

Hydrogen

HYDROGEN PRODUCTION DISRUPTION

HAZER GROUP LTD ASX:HZR

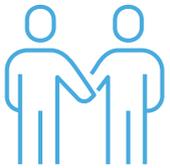
September 2018



VALUE PROPOSITION



Disruptive, global and scalable low cost, low emission solution to a decarbonised hydrogen future.



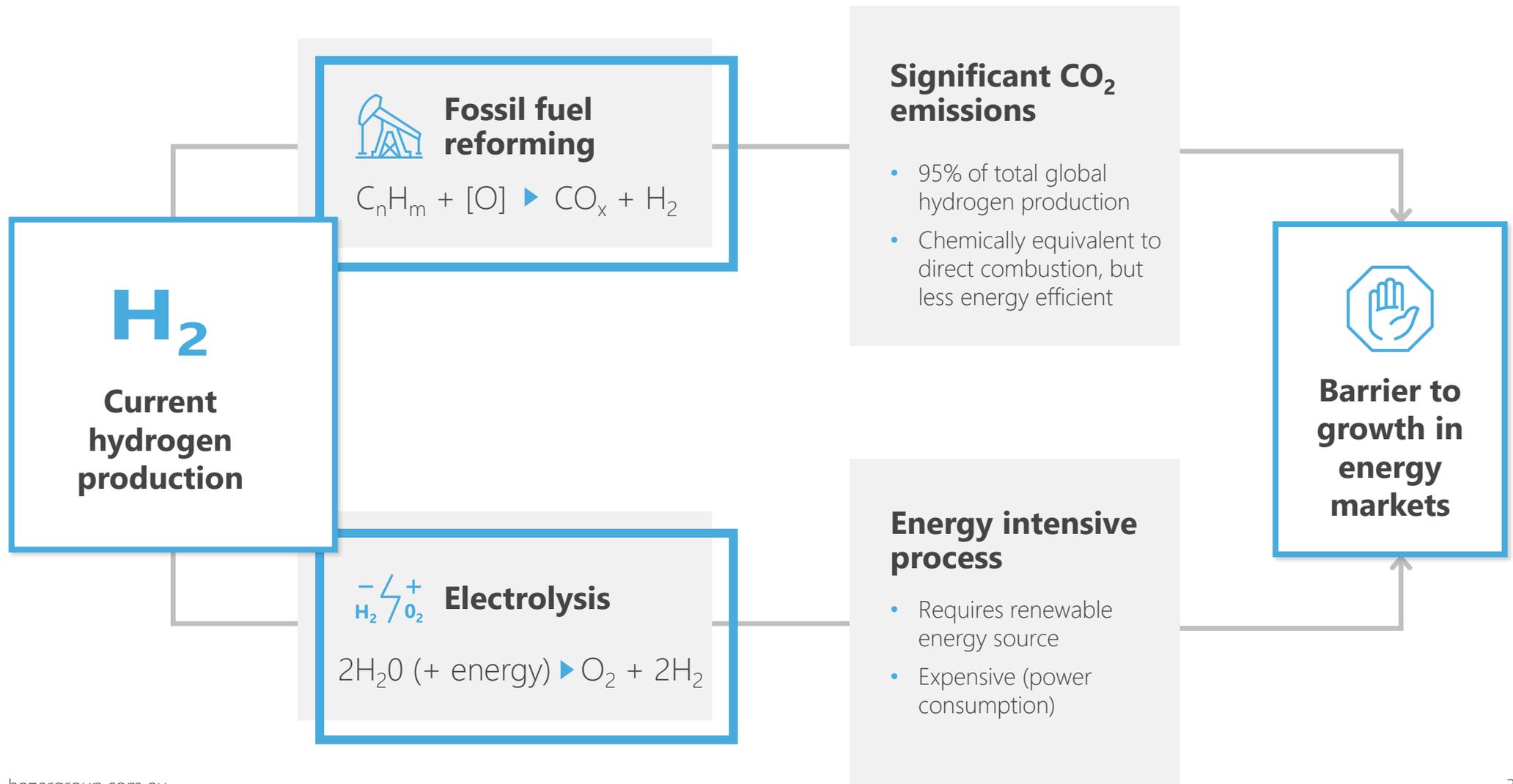
Technical development successfully progressed to enable transitioning into commercial phase with a strong focus on additional partnerships and offtake.



Multiple potential revenue streams.

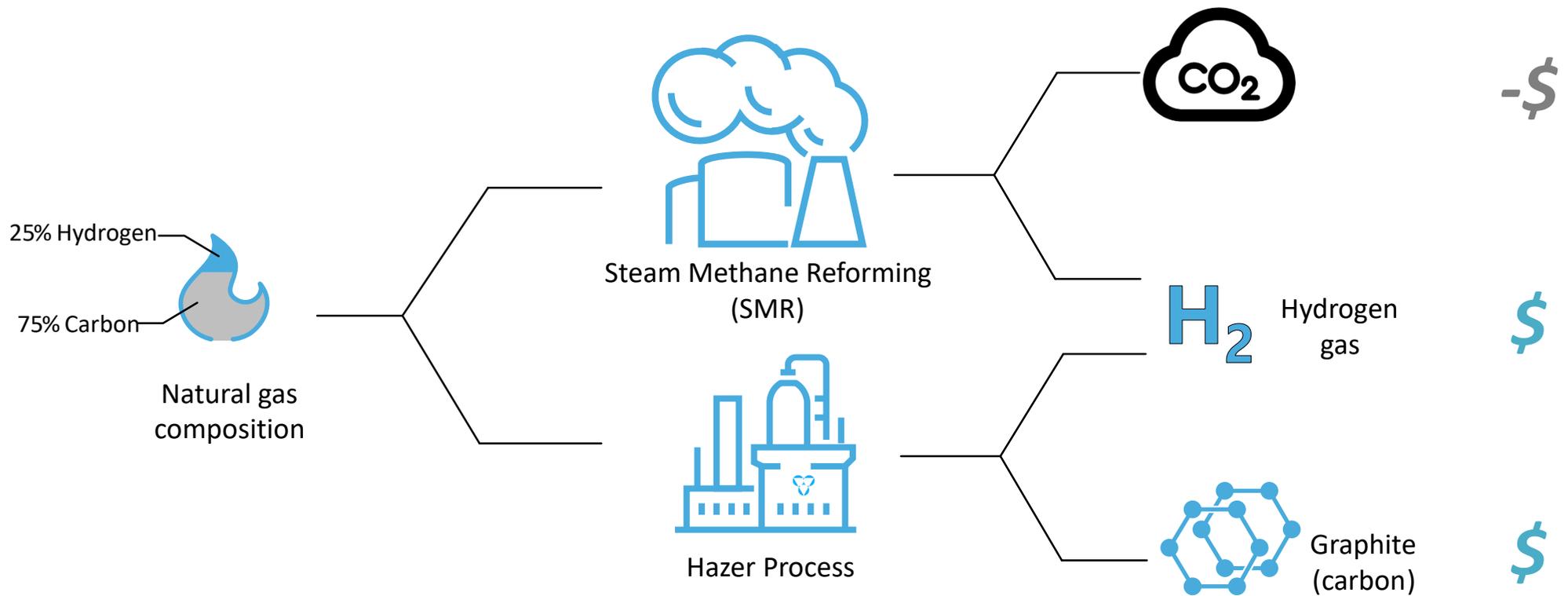
WHY CURRENT HYDROGEN PRODUCTION IS RIPE FOR DISRUPTION?

Production is high in emissions or expensive



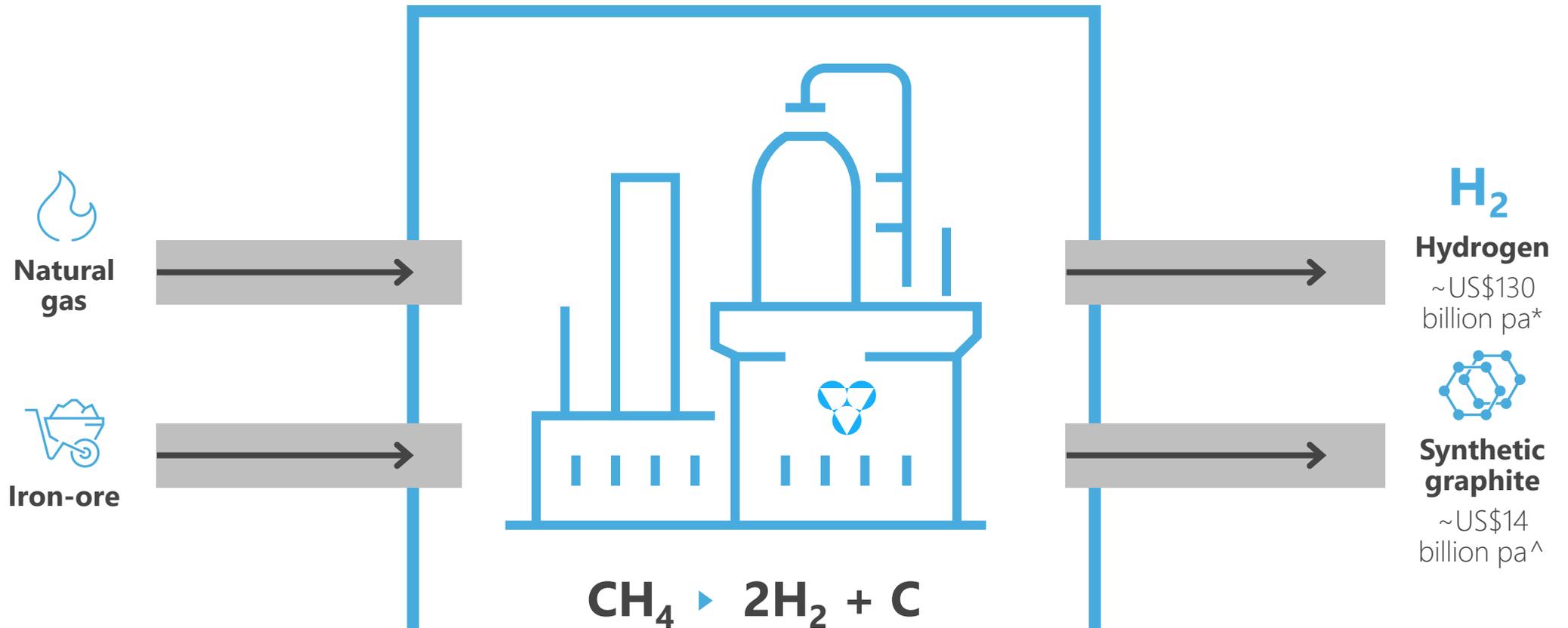
THE HAZER ADVANTAGE

Capturing more value of feedstock gas and dual revenue streams



THE HAZER PROCESS

Hydrogen and graphite from natural gas

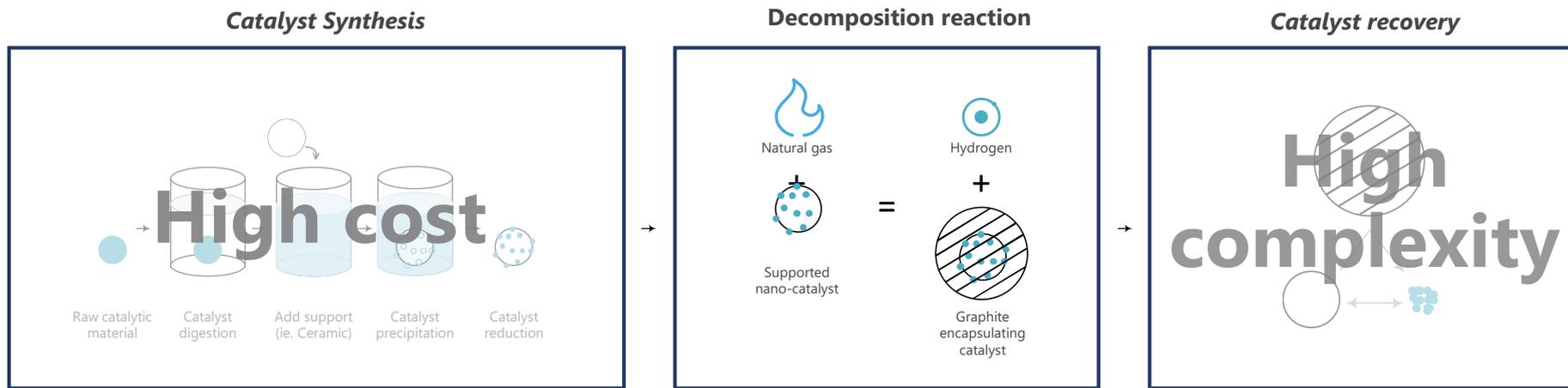


* "Global Hydrogen – A US\$2.5 Trillion Industry?",
Morgan Stanley Research Report July 22 2018
^ "Global Market Study of Graphite Market",
Persistence Market Report, pg 14

THE BREAKTHROUGH

Methane Decomposition - Simplified approach to old science

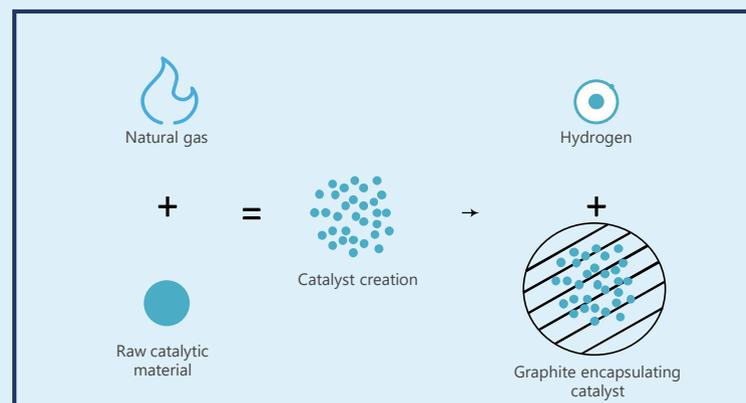
Traditional methane decomposition research



Hazer Group

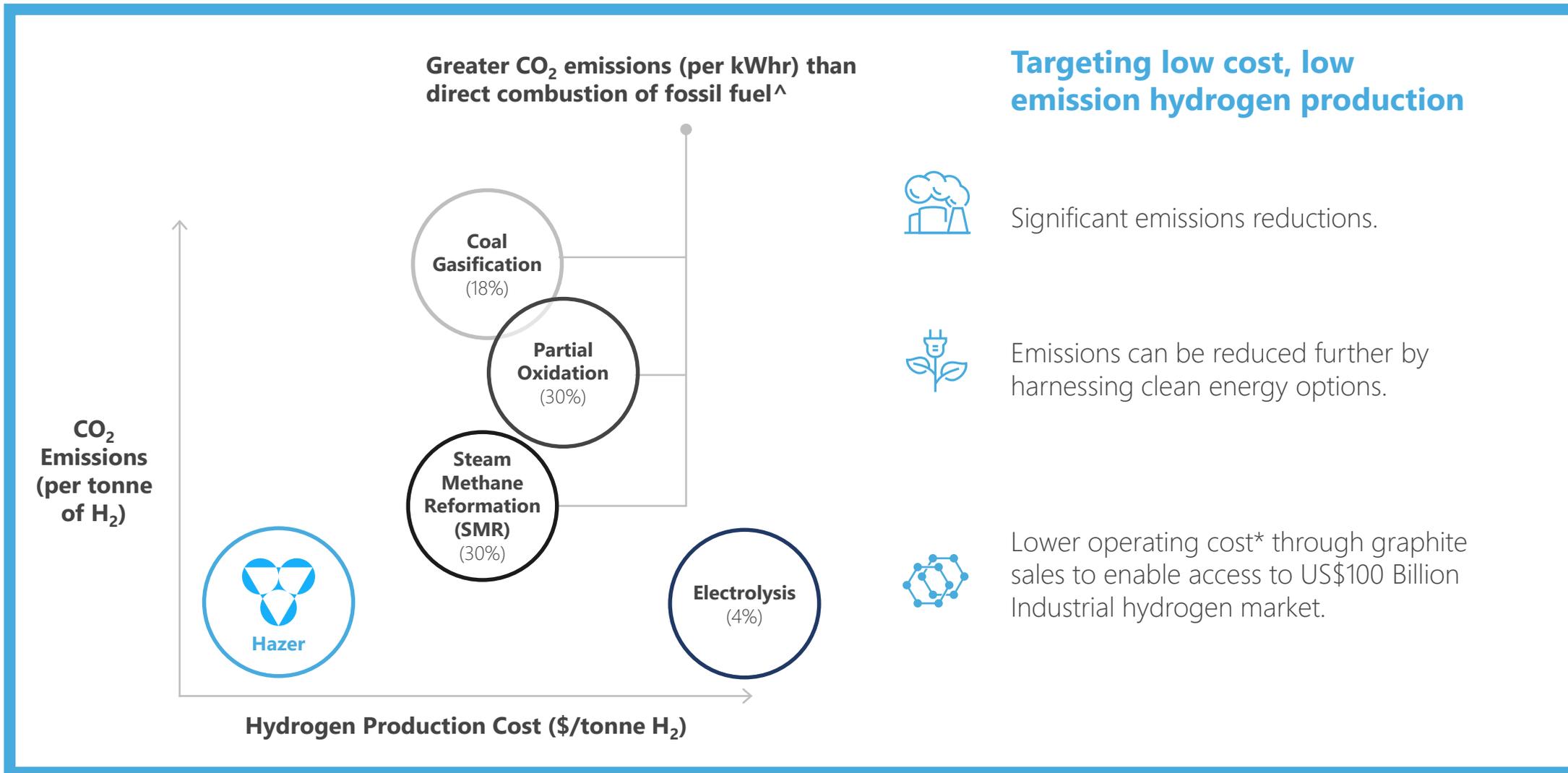
- Reaction creates catalyst from cheap material
- No need for catalyst synthesis
- No need for catalyst recovery and reuse

Decomposition reaction



HAZER HYDROGEN COMPARISON

Positioning as a low cost, low emission alternative



*Economic modelling as per previous ASX Announcement 28th February 2018 [^]Conceptual diagram only with numbers in brackets showing best estimates current market share

OPPORTUNITIES IN THREE MAJOR GLOBAL MARKETS



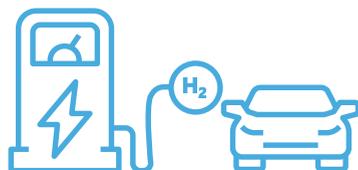
Industrial hydrogen US\$130 billion*

Low emission, low cost alternative

Currently primarily addressed by fossil fuel reformation processes (high CO₂ byproduct).

Hazer has potential to deliver significant cost savings with graphite revenue offset.

Industry is beginning to turn toward cleaner solutions.



Clean hydrogen and energy US\$12 billion^a by 2023 (FCV)

Multiple applications

Clean (low carbon) hydrogen has price or value premium to standard hydrogen.

Key component of clean energy future (H₂ => H₂O + energy).

Fundamental cost, energy limitations for existing clean hydrogen production options.



Synthetic graphite US\$14 billion[^]

High quality, low cost graphite source

Growth - energy storage (batteries)

Graphite has a wide range of desirable properties and is used in a range of industrial materials applications.

Current methods of graphite production (natural or synthetic) are costly and have significant environmental impacts.

* "Global Hydrogen – A US\$2.5 Trillion Industry?", Morgan Stanley Research Report July 22 2018

^a "Hydrogen Fuel Cell Vehicle Market Overview", Allied Market Research

MULTIPLE CLEAN HYDROGEN APPLICATIONS

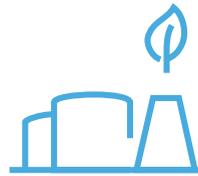


Clean energy – Vehicle fuel and stationary power

Fuel Cell Vehicle (FCV) models being developed.

Potential distribution via traditional clean energy systems, including hydrogen injection into gas pipelines

Cost, energy and carbon emission barriers for existing hydrogen production methods .

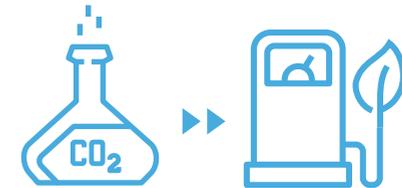


Clean Industrial Hydrogen Market

Traditional industrial hydrogen users are seeking cleaner alternatives.

This offers opportunities to disrupt the large and growing industrial hydrogen market

Recent attention has been in iron production, and green ammonia.



Carbon Capture and Utilisation (CCU)

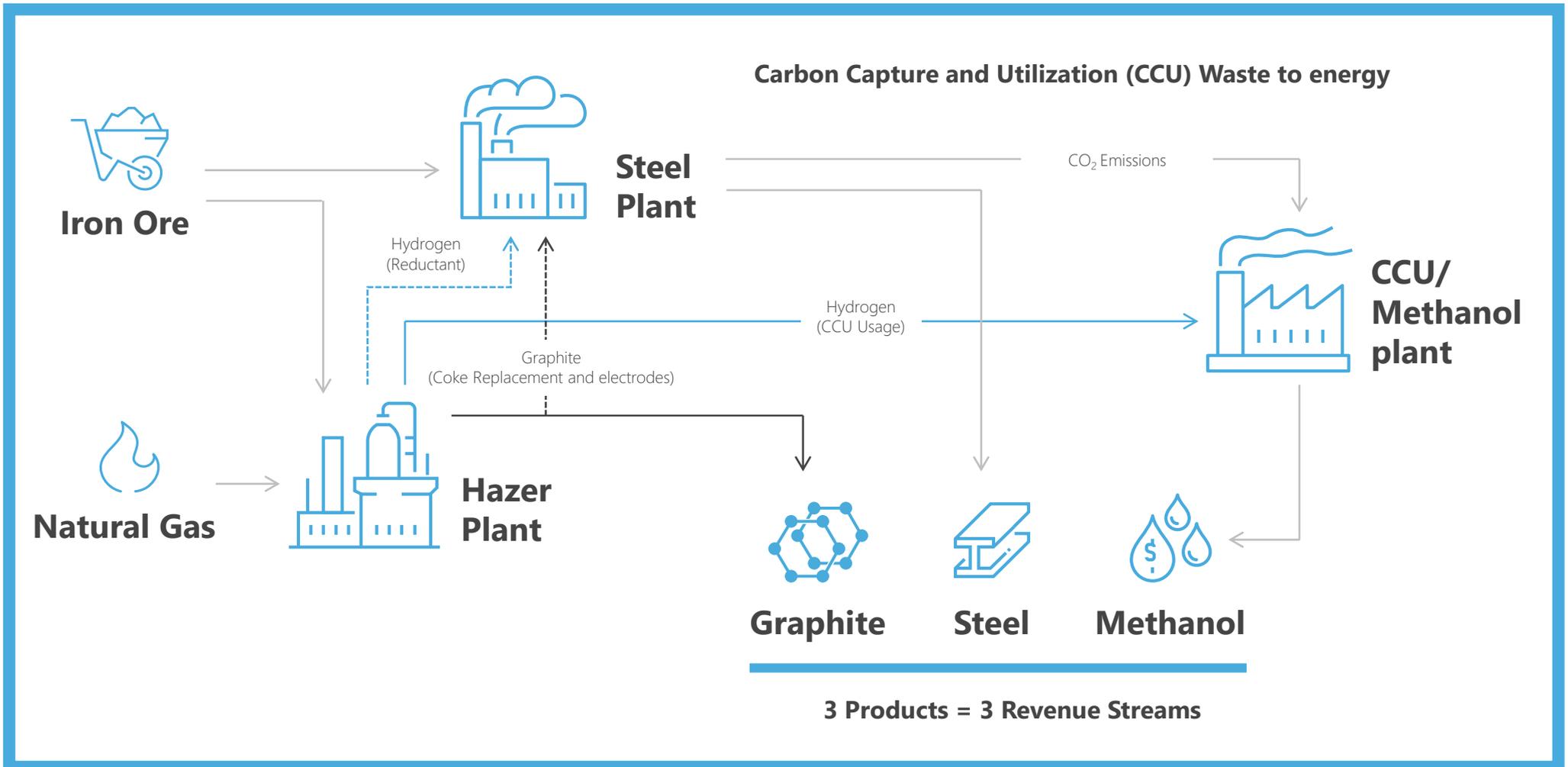
An alternative to CCS (Carbon Capture and Storage), where CO₂ emissions can be captured and used as feedstock for other chemical products.

These include methanol and liquid fuel (diesel).

Low cost, low emission hydrogen will be in demand as a key additional feedstock.

INDUSTRIAL HYDROGEN MARKETS TRANSITIONING TO LOW CARBON HYDROGEN

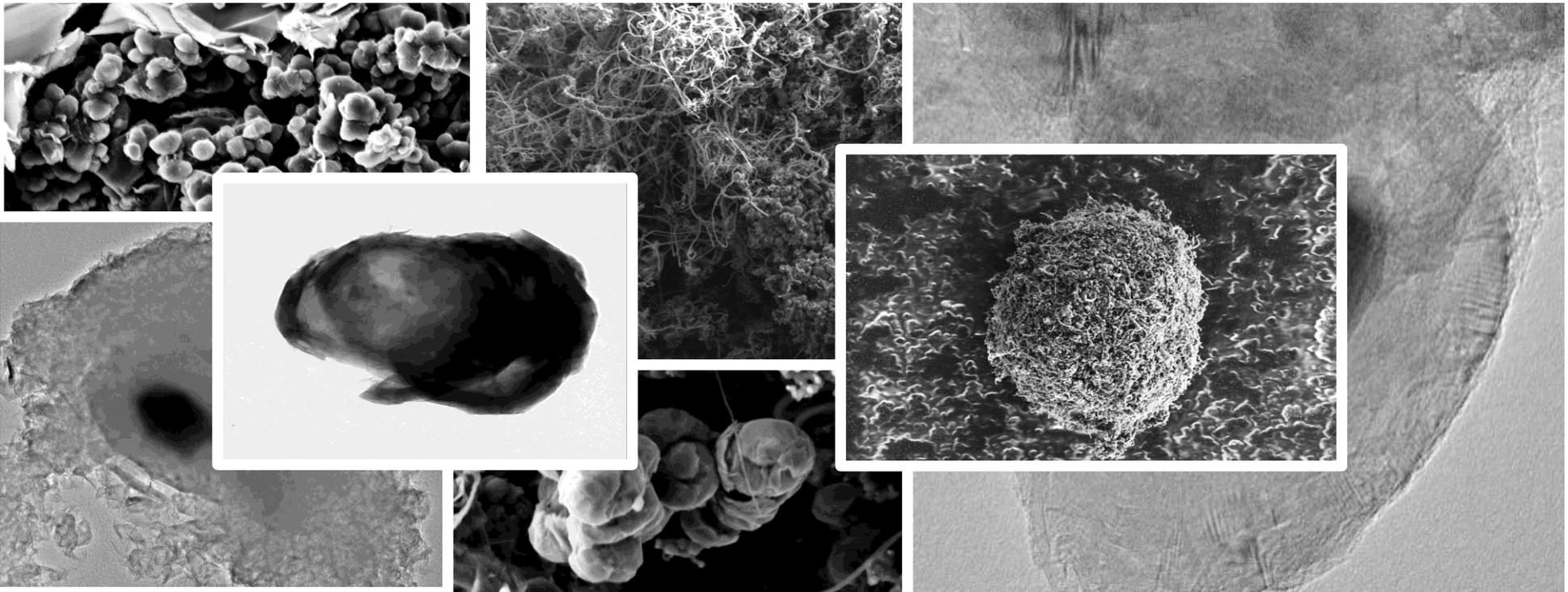
Conceptual Hazer plant integration into steel production with CCU



HAZER GRAPHITE

Versatile properties – many opportunities

- Current graphite market value in excess of US\$ 14 Billion per annum[^]
- Hazer graphite structure and properties can be altered to potentially suit different market by changing the process conditions
- Graphite purity ex reactor can range between 80-95%wt, and can be purified to 99.9%[>] with standard purification techniques
- Promising preliminary results in using Hazer Graphite in Li-ion batteries

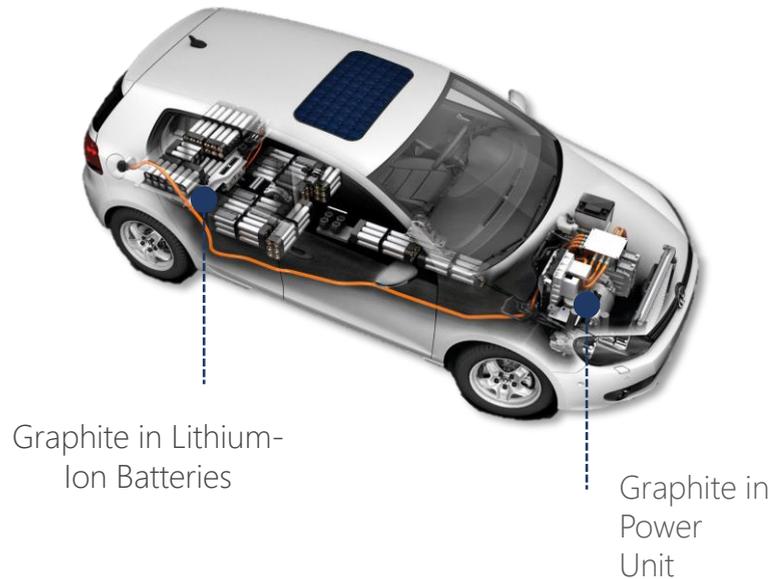


[^] "Global Market Study of Graphite Market", Persistence Market Report, pg 14

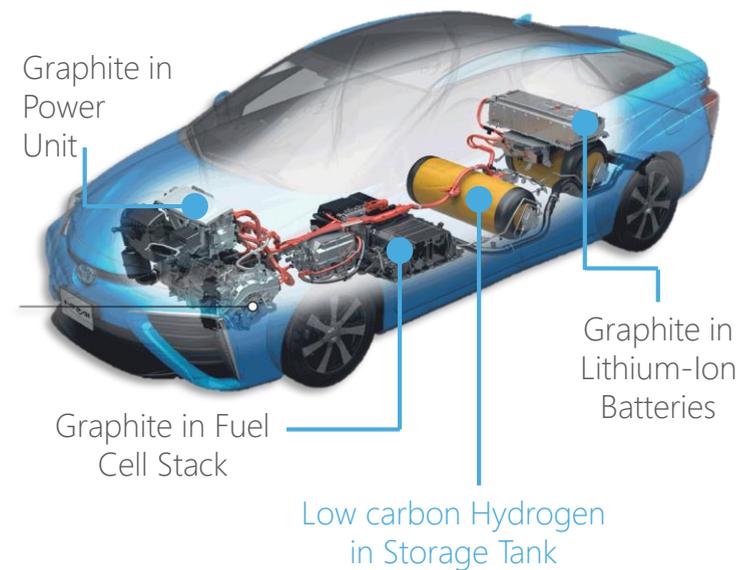
HYDROGEN & GRAPHITE SYNERGY

Potential to be a major part of the revolution in future mobility

Electric Vehicle

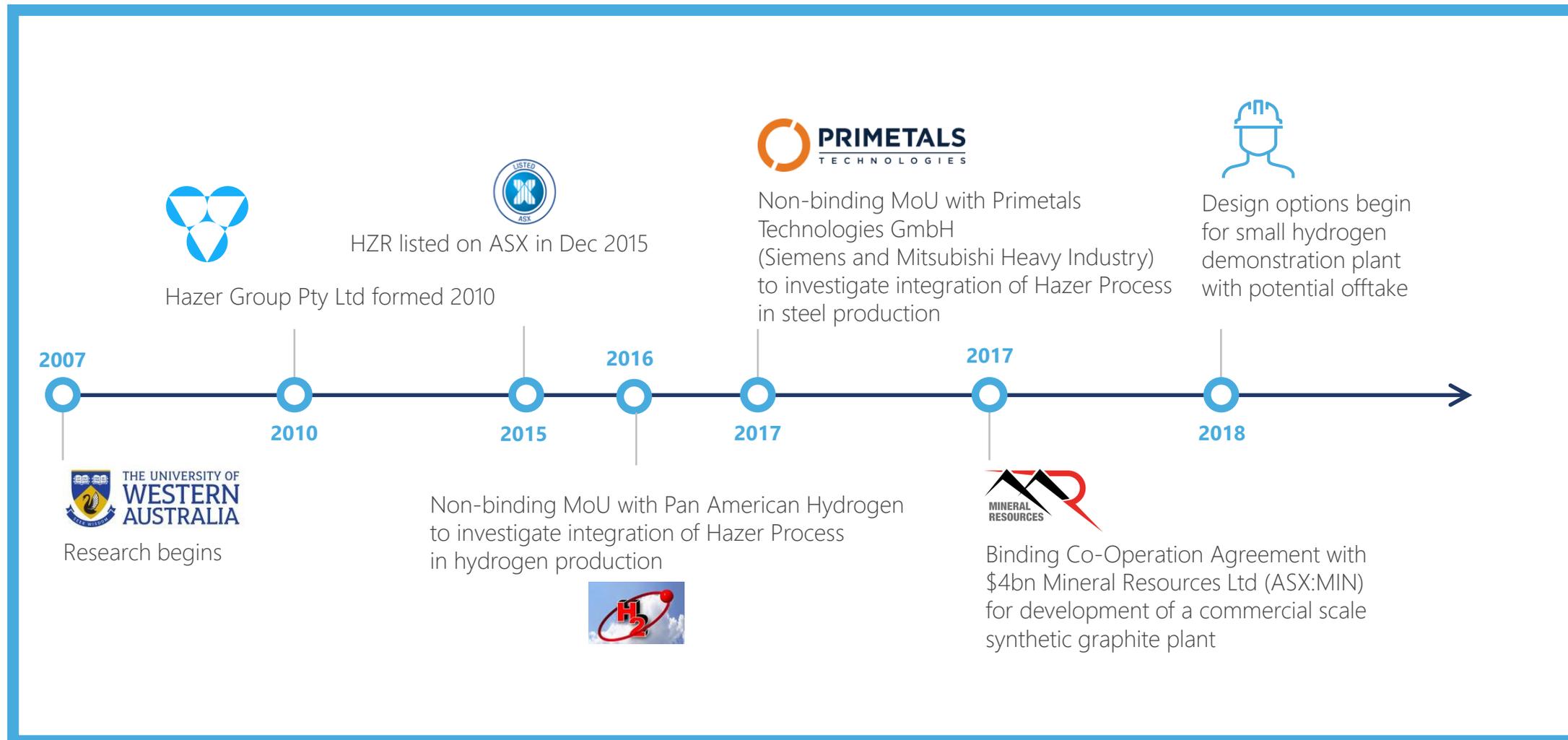


Fuel Cell Vehicle



STRONG COMMERCIAL PROGRESS SINCE IPO

Milestones



COLLABORATION WITH ASX:MIN

Investment and Commercial Partner



March 2017 MIN made a A\$5M strategic placement and significantly increased their stake in Hazer to 14%.

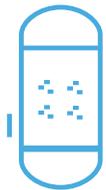
December 2017 binding agreement for the potential development of a commercial scale synthetic graphite facility;

- MIN to fund the commercial development.
- Hazer to obtain royalties from graphite sales.
- Stage 1 pilot plant first graphite expected Q4 2018.
- Stage 3 target production of 10,000tpa.



MULTIPLE REACTOR OPTIONS

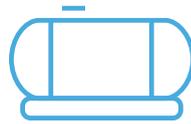
Using Hazer Process



Hazer Reactor

Fluidised Bed Reactor FBR

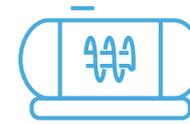
Reactor flexibility allowing for a range of graphite purity options and high hydrogen production with best productivity for reactor size.



External Reactor

Rotary Tube Reactor RTR

Alternative off the shelf reactor design identified for a range of graphite purity options, medium hydrogen production but lower productivity for reactor size.

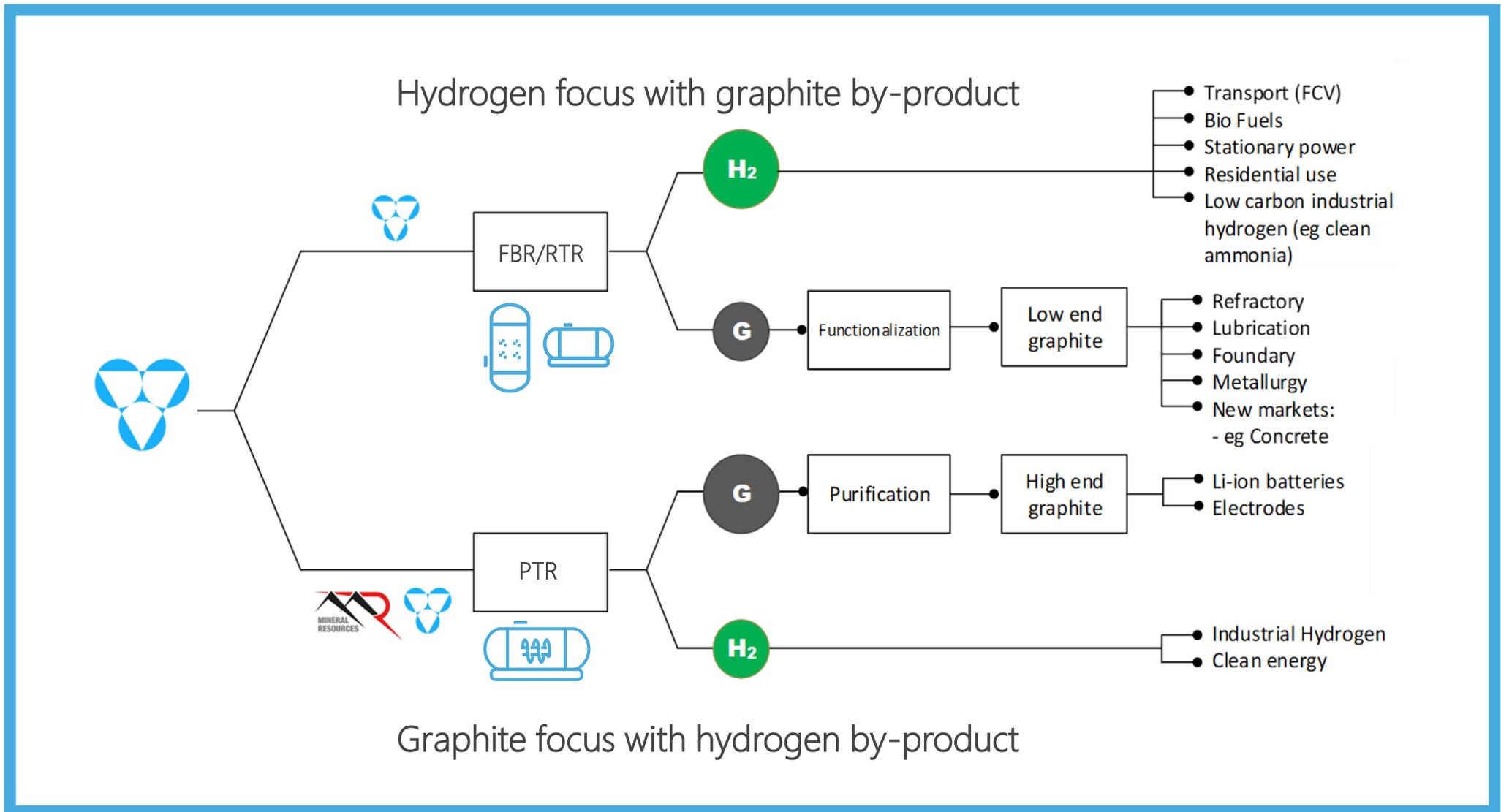


MRL/HZR Reactor

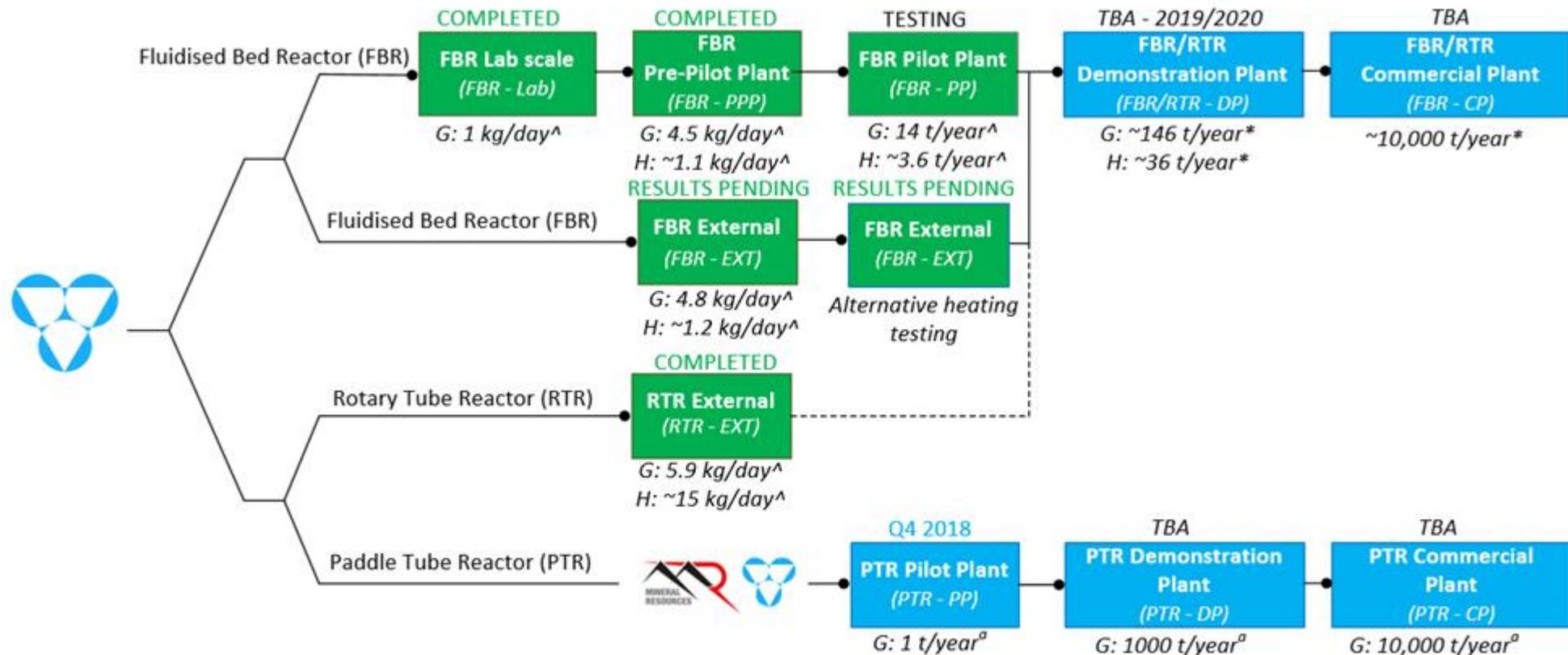
Paddle Tube Reactor PTR

Reactor tailored towards production of high purity graphite for battery applications with good hydrogen potential.

PROPOSED PATHWAY & POTENTIAL MARKETS



PATH TO COMMERCIAL DEVELOPMENT



[^] Actual equivalent product capacity rate achieved (unpurified)

^{*} Nominal product target capacity (unpurified)

[°] Nominal graphite target capacity (purified)

G: Graphite nominal capacity

H: Hydrogen nominal capacity

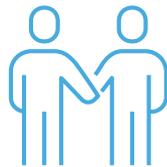
MULTIPLE COMMERCIAL OPTIONS

Using Hazer Process



License

License IP to 3rd parties and generate high margin royalty



Partnership

Share capital & operating costs with hydrogen or graphite partners



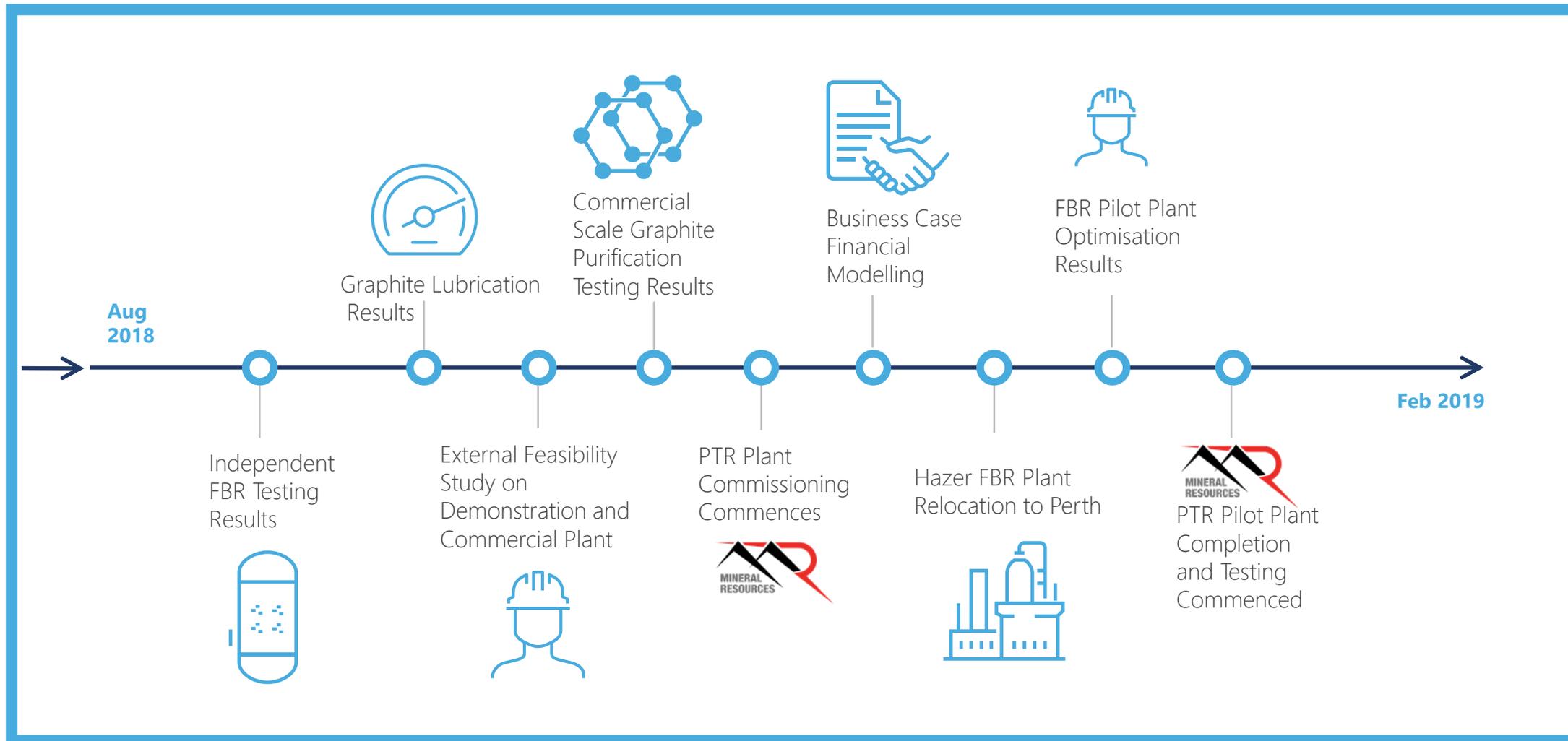
Build, Own & Operate

Hazer can construct own and operate plants and sell products

Currently investigating multiple options across different business models

NEWSFLOW

Aspirational Milestones*



* Indicative timetable only August 2018 to February 2019

STRONG LEADERSHIP

Commercial, Technical, Contract & Regulatory expertise



Mr Tim Goldsmith
Chairman

- Over 20 years as Partner with global professional services group PwC
- Leader of PwC's Mining Group, and National China Desk leader at PwC
- Over 30 years corporate and commercial experience across international mining and industrial business operations



Mr Simon Rushton
NED

- Executive General Manager - Corporate Development at Mineral Resources Limited
- 18 years global corporate experience in financial, advisory and legal roles
- Corporate contracts including M&A expertise within the mining sector



Ms Danielle Lee
NED

- Corporate lawyer with more than 23 years' experience shared between private law firms and the ASX
- Main practice areas are corporate advisory, governance and equity capital markets; regularly advises on issues relating to the Corporations Act and ASX Listing Rules



Dr Andrew Harris
NED

- Lead Director of the Engineering Excellence Group, Laing O'Rourke
- Professor of Chemical and Biomolecular Engineering at the University of Sydney
- Previously the CTO of Zenogen, a hydrogen production technology company, and a co-founder of Oak Nano, a start-up commercialising novel carbon nanotube technology

PROJECT EXECUTION EXPERIENCE

Engineering, Technical, Marketing & Corporate expertise



Mr Mark Edwards
Acting CEO

- Mechanical engineer with 25 years experience in project management, site maintenance and operation
- Former AUA Regional Director for Light Metals division at Hatch Pty Ltd
- Technical specialist with focus on delivery of complex technical projects



Dr Andrew Cornejo
Co-Founder and Chief Technical Officer

- PhD and inventor of the Hazer Process
- 15 years technical engineering experience in R&D, advisory and resource development roles
- Bachelor of mechanical engineering and commerce, Graduate Cert in research commercialisation



Ms Emma Waldon
CFO and Company Secretary

- 20 years experience in finance and corporate advisory roles including ASX listed companies
- Specialist in risk management
- Member of the Australian Institute of Chartered Accountants, a Fellow of the Financial Services Institute of Australasia and a Certificated Member of the Governance Institute of Australia



Mr Thomas Murrell
Chief Marketing Officer

- 35 years experience in media, marketing and management
- Director of ASX-listed emerging graphite developer Walkabout Resources
- Chairman of Hong Boa Media, a Singapore and Malaysia-based media services company
- MBA in marketing

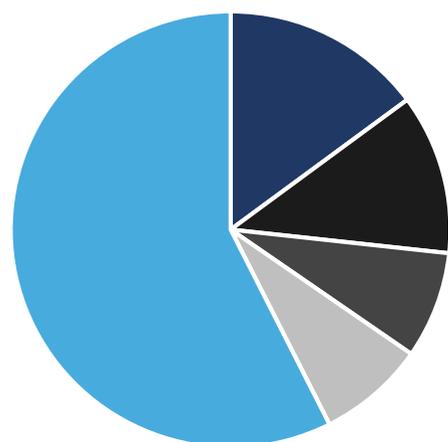
TIGHTLY HELD REGISTER

Top 20 own 42%

Capital Structure

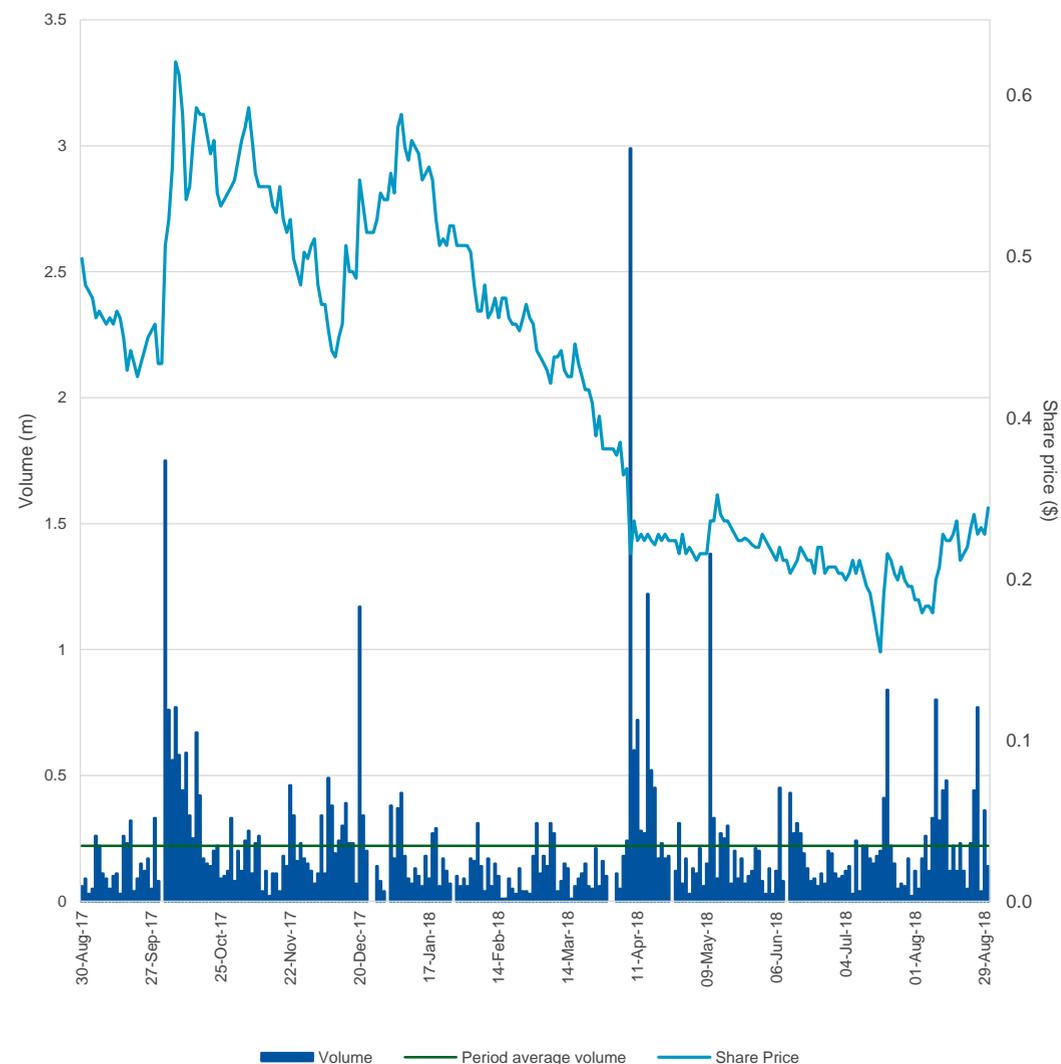
Current Shares on Issue	88.3m
Market Capitalisation @\$0.265	\$23.4m
Cash @ 30 June 2018	\$6.185m
Total Options	68.4m
\$0.25 and \$0.30 Options Exercise Dec 2018	30.2m
Diluted Market Cap \$0.25 and \$0.30 Options	\$31.4m
Total Cash From \$0.25 and \$0.30 Options Exercise Dec 2018	\$8.8m
Total Cash From all options	\$33.6m

Substantial Shareholders



- Top 20 ex substantial shareholders holding >5%
- Mineral Resources Ltd
- Geoff Pocock Entities
- Andrew Cornejo
- Other

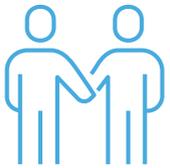
Share Price & Volume



WHY INVEST?



Disruptive, global and scalable low cost, low emission solution to a decarbonised hydrogen future.



Technical development successfully progressed to enable transitioning into commercial phase with a strong focus on additional partnerships and offtake.



Multiple potential revenue streams.

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HAZER GRAPHITE SHOWS PROMISE IN LI-ION BATTERIES



Preliminary testing of Hazer graphite in coin cell Li-ion batteries show equivalent performance to commercial synthetic spherical graphite.

