



# Market Announcement

7 July 2022

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## Pure Hydrogen Corporation Limited (ASX: PH2) – Investor Presentation

### Description

Please find attached the 22 June 2022 Investor Presentation referred to in ASX's query letters released to the market earlier this morning.

### Issued by

**Yushra Haniff**  
Compliance Adviser, Listings Compliance (Sydney)



# Hydrogen - Business Update

- Emerald and Turquoise Hydrogen
- Fuel Cell Vehicles
- Eastern Hydrogen Super Highway

**Pure Hydrogen Corporation Limited**

June 2022 ( 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.

Page 13 - 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

Note 2 - 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 51% working interest in the Serowe Project.

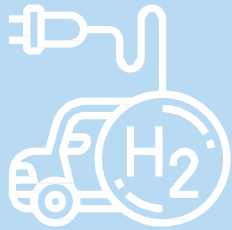
Note 3 – The Contingent resources is a summary of 2 reports for the Windorah Gas Project. One estimate prepared by DeGolyer and MacNaughton, a leading international petroleum industry consulting firm in June 2015 in respect of the Queenscliff Area and one estimate prepared by Aeon Petroleum Consultants 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 4 – As reported in the Announcement on the 18 November 2021 – the Serowe Project has contingent Resources of 1C 120.4, 2C 160.6 and 3C of 200.7 Bcf and best estimated of 10.07 Bcf – all figures 100%.

# INVESTMENT HIGHLIGHTS

- ✓ An integrated clean energy business
- ✓ Focussed on becoming Australia's leading hydrogen company
- ✓ With a diverse portfolio across the hydrogen eco-system:

## HYDROGEN FUEL CELL TECHNOLOGY



Equity\* in a hydrogen fuel cell vehicle company (HFCV) and power generation units.

### First HFCV vehicles:

Demo Garbage truck and Warrego launch in 4Q CY2022.

Vehicle Manufacturing base in Sale, Victoria

## HYDROGEN GAS OPERATIONS



Manufacture hydrogen with net zero carbon emissions.

**Aim:** to become Australia's leading integrated hydrogen business, focused on manufacturing, storage, transport and supply.

## NATURAL GAS OPERATIONS



Uncommitted diversified natural gas portfolio in Australia and Botswana.

Leverage natural gas resources to be used as feedstock to convert into hydrogen and high value carbon products.

# AN EXPERIENCED BOARD AND LEADERSHIP TEAM

## Board of Directors



### Scott Brown

Managing Director

Scott has over 25 years' experience as a director and an executive in US and ASX-listed companies, including Real Energy, Objective Corporation, Allegiance Mining and Mosaic Oil.



### Ron Prefontaine

Chairman and 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.



### 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.

## Executive Management



### Les Nelson

General Manager 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 Officer

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.



### Brendan Norman

CEO/CMO H2X Global

Brendan has held leadership and top management roles at various automotive groups in Australia, Africa, Middle East and Europe, including BMW Group, VW Group, Infiniti and Grove Hydrogen Auto.



### Andrew Thompson

Hydrogen Production Technology

Andrew has over 30 years' experience in minerals processing, oil and gas in Australia, UK and Cuba, and has held executive positions at various companies including Arrow Energy.



### 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.

# H2X Global setting up multiple HFCV manufacturing sites

- HFCV vehicles manufacturing in Sale, Victoria facilities. Term Sheet with Pure Hydrogen.
- H2X have established a Swedish Subsidiary and signed MOUs for Gothenburg and Trelleborg cities for vehicles to be delivered in 2023.
- H2X working with State Government of Sarawak in Malaysia to deliver products including vehicles and H2 generators.
- H2X raised \$3 Million in a second funding round that was a 60% premium to the first round. Pure invested \$1.05 Million to retain a 21% stake in the expanded capital.
- H2X planning to IPO in 2023.

Warrego will now be launched in 4<sup>th</sup> Qtr 2022



# Demonstration Fuel Cell H2 Garbage Truck for JJ Waste



- JJ Waste demonstration garbage truck glider (Dennis Eagle) at the Sale facility.
- H2X to add the Hydrogen fuel cells, Hydrogen fuel tanks, other Hydrogen components and control systems.
- Trial planned to commence end of CY2022 in Queensland.
- JJ Waste has huge nationwide fleet seeking to transition to H2 fuel.



# HYDROGEN MANUFACTURING METHODS USING CLEAN ENERGY

- Hydrogen is a very efficient zero emissions fuel when used in fuel cells for transport and power generation.
- Most hydrogen is manufactured using steam reforming of fossil fuels (grey hydrogen) which generates high CO2 emissions.
- Pure Hydrogen to use NET ZERO hydrogen manufacturing methods.

## Hydrogen Manufacturing Methods






Grey	Produced by steam methane reforming without carbon capture, using natural gas	High carbon emissions
Blue	Produced by steam methane reforming with carbon capture, using natural gas	Low carbon emissions
Green	Produced by electrolysis, using water and renewable electricity	Zero carbon emissions
Turquoise	Produced by methane pyrolysis, using natural gas and 1/8 of electricity required for electrolysis	Zero carbon emissions
Emerald	Produced by waste to hydrogen technology, using biomass and heat	Net zero carbon emissions

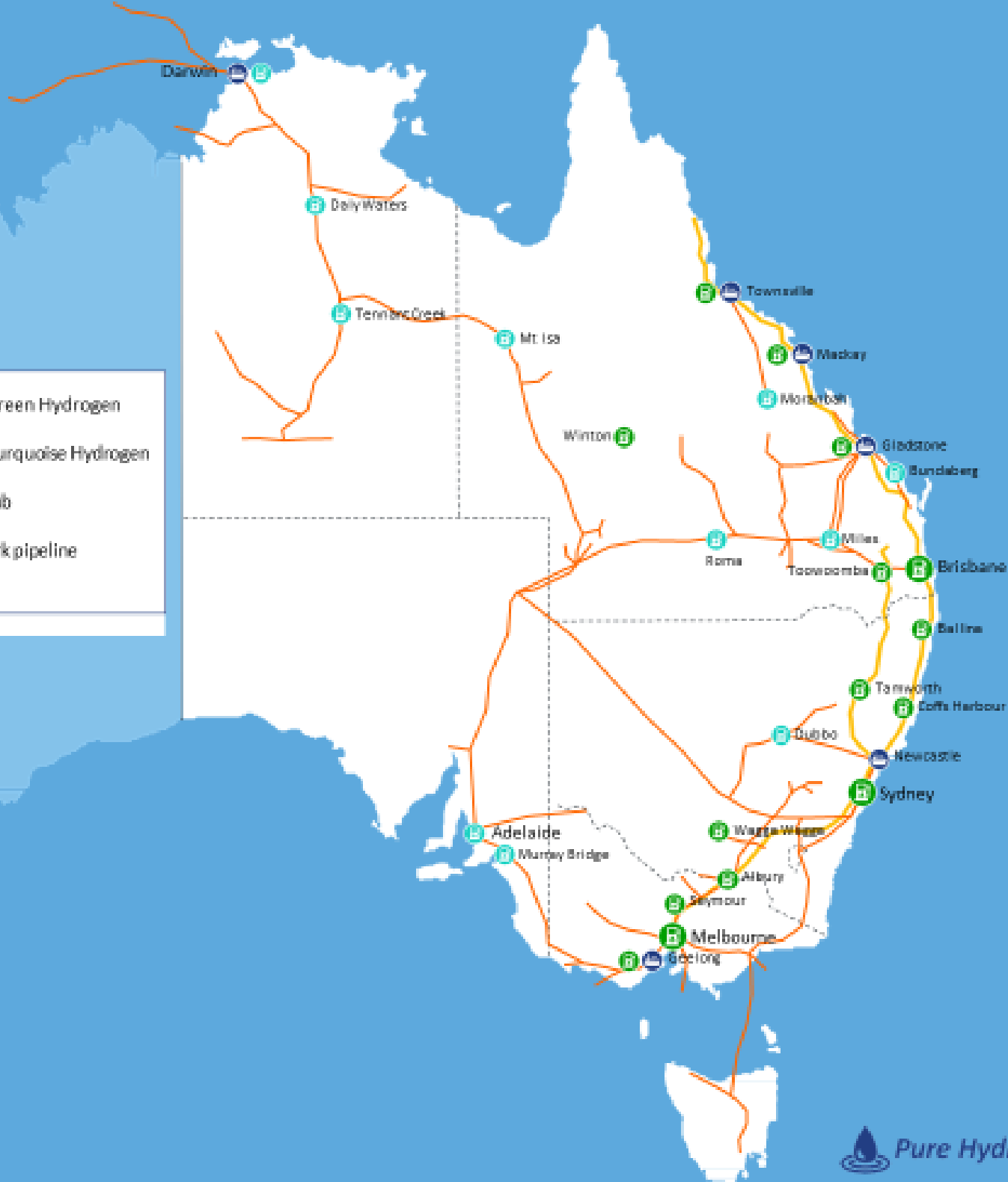
**Pure Hydrogen's will utilise clean energy green, turquoise and emerald hydrogen production techniques**



# Pure Hydrogen Roadmap

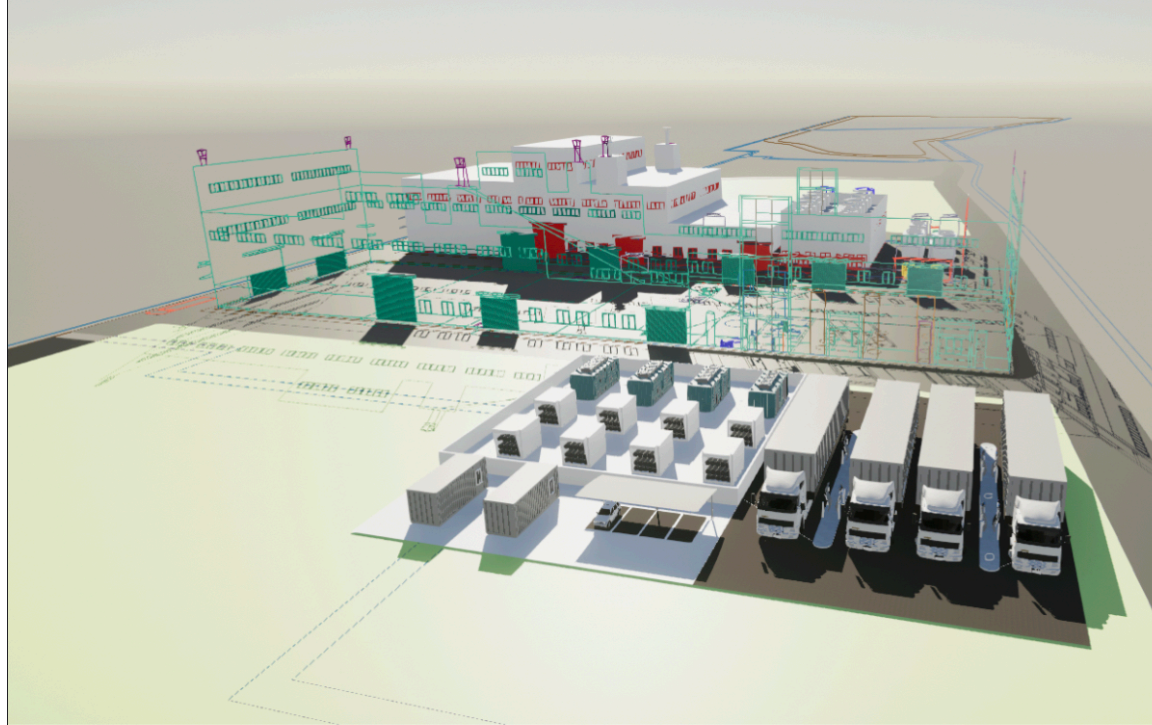
**PURE SEEKING TO BE THE H2 SUPPLIER OF CHOICE**

-  Public Refueller – Green Hydrogen
-  Public Refueller – Turquoise Hydrogen
-  Proposed export hub
-  Natural Gas network pipeline
-  Major highways



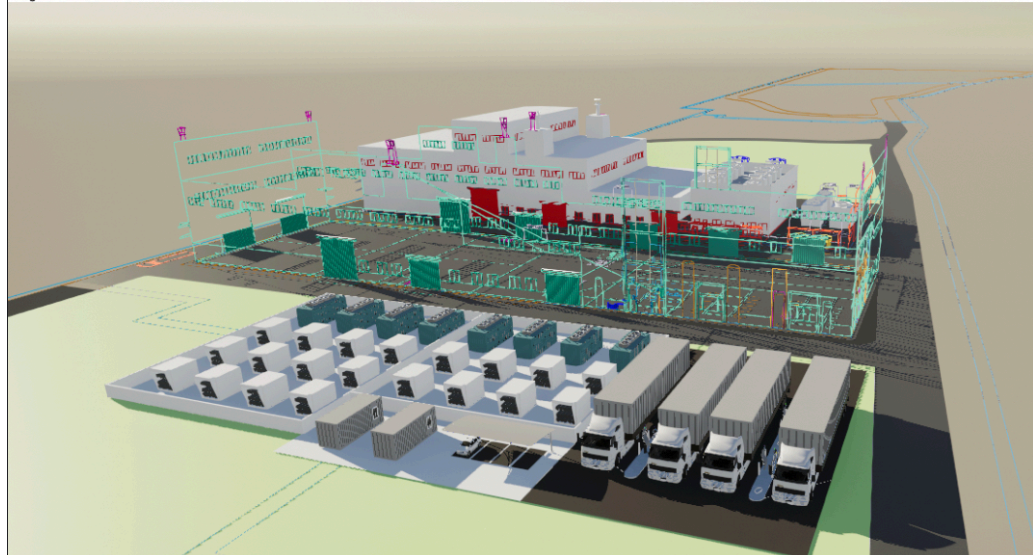
# Caboolture Waste to Hydrogen Production

Stage 1 render

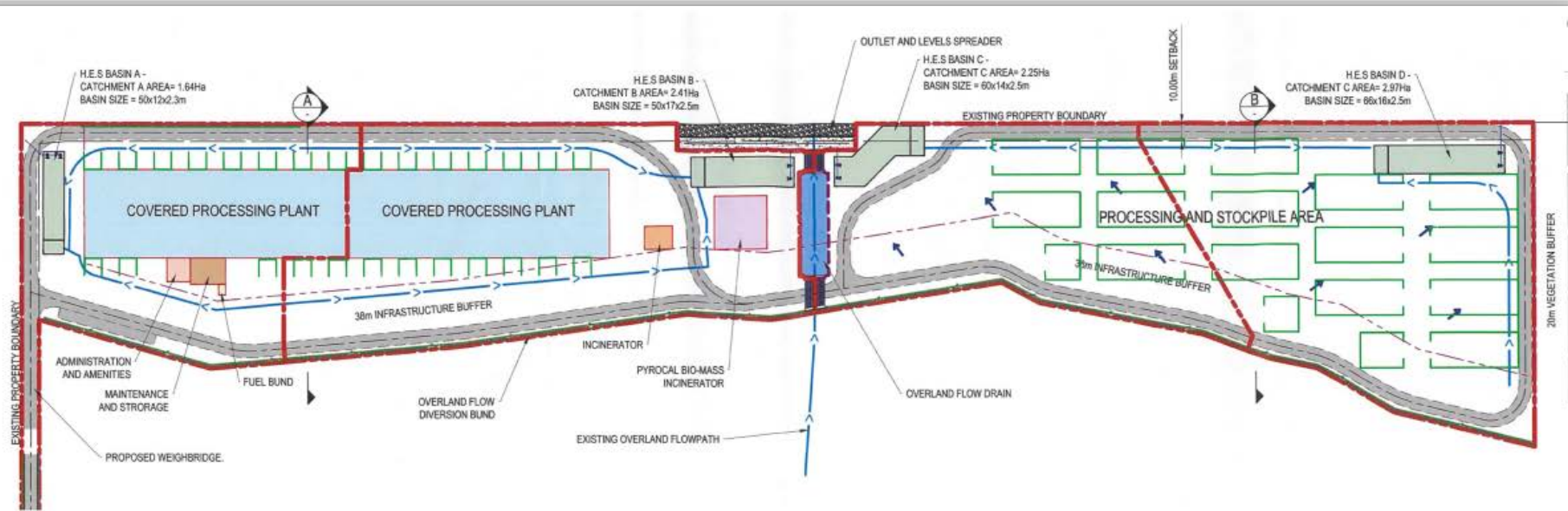


- FEED and approvals progressing for the Caboolture Emerald Hydrogen Project
- Emerald Hydrogen has negative CO2 outcomes and diverts biomass from Landfill.
- Pure Hydrogen and CAC H2 Partnership
- CAC H2 to fund the majority of the capital expenditure.
- Securing Geelong and other locations
- Target H2 Production: 2.5 tonnes per day from 3<sup>rd</sup> Qtr CY2023

Stage 2 render



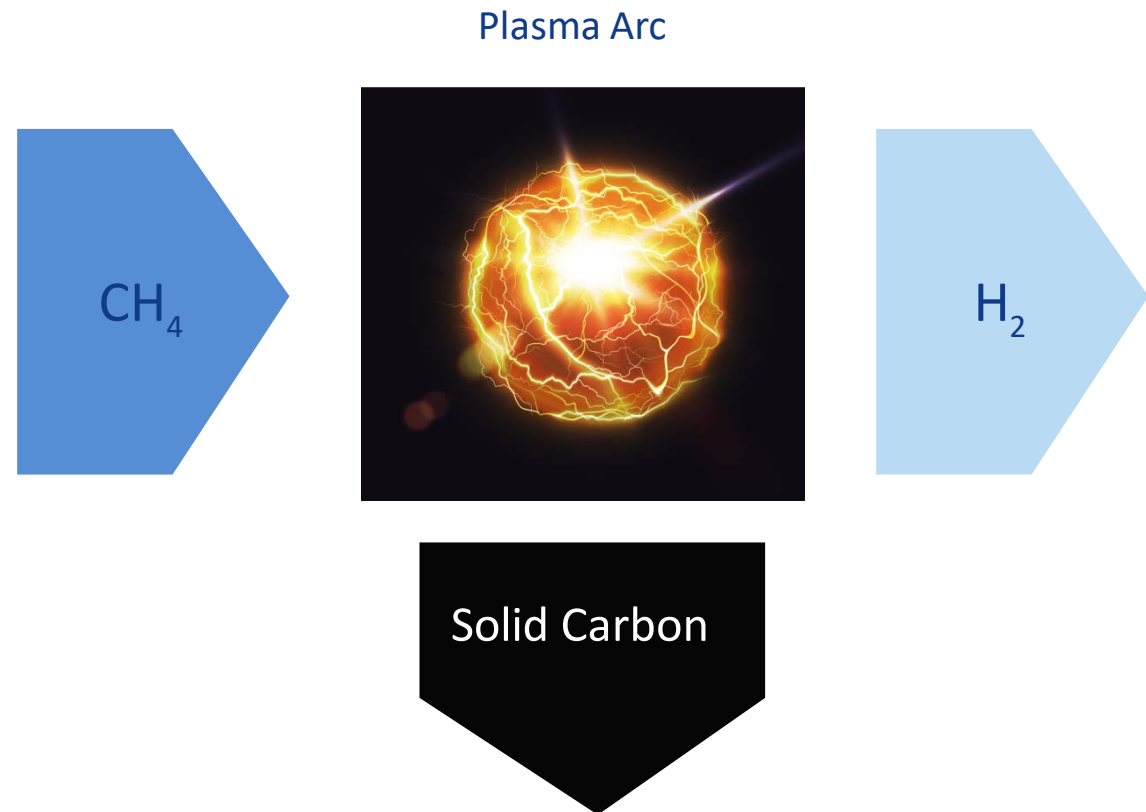
# EMERALD HYDROGEN – CABOOLTURE PROJECT



# METHANE PYROLYSIS

What is it?

- High Temperature of Plasma Arc splits the  $\text{CH}_4$  molecule into solid C and  $\text{H}_2$  gas components.
- Uses 1/8 the electricity of electrolysis.
- If solar electricity used there are no emissions



# PURE'S METHANE PLASMA PYROLYSIS

## What is it?

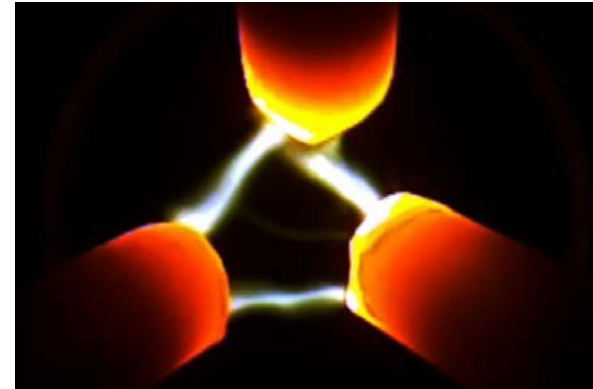
- The Plasma Arc technology
- Uses the Plenesys AC plasma torch to decompose Methane in an Oxygen-free reactor
- High Temperature of Plasma Arc splits the  $\text{CH}_4$  molecule into solid C and  $\text{H}_2$  gas components

## Targets

- Along with  $\text{H}_2$ , Pure is targeting a high % of Graphene / Carbon Nanotubes
    - Low-priced Hydrogen = Hydrogen Economy
    - Low-priced Graphene = Graphene Economy
- 21<sup>st</sup> Century Economies,  
AND Global Emissions Reduction

**When operated with renewable electricity and bio-methane, the process can become Carbon-negative.**

## Plasma Arc Technology



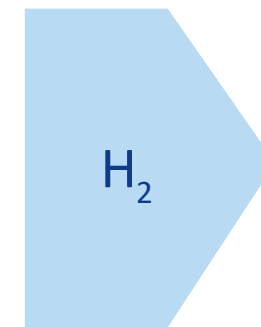
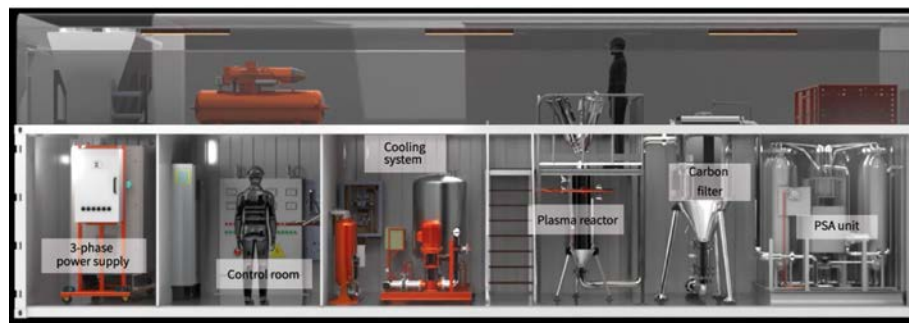
**A/C Plasma Torch**

# BACK-TO-BASE AND INDUSTRIAL CH<sub>4</sub> TO H<sub>2</sub>-C MODULES

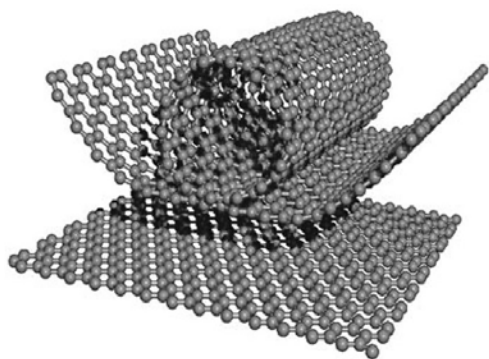
Repeatable as markets grow.

- Scalable
- No CO<sub>2</sub> emissions
- Water not consumed in process

1500/5000 kg H<sub>2</sub> per day + 4500/15,000 kg Carbon Products

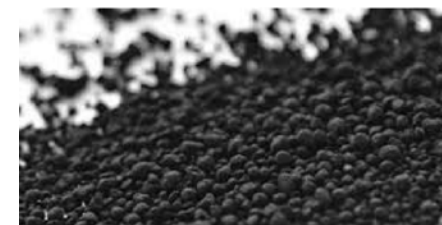


**Value Driver = Carbon Products**



Carbon nanotubes  
Graphene

100%  
Carbon



Carbon  
processing

# Key Milestones – next 18 months

## Project/Activity

Investor Day H2X

Garbage Truck Demonstration

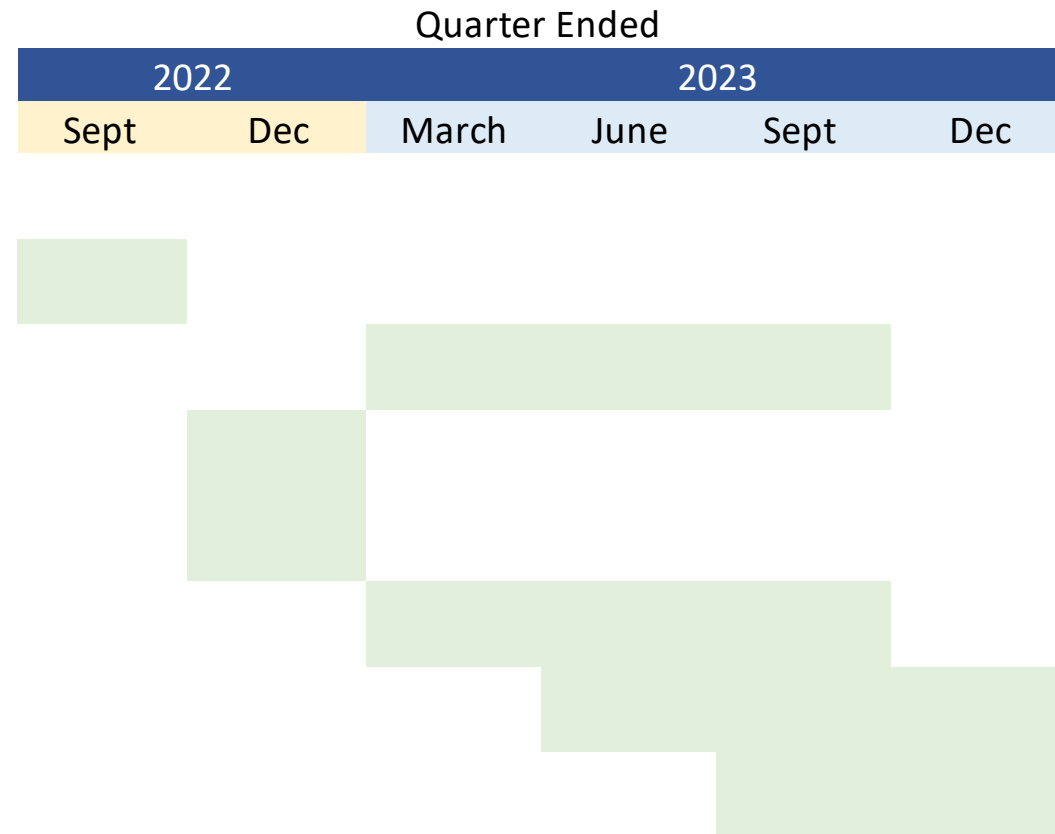
Launch of Power Gen Units

Launch of Warrego

Bus Trials for H2X

Turquoise Hydrogen Pilot

Calbooture Plant Operational



# NATURAL GAS DEVELOPMENTS

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

1C: 268 PJ • 2C: 546 PJ • 3C: 1,041 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>3</sup>

### 51% PROJECT SEROWE CSG, BOTSWANA (FARMED OUT)



160 Bcf 2C and Prospective Resource 10.7 TCF CSG<sup>4</sup>

**Plan to use gas resources to manufacture turquoise hydrogen and high value carbon products**



# Summary slide

## Pure Hydrogen project updates and highlights:

- Focussed on becoming Australia's leading hydrogen company and the H2 supplier of choice
- Pure Hydrogen retained a 22% stake in H2X
- Pure Hydrogen as a 19.9% interest in Botlala Energy and 30% free carried in the Serowe Project in Botswana
- Pure's H2X established two new HFCV manufacturing sites in Sale, Victoria and Sweden
- JJ's Waste trial garbage truck - the truck and components have been delivered with conversion to H2 in progress and on track for delivery- strong interest in the industry
- Caboolture Waste to Hydrogen – FEED and approvals progressing for Emerald Hydrogen project with a target set of 2.5 tonnes of hydrogen to be produced per day
- Pure Hydrogen has contingent resources of 453 PJ for 100% Queensland gas projects – Project Venus and Windorah Gas Project
- Pure Hydrogen is looking develop up to 4 large scale export of compressed Hydrogen Projects
- Pure Hydrogen and CAC H2 partnership – securing Geelong site and other locations
- Methane Plasma Pyrolysis – targeting H2 along with a high percentage of Graphene/Carbon nanotubes – when operated with renewable electricity and bio-methane the process can become carbon negative



## Contact

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