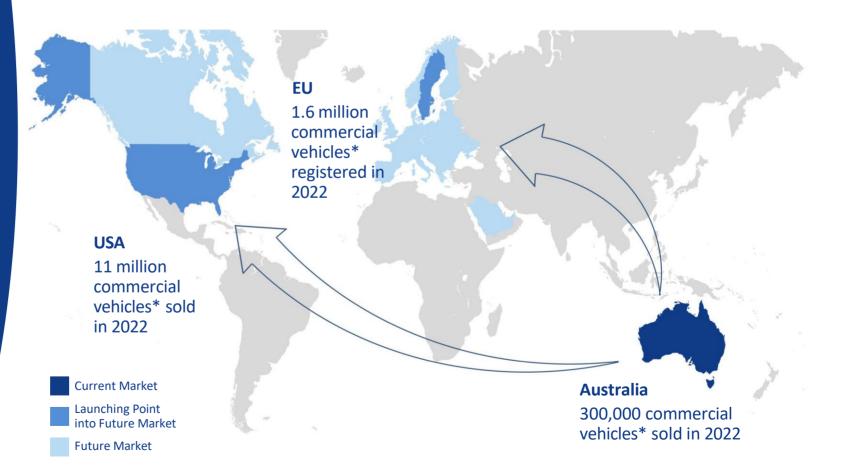


### CURRENT GROWTH STRATEGY

## Pure Hydrogen

### US market entry presents massive opportunity

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



<sup>\*</sup> Commercial vehicles category includes trucks, buses and vans

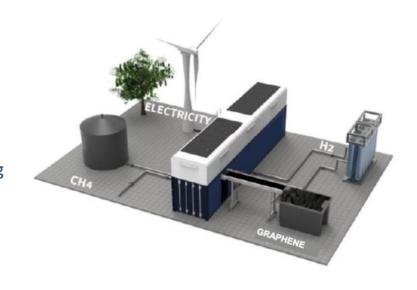
## Pure Hydrogen

### 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



### Graphene, the wonder material

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.

Creates graphene powder (C) and hydrogen gas (H2).

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

## COMPANY PROFILE

## Pure Hydrogen

### **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.



Adam Giles - Non-Executive Director
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 ASXlisted companies, Arrow Energy and Bow Energy.

### MANAGEMENT TEAM



Les Nelson - GM Commercial
Les has over 30 years' experience working in industrial and retail markets, including 20 years at Australia's largest Liquified
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.



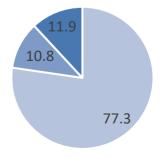
Ben Kiddle - CEO HDrive International
Ben has significant experience across ZE heavy
and light commercial fleet. He held senior
management roles across adjacent sectors
including a key role in the business of Custom
Denning, across business development and
aftersales support.

### **CORPORATE INFORMATION**

PH2
363m <sup>1</sup>
\$0.14 <sup>1</sup>
8.650m <sup>1</sup>
\$50.88m <sup>1</sup>
\$6m

<sup>1.</sup> As at 23 September 2024

### **TOP SHAREHOLDERS**



## PORTFOLIO UPDATE: GAS RESOURCES

# ure Hydrogen

### TOTAL 2C GAS RESOURCES 453 BCF IN QUEENSLAND

Looking to gain value for the current 100% owned gas assets

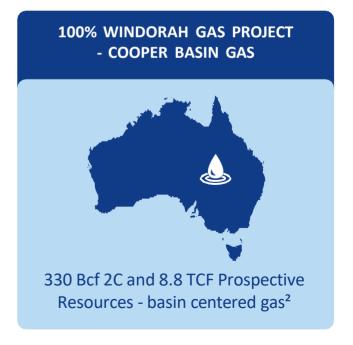
In April 2024, Pure Hydrogen sold its strategic 30% interest in the Serowe CBM project in Botswana to the project's operator and 70% owner,
Botala Energy Ltd (ASX: BTE). Transaction - 14.5 million shares
plus a milestone payment of \$750,000¹.

Pure is expected to have around 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:





1 and 2: Please refer to slide 2





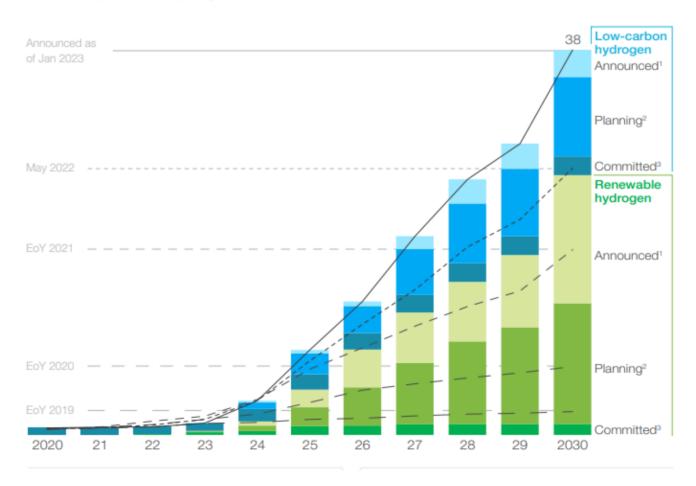
## INDUSTRY TRENDS

## Pure Hydrogen

### Hydrogen Production Capacity Worldwide

While Australia is a world leader, investments in hydrogen production capacity are gaining similar momentum lead by Europe and North America. As a result, globally the Hydrogen Council expects that cumulative hydrogen production capacity announced could grow to 45mt by 2030.

### Cumulative production capacity announced, Mt p.a.



Source: Hydrogen Council 20

## Pure Hydrogen

## Barwon Water Taurus Prime Mover

Order placed July 2024 for the supply of HFC Prime Mover

Barwon Water provides water services to ~320,000 residents across over 8100km² in southwest VIC

Net-zero emissions by 2030

Pure expects to generate gross revenues of approximately \$1,400,000, comprising the initial sale together with ongoing service, maintenance and spare parts for an expected term of 8 years



## on demand public transport on demand on demand

### Sapphire Coast Buslines Mini-Buses

Order placed September 2023 for the supply of 2 minibuses / delivered in April 2024

Serves the Bega Valley with charter and coach bus tours, as well as school and public transport

The NSW Government seeking to both improve their green credentials and lower their operating costs

Deal valued at over ~\$750,000 including charging infrastructure

## PepsiCo Taurus Prime Mover

- Several multi-national corporations have committed to achieving net-zero carbon emissions by 2050, based on the Paris Agreement.
- PepsiCo has tasked itself with reducing absolute emissions across all its direct operations by 75% and by 40% for indirect operations by 2030 via:
  - Scaling sustainable agriculture practices
  - Reducing virgin material use and increasing recycled materials
  - Developing sustainable manufacturing and warehousing
  - Shifting to renewable fuels globally

- Pure Hydrogen has secured a partnership with PepsiCo to develop and supply its fleet with hydrogen-powered prime mover trucks. The 'Taurus' FCEV Prime Mover has been custom designed for PepsiCo's Brisbane-metro operations.
- PepsiCo's fleet in Australia will benefit from access to green hydrogen, produced by Pure Hydrogen, currently developing modular Green Hydrogen production plants located within reach to customers.
- PepsiCo is the largest fleet owner in North America, with 25,000 trucks, providing an immense opportunity for Pure Hydrogen to expand internationally.
- The trial commenced on 20 September 2024 and will run for approximately six months. Following the trial, PepsiCo will assess the commercial usecase with the potential to order further hydrogen powered vehicles.

