SYNERGENMET

Making the world a cleaner place

April 2022
Private and Confidential

synergenmet.com

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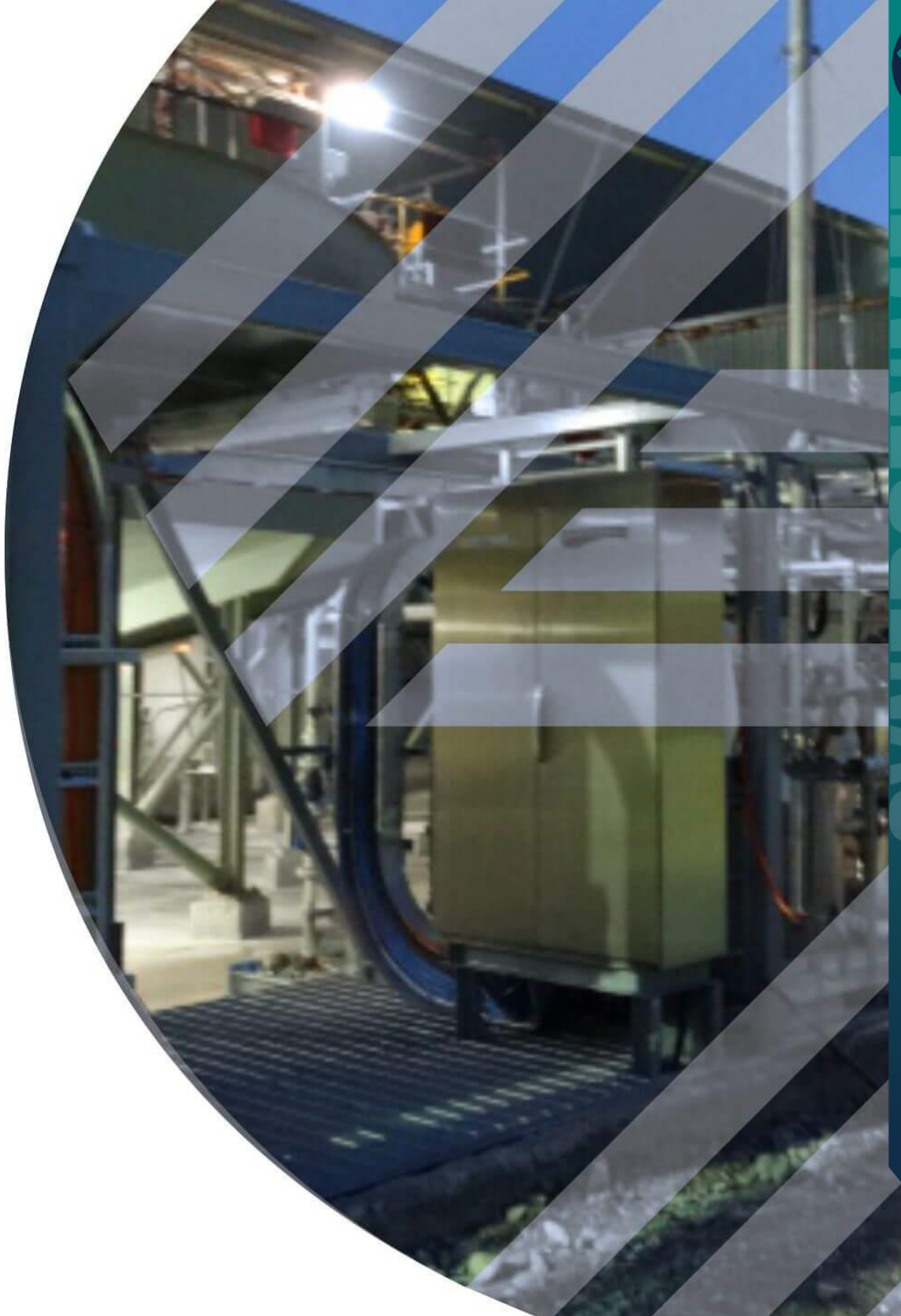
Who Are We?

Synergen Met is an Australian Clean-Tech equipment and service provider.

We make money by:

- *Selling Industrial Plasma equipment*
- *Treating and destroying toxic liquid waste*
- *Producing and selling clean hydrogen and carbon black for different customers*



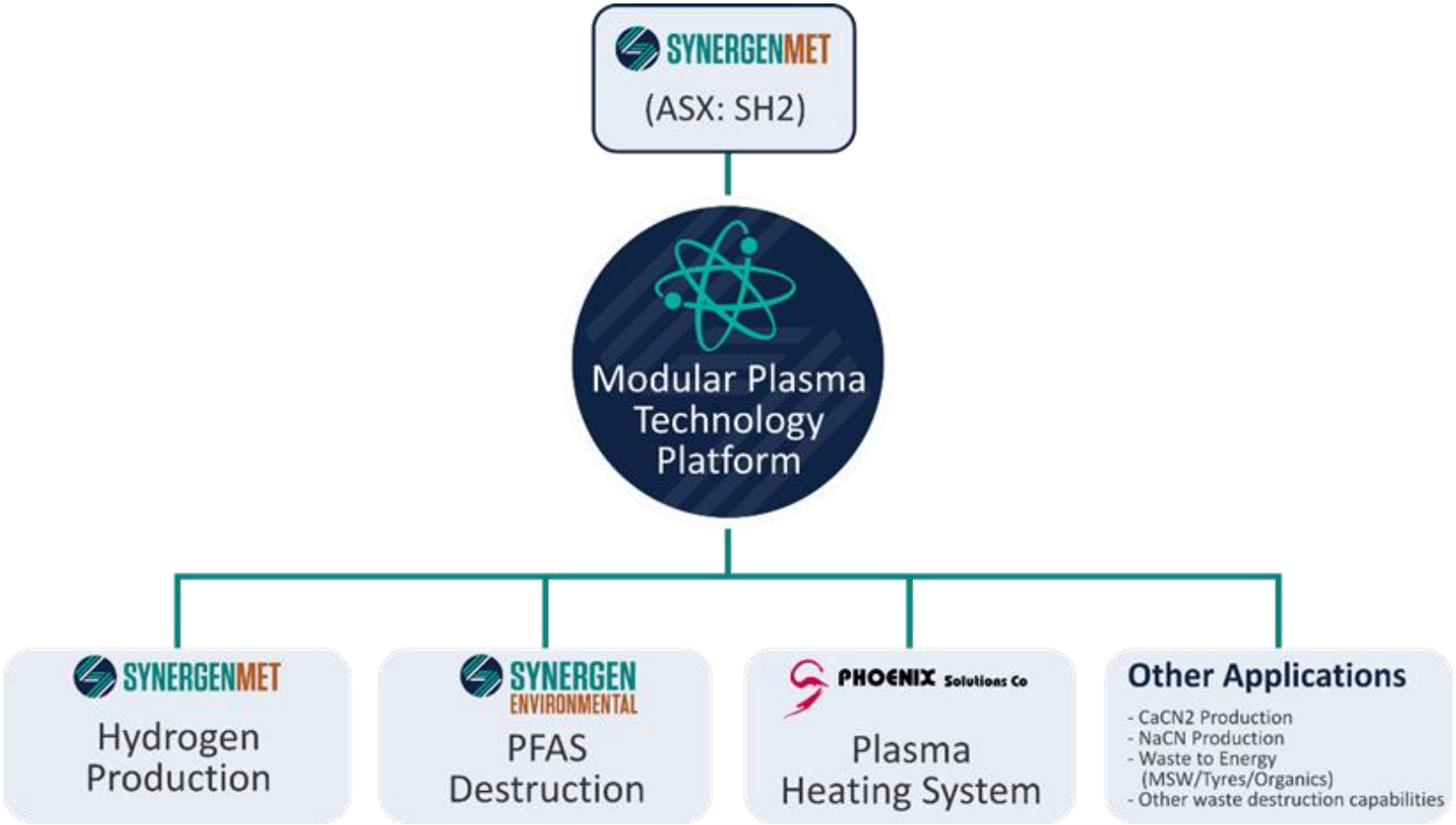
Company Overview

Synergen Met through selling its equipment and providing industrial services, is committed to the concepts of ESG: Environment, Social and Governance

Multiple applications

Patented module plasma technology platform

Focused diversification



SYNERGENMET

CLEAN HYDROGEN PRODUCTION

Synergen's Technology Makes Hydrogen by splitting natural gas or biomethane directly into hydrogen and solid carbon.

Our technology targets 1,350kg/day. This will fuel over 40 trucks per day.

Process has 2 revenue streams: Hydrogen and Carbon Black

Synergen makes money by producing the hydrogen and carbon in joint ventures with large companies and sharing the capital cost and profits

Direct Benefits: Efficient, Low Cost, Economic

Compared to other methods of making hydrogen, Synergen Met's **plasma based Green Hydrogen production is** more efficient, doesn't consume precious water, and has a lower $capital expenditure per kg of H2 produced.

Intelligently avoids unnecessary water wastage because the **process doesn't consume water**

If **renewable energy** is used to produce H_2, there are **no greenhouse gas emissions** generated and the product is **Green Hydrogen**

Highly scalable and relevant across global industries:
1,000's of potential customers wanting to De-Carbonise

Produces elemental carbon black products, which can be sold for various industry purposes

Rapid roll-out means this meets increasing global demand and does not produce harmful by-products

Utilises 1/3 of the energy input of electrolysis to produce the same amount of H_2

Cost efficient

Hydrogen production by Synerge: The process

Natural gas or biomethane

Start with readily available low-cost natural gas feedstock

Our proprietary process (Plasma Pyrolysis)

Splits natural gas (methane) into hydrogen and carbon in a continuous process

Competitive advantage

High quality H_2 production

Carbon black products

Carbon black and value-added carbon products

Industries served

Proposed industries served by carbon products: mining and metals, tyres, concrete products, ink and printing, energy, other industrial applications

First Project: TLOU Energy's Serowe Project in Botswana

- Synergen Met will use its 100kw 135kg H_2 modular design technology to produce the Hydrogen and Carbon which will be sourced from TLOU's coal bed methane resources onsite in Botswana.
- The first module to be installed onsite adjacent to their (CSG) pilot plant near Serowe in Botswana.
- Current project is in the preliminary process design phase and will move to full detailed design in Qtr 2 2022.
- Pre-commissioning and commissioning of the plant will take place in Brisbane at Synergen Met's facility. All equipment will then be transported to site where it will be commissioned and operated.

[This project could be the first low-to-no emissions CSG-to-Hydrogen hub in the world.]

H_2 summary for commercial operation

Revenue and profit potential	Combined with renewable energy no CO2 emissions	Synergen Met production costs currently competitive	Multiple Opportunities for Synergen Met JV
Single Unit Plant – 1MW Unit produces 1350kg H_2 annual production. This is enough H2 for 40 trucks per day	Clean and Green Hydrogen	As a replacement for petroleum products on a distributed basis. Meets the requirements of industry and government in 2022	Parties agree to form a Joint Venture to manufacture hydrogen gas and solid carbon products

TREATA

PFAS (PER- AND POLY-FLUOROALKYL SUBSTANCES) TREATMENT

PFAS are toxic molecules found in modern life in water and soil

Synergen's subsidiary, Treata Environmental, has invented a cleaner, permanent process to break down a problematic, persistent toxic substance into safe components.

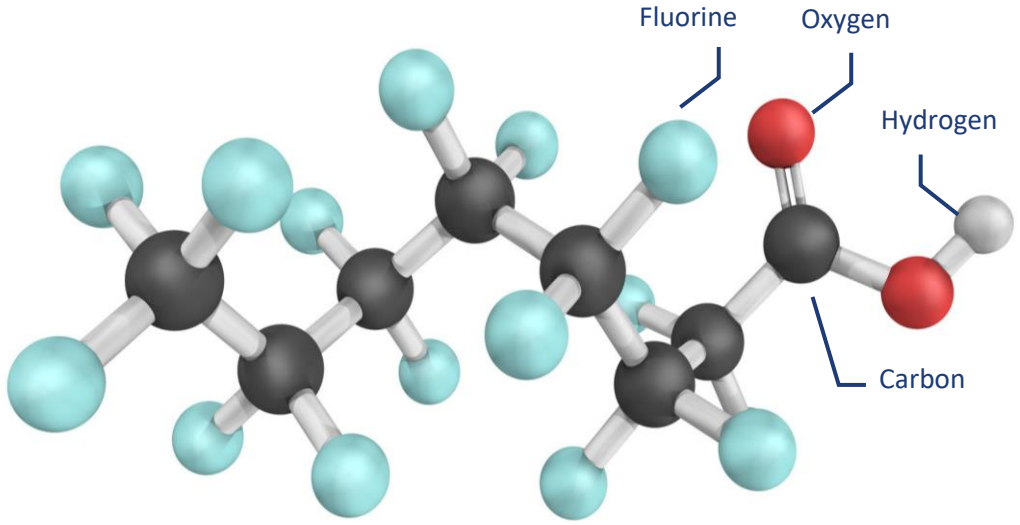
Treata Environmental utilises Synergen Met's core plasma technology to treat PFAS compounds.

Synergen makes money by offering a service to treat and destroy these molecules.

Destroying the "forever chemicals"

What are PFAS?

- Commonly called “forever chemicals”.
- A group of manufactured chemicals used since the 1950s in common household product, specialist manufacturing (e.g. non-stick cookware, fabric, furniture), some industrial processes and fire-fighting products.
- Fluorine-rich long-chain molecules, many of which are dangerous to human and ecological health.
- Until now, very high cost to treat ground and wastewater contaminated with PFAS, which is often securely stored *for eternity* in landfill sites, or incinerated to destroy it.



PFOS

PFOA

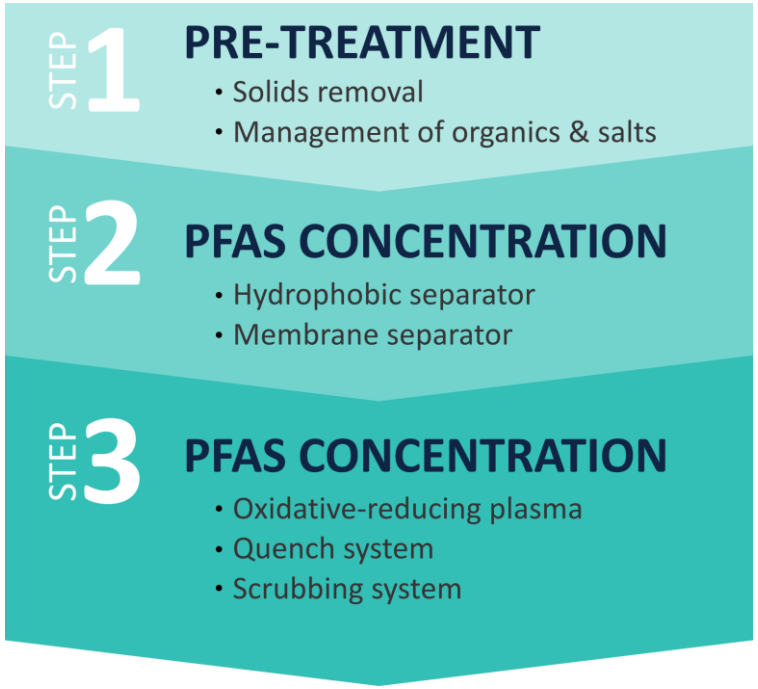
6:2 FTS
(telomer)

Comparison of common approach to PFAS water treatment

Treatment Technology	Concentration	Long Chain PFAS	Short Chain PFAS	Destruction
Granular Activated Carbon	More effective at lower concentrations than Ion Exchange	Treats >90% long chain PFAS.	Less effective on short chain PFAS unless replaced frequently	No
Ion Exchange Resin	More effective at higher concentrations	Treats >90% long chain PFAS.	Can be more effective than GAC	No
Reverse Osmosis	Suited for all concentrations	Treats >95% long chain PFAS	Can be effective to >95% short chain PFAS	No
Synergen PFAS technology	Suited for all concentrations	100% long chain PFAS	Can be effective to 99% short chain PFAS	Yes

Synergen's innovative plasma destruction technology

The PFAS concentration and destruction process train



- Modular, skid-based transportable and convenient design
- Plasma is generated using an electrical arc discharge
- Extremely high temperatures in excess of 10,000°C
- Abundant protons are made available to mineralise the fluorine (to benign HF)
- Free hydrogen is generated
- Sufficient oxygen to react to the carbon (forms carbon oxides)
- No residual fluorocarbons are produced
- HF produced is immediately converted to calcium fluoride, a harmless mineral, in a lime scrubber
- PFAS is completely and safely destroyed, and the abundant protons mean fluorocarbon recombination is prevented!

What we can treat


Groundwater


Construction Dewatering


Firefighting training area wastewater


Secondary treated or recycled wastewater prior to reuse


Land fill leachate water

Current Operations

- Operation at a Waste Dump with high rates of PFAS contamination achieves nearly complete separation (<70ppt) of key PFAS compounds, and partial removal of short chain PFAS (C5 and smaller).
- PFAS concentrate stream, about 0.1% of the feed stream, contains the PFAS
- The PFAS in the concentrate is completely destroyed by a novel plasma system
- Fluorine in the PFAS is captured as mineral fluoride; carbon emitted as CO_2, both in tiny amounts.
- Virtually no gas emission.

Foam fractionation concentration: demonstration plant, nominally 20-t/day feed water

Plasma destruction: pilot plant, nominally 50 L/day feed

Technology readiness – Commercial plant operational

Commercial-size demonstration plant continuing trials at a landfill leachate site in Qld

TREATA Environmental Pty Ltd is the commercialization entity

Key metrics

Operational metric	**Pilot plant**
Treatment rate	> 40,000 L/day
Water recycling rate	>99.9%
Power (FF) (GrW → → leachates)	1-3 kWhr/t
Foot print	Containerised mobile plants
Destruction efficiency	>99%

PFAS Summary

Revenue and profit potential	Government and stakeholders finally recognise and accept the problem	First Project Agreed Terms
Single Unit Plant treats 160,000 litres per day and destroys 1,000 litres of concentrate per day	Multiple Projects being reviewed and negotiated	Synergen's first project is in Operation

Targeted pipeline has potential for >65 units

Technology fully tested and ready for commercial operation

PHOENIX Solutions Co

STRATEGIC SECURING OF INTERNATIONAL MARKETS WITH PHOENIX SOLUTIONS Co

Synergen Met obtained the right to acquire Phoenix Solutions Co (“PSC”) on 31st October 2021.

Based in Plymouth, Minnesota, USA.

SYNERGENMET

Timely expansion

- Private family business founded 60+ years ago.
- Forefront of aeronautical and aerospace research for more than 40 years.
- 1993 reformed as Phoenix Solutions Co becoming a leader in plasma heating systems and plasma torch construction.
- Milestones from PSC's history include:
  - 1993: delivered its first plasma heating system to Kobe Steel, in Japan.
  - 2000: became a globally significant supplier of plasma technology.
  - 2002: opened 3 MW Hutchinson Test Facility.
  - 2004: PSC demonstrated 2,300 hours of electrode life.

Technology proven over decades = decades of IP and know-how

Phoenix Solutions Co Summary

Globally Significant – One of two leading global plasma equipment suppliers

Acquisition - Cash/scrip and deferred scrip for key executives; A**cquisition is completed by the IPO**

Zero debt

Amazing team – all employees remaining. Team are extraordinary engineers and scientists

Strategically important – technology used in Synergen's core applications

Significant opportunity in hazardous waste destruction and/or waste to energy gasification, low CAPEX precious metal processing

Adds valuable IP and know-how, engineering, manufacturing and fabrication skills to the group, & **substantial forward book & project revenues**

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OFFER DETAILS

IPO Capital Structure

Comparative companies

IPO details

IPO Detail

For an offer of up to 125,000,000 shares at an issue price of $0.20 per share to raise up to $25,000,000 (before costs) (Public Offer).

The minimum subscription under the public offer is 100,000,000 shares to raise $20,000,000 (before costs).
The offer includes 2 free options for each subscribed share.
Options to be issued under the minimum subscription offer include:

25,000,000 Two-Year Options with a 25 cent Exercise Price; and
25,000,000 Three-Year Options with a 40 cent Exercise Price.

The Prospectus is also being issued for the following secondary offers:

(a) 34,169,627.00 shares to the vendors (or their nominees) under the Consideration Offer (no. of shares may differ at final settlement due to working capital adjustments under the terms of the acquisition);
(b) 2,000,000 Shares to the Lead Manager (or their nominees) under the Lead Manager Offer

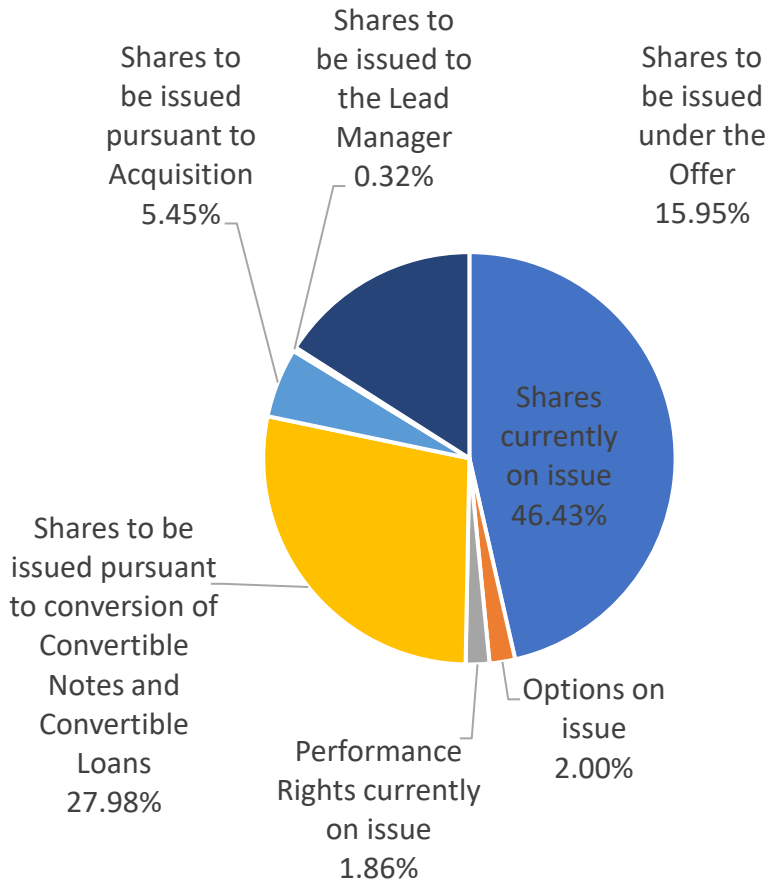
Lead Manager: Lodge Corporate Pty Ltd (ACN 125 323 168) (a Corporate Authorised Representative No. 316212 of Lodge Partners Pty Ltd AFSL No. 246271).

IMPORTANT NOTICE: This document is important and should be read in its entirety. If, after reading this Prospectus you have any questions about the Securities being offered under this Prospectus or any other matter, then you should consult your professional advisers without delay. The Securities offered by this Prospectus should be considered as highly speculative.

IPO Capital Structure

Initial Public Offering – Capitalization Table (Fully diluted post completion)	A$ Value at IPO	Outstanding Shares
Shares currently on issue	$58,207,580	291,037,901
Options on issue	$2,510,835	12,554,173
Performance Rights currently on issue	$2,327,410	11,637,048
Shares to be issued pursuant to conversion of Convertible Notes and Convertible Loans	$35,076,943	175,384,713
Shares to be issued pursuant to Acquisition	$6,833,925	34,169,627
Shares to be issued to the Lead Manager	$400,000	2,000,000
Shares to be issued under the Offer	$20,000,000	100,000,000
TOTAL	**$125,356,692**	**626,783,462**
Two year Options with 25 cent Exercise Price		25,000,000
Three year Options with 40 cent Exercise Price		25,000,000
		676,783,462

Ownership Split post IPO



Pre money IPO Market Cap ~ $105m

Notes: Currency of $0.7422 AUD to USD scrip consideration

Escrow Table

Initial Public Offering – Escrow Table (Estimated escrow restrictions suject to ASX review)	Outstanding Shares	Restricted	%	Comment
Shares currently on issue	291,037,901	218,948,204	75	
Options on issue	12,554,173	12,554,173	100	
Performance Rights currently on issue	11,637,048	11,637,048	100	
Shares to be issued pursuant to conversion of Convertible Notes and Convertible Loans	175,384,713	99,223,084	57	55.6m unrestricted shares owned by Pure Earth (Yorktown) considered long term holder (adj 88%)
Shares to be issued pursuant to Acquisition	34,169,627	14,133,967	41	Founder voluntary Escrowed. 20m unrestristed shares equals 3.2% register
Shares to be issued to the Lead Manager	2,000,000	2,000,000	100	
Shares to be issued under the Offer	100,000,000	0	0	
Two year Options with 25 cent Exercise Price	25,000,000	0	0	Unlisted
Three year Options with 40 cent Exercise Price	25,000,000	0	0	Unlisted
TOTAL (fully diluted post completion)	**676,783,462**	**358,496,476**	**53.0**	

IPO Use of Funds

Initial Public Offering Use of Funds (indicative)	$20m A$ Value at IPO	$25m A$ Value at IPO
Capital Expenditure for TLOU Energy Hydrogen Project	$1,650,000	$1,650,000
Hydrogen Modular Technology	$3,100,000	$7,797,668
Development of carbon handling and management system	$1,500,000	$1,500,000
Net Capital Expenditure for large scale PFAS flotation and destruction projects	$3,600,000	$3,600,000
Phoenix consideration and expenses	$4,166,667	$4,166,667
Intellectual Property Development	$250,000	$250,000
Expenses of the IPO	$1,681,955	$1,984,287
Administration and corporate costs	$4,051,378	$4,051,378
TOTAL	**$20,000,000**	**$25,000,000**

Notes:

Currency of $0.7422 AUD to USD for acquisition scrip settlement, $0.72 for acquisition cash settlement

Use of Funds is indicative at time of prospectus

Comparative companies

PYROGENESIS

Price: CA$2.97

Market Cap CA**$404m**

TSX listed: PYR Canadian company specialising in plasma technology

HazerGroup™

Price: $1.06

Market Cap **$170m**

ASX listed: HZR Australian company currently developing a pilot plant for their HAZER® Process which is attempting to convert natural gas, and similar feedstocks, into hydrogen and high quality graphite, using iron ore as a process catalyst.

Pure Hydrogen

Price: $0.51

Market Cap **$136m**

ASX listed: PH2 Australian focussed on providing Hydrogen and clean energy.

SYNERGENMET

Price: $0.20

Market Cap **~$105m pre-money**

ASX listed: SH2. Valuation shown is value at listing

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