

Fuelling the Future

Low Emissions Ammonia

From Australia to APAC

November 2023

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There are forward looking statements in this document relating to the outcomes of the Pre-Feasibility Studies and ongoing work on the WAH₂ Project. Actual results and developments of projects and the market development may differ materially from those expressed or implied by these forward-looking statements. These, and all other forward-looking statements contained in this document are subject to uncertainties, risks and contingencies and other factors, including risk factors associated with the hydrogen business. It is believed that the expectations represented in the forward looking statements are reasonable but they may be affected by a variety of variables and changes in underlying assumptions which could cause actual results or trends to differ materially, including but not limited to price fluctuations, actual demand, currency fluctuations, loss of market, industry competition, environmental risks, physical risks, legislative, fiscal and regulatory changes, economic and financial market conditions in various countries and regions, political risks, project delay or advancement, approvals and cost estimates.

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Gas Supply

Hexagon has not secured a long-term gas supply agreement. There is no guarantee that current discussions will convert into firm commitments to supply gas over the long term. It should be noted that the WAH₂ Project is contingent on securing long term gas supply in line with the assumed volumes, timing and price. If this cannot be achieved, there is a risk that the WAH₂ Project may be downgraded, deferred or may not go ahead.

Financing

Hexagon has not secured funding for the WAH₂ Project and accordingly to achieve the range of outcomes required for Phase 1, Hexagon will need to secure between A\$405M and A\$567M in funding for the project (assuming farmout of 65% - 75% project, leaving Hexagon with a 25% - 35% project share). There is no certainty Hexagon will be able farm out the Project or to raise the amount of funding when required. It should also be noted that any raise may only be available on terms that may be dilutive to shareholders or otherwise affect the value of Hexagon's shares. If the proposed farm-out or funding cannot be achieved, there is a risk that the WAH₂ Project may be downgraded, deferred or may not go ahead.



Hexagon Energy Materials Limited

ASX Listed Project Developer (HXG)*

Low cost, low emissions Blue Ammonia export project (WAH₂), Annual Net CF A\$244 million (100% project)¹

Targeting very large Asian Coal Co-Firing Market Opportunity, ~US\$10 Bn pa market by 2035²

Site secured & Highly Encouraging PFS Completed

FEED Approaching – Gateway to Execute Partner MOUs/Agreements

FID Target 2025

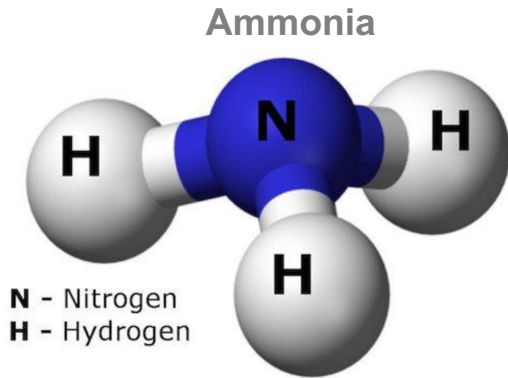
*HXG.ASX. Shares on issue 512,915,901. Market capitalisation \$5 million. nil debt, cash of \$1 million as at 30 September 2023.

²Low-emissions ammonia market opportunity expected to reach 20 MTPA in Japan by 2035 based on 20% ammonia co-firing of coal fired fleet

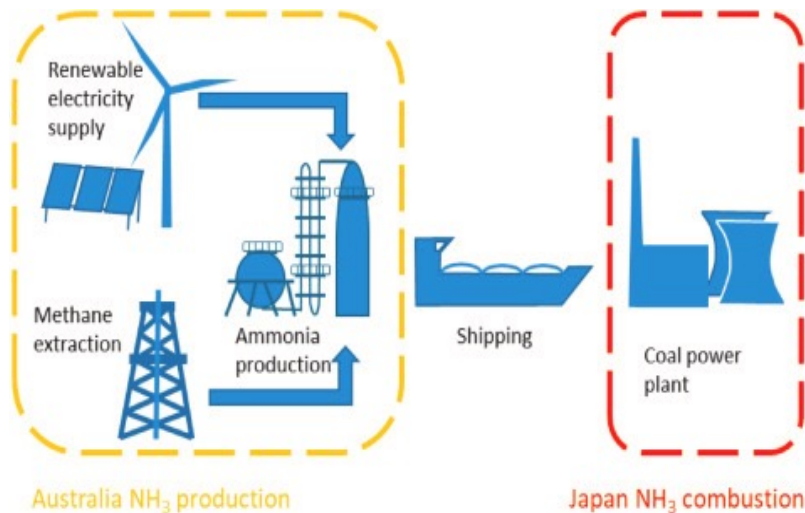
¹WAH2 Project Pre-Feasibility Study Updated Announcement (ASX: 2 August 2023)

The Opportunity: Substitute Ammonia for Coal

Hexagon offers pure-play exposure to the burgeoning low-emissions ammonia market



A stable molecule providing access to the energy potential of hydrogen

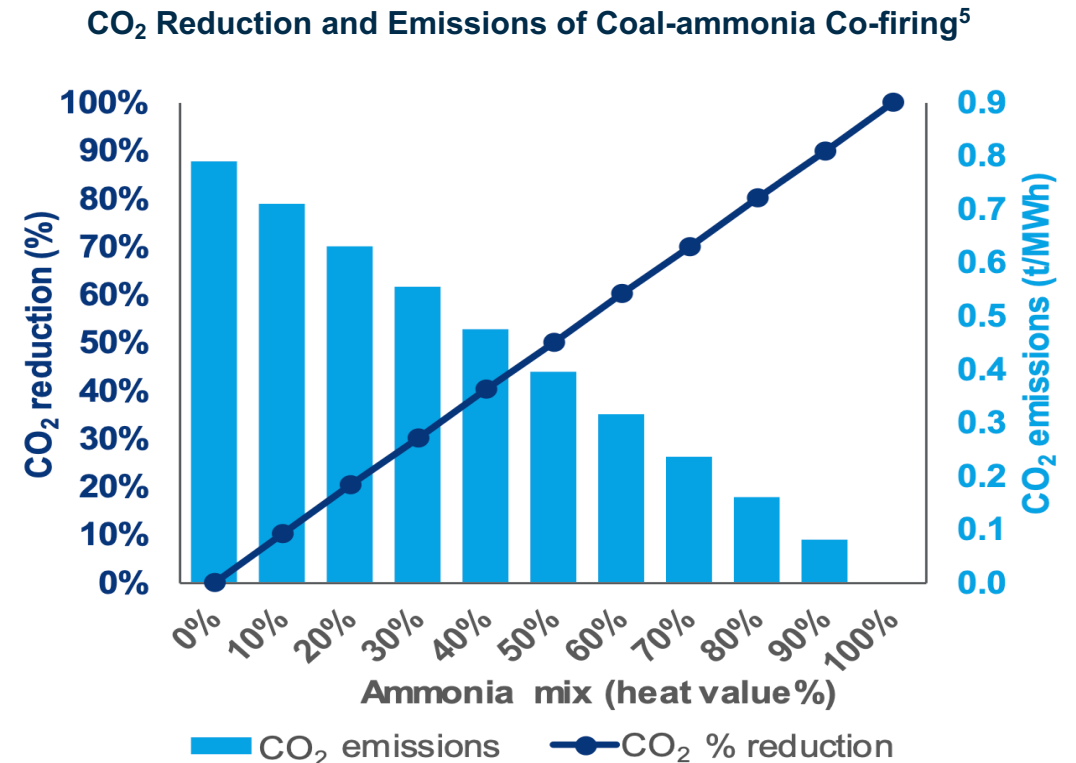


- **Ammonia for Coal:** Electricity producers in North Asia are targeting to substitute ammonia for coal in their thermal power stations
- **Huge Market Potential:** Japan's demand for low-emissions ammonia is expected to grow from ~nil to 20 MTPA by 2035¹
- **Australia Well Placed:** Australia is seen as a key supplier, competitive cost and secure location. LNG industry lessons
- **Hexagon Best Placed:** Hexagon's WAH₂ Project, based in Maitland WA, is the best-placed proposed low-emissions ammonia project in Australia
- **Project Delivery = Company revaluation:** Multiple milestones in coming months likely revaluation events for Hexagon

Market Size: US\$10 Bn per annum in just Japan

Japan plans to prioritize low-emissions ammonia to meet its climate targets

- **Current Coal Generation:** 1/3 of Japan's electricity needs are currently met from coal-fired generation¹
- **Emissions Target:** Japan has committed to reduce greenhouse gas emissions by 46% in 2030²
- **Govt Backing Co-Firing:** Government and industry plan that by blending Ammonia with Coal Japan's can meet low-emissions with existing power plants
- **= Huge Demand Growth:** Huge growth in market for low-emissions ammonia, expected to reach 20 MTPA³ with a value of US\$10 Bn/yr⁴ by 2035



Japan's Ammonia Criteria: To Access the Market

Japanese energy producers have three critical hurdles that suppliers need to meet



Low
Emissions



Less than 4.2 T CO₂e /T H₂e¹, lower preferred and prioritized

HEXAGON

Detailed engineering work by Petrofac demonstrates emissions intensity of 1.1 T CO₂e /T H₂e, further improvement opportunities identified³

Cost
Competitive

US\$500 – 600 /T NH₃² delivered in Japan

Hexagon's Base Case cost of supply from the WAH₂ Project of US\$552 /T NH₃. Target of < US\$500 /T NH₃ based on identified opportunities³

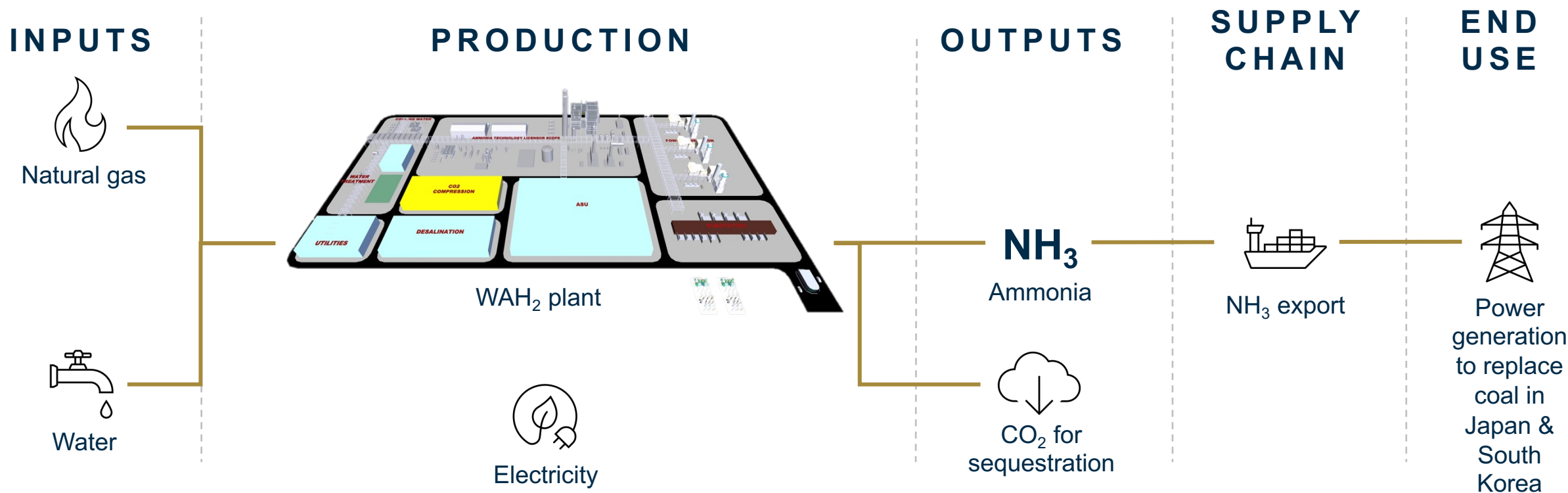
Secure
Supply

From established and stable trading partner countries

Australia is an established energy partner supplying 34% of Japan's energy imports⁴. Decades-long collaboration to build and sustain stable LNG supply

Project Overview: Hexagon's WAH₂ Export Plant

Material volumes of low-emissions, low-cost ammonia from a stable environment.
Target online before 2030



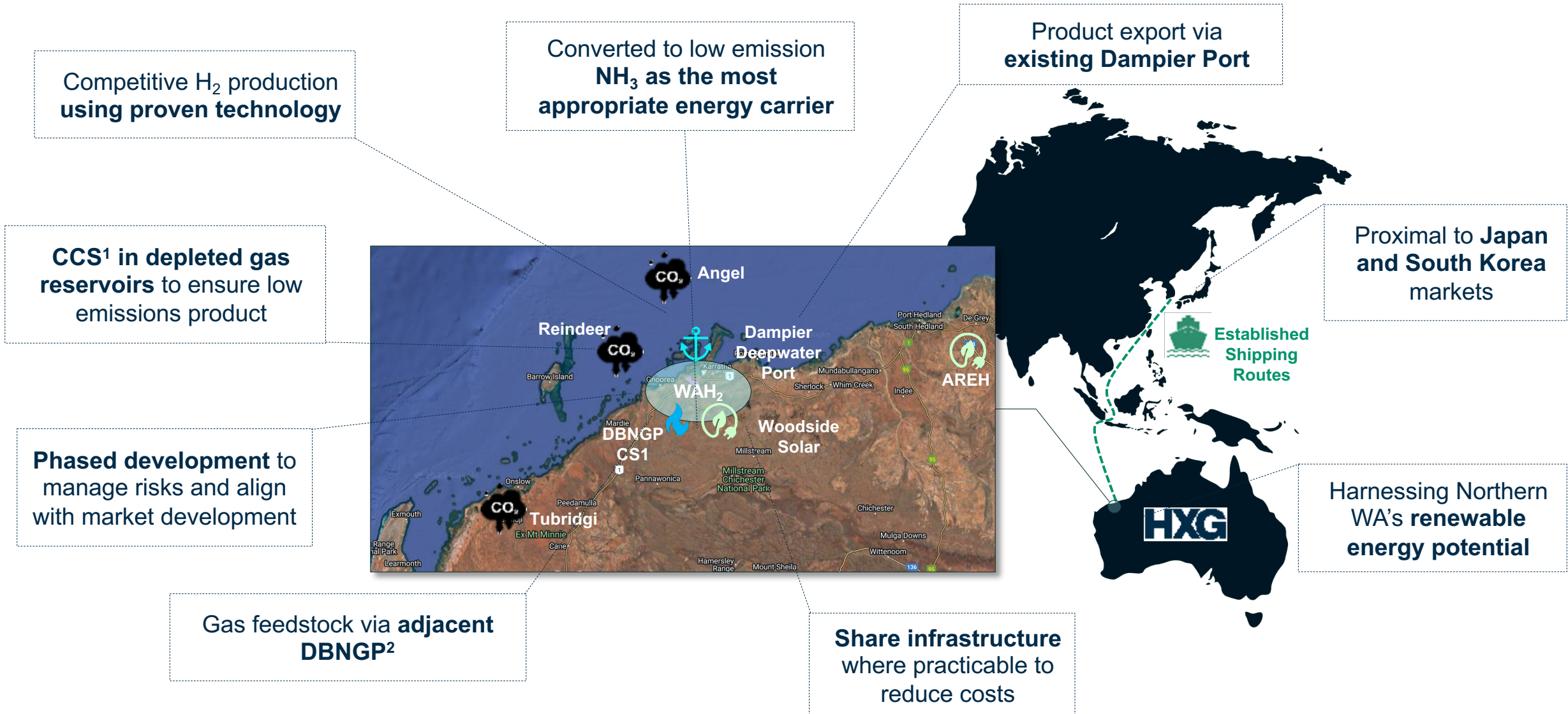
WAH₂ PROJECT FEATURES¹

Project life	Production technology	Production capacity		Gross Project Capex		Emissions intensity
25yr	O ₂ fired ATR	Ph1 600kTPA	Ph1 + Ph2 1200kTPA	Ph1 A\$1.62B	Ph2 A\$1.29B	1.1kg CO ₂ e / kg H ₂ e

Note (1); WAH2 Project Pre-Feasibility Study Updated Announcement (ASX: 2 August 2023)

Project Concept: Delivers Scale and Viability

Leverage surrounding existing and developing infrastructure to accelerate market entry



Note: (1) Carbon Capture and Storage; (2) Dampier to Bunbury Natural Gas Pipeline

Project Site: Allocation of Maitland SIA site

Proximity enables lower cost access to required services and infrastructure



Hexagon allocated 40 ha site in Maitland SIA

- Access to existing deep-water port, existing infrastructure corridors, multiple CCS options; adjacent to DBNGP²



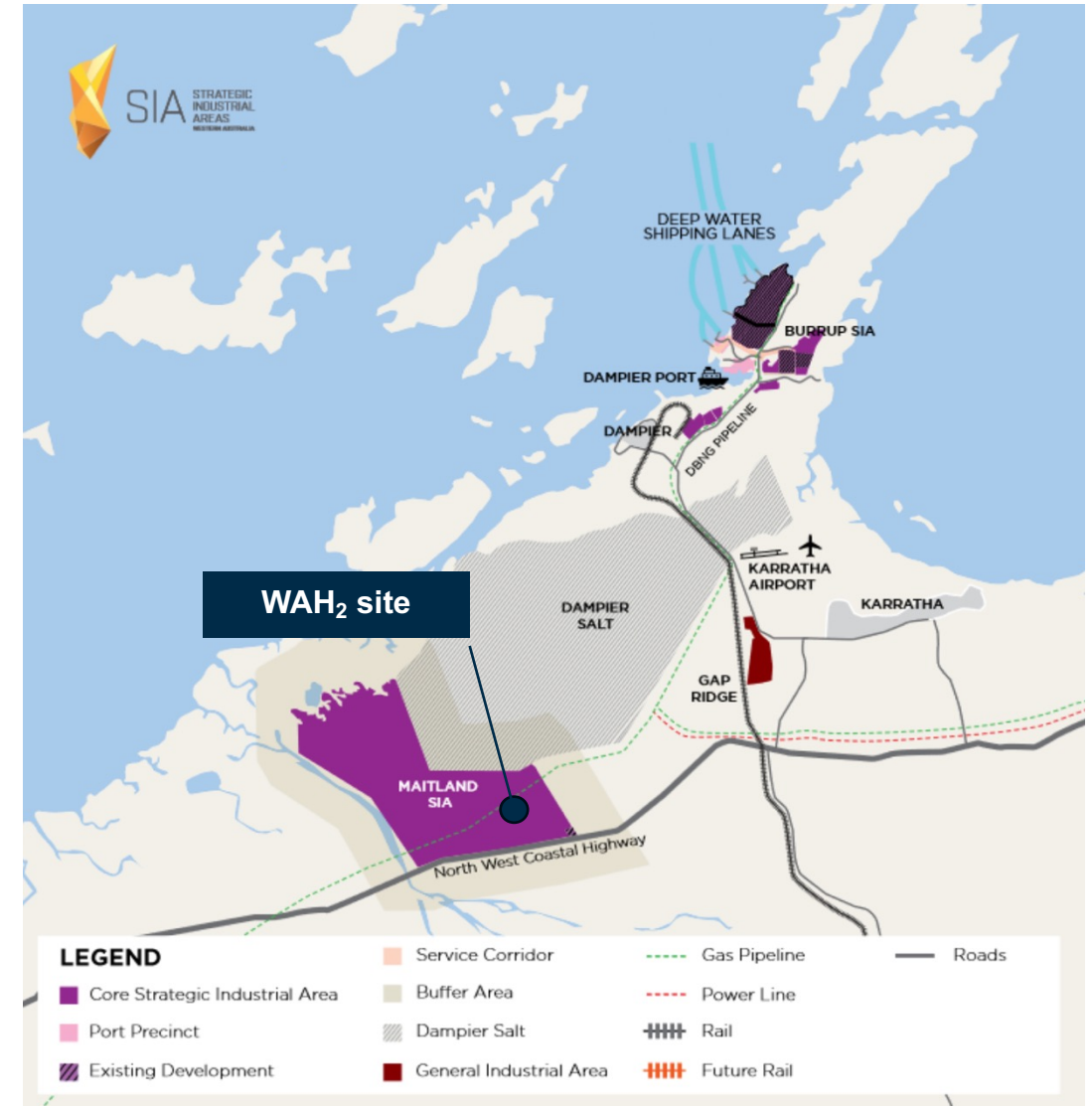
Award of land to proponents of other projects creates significant opportunities to share infrastructure

- Water supply, power supply, CO₂ transmission, ammonia export



Native Title approval provided by existing Burrup and Maitland Industrial Estates Agreement

- Indigenous Land Use Agreement required with Ngarluma Aboriginal Corporation



Why Hexagon?: WAH₂ Project is best placed

One of a kind – early mover project with competitive advantages related to technology choice and secured site

> 140

> 140 Australian Hydrogen Projects: More than 140 hydrogen-related projects have been announced in Australia

30

30 Low-emissions Ammonia: Of these, only 30 are targeting low-emissions ammonia as the product

23

Majority Electrolysis-based: The large majority are electrolysis-based, with cost and schedule challenges

- Proving technology at scale, supply chain constraints, cost of supply

5

Only 5 are based on gas reforming with CCS¹

- Others use coal, with emissions challenges; or biomass, unproven at scale

1

WAH₂ is Unique: the only proposed gas-based project with access to an existing deep-water port and multiple, mature CCS projects nearby

Project Delivery 1: Partner w/Key Industry Operators

HXG is seeking the fastest, lowest-cost, lowest-risk pathway to production

Partners accelerate pathway to operation:

By partnering with existing industry operators, Hexagon can de-risk technical issues and lower costs by using existing infrastructure.

In this way a small company can build out a large project.

Key asset (site) already secured:

Hexagon has already secured the key asset, ideally-located industrial land close to:

- Gas supply
- CO₂ sequestration projects
- Water supply
- Existing port services
- Existing ammonia infrastructure

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Project Delivery 2: HXG team plus Strategic Partners HEXAGON

Experienced team supplemented by strategic partners to secure way forward for WAH₂

Board of Directors



Charles Whitfield
Chairman

CIO of Drumrock Capital
Ex MD **Citibank & Deutsche Bank** Head of Strategic Equity Transactions



Andrew Kirk
Commercial Director

Head of LNG for Power Co., Bangkok. Ex-17 years **Woodside** LNG Strategy. Co-founder Green Hydrogen Asia, Malaysia



Garry Plowright
Non-Exec Director

Land Access and Approvals Manager at **Pilbara Minerals**
History in Mining law, regulatory process and mine development.



Philipp Kin
Non-Exec Director

Career spanning investment banking (M&A, DCM and ECM) and energy research roles including Lead WA LNG Asset Economist at **Shell**



Stephen Hall
CEO/ Project Leader

30 years-experience energy sector
Ex-**Woodside Energy** VP Strategy, Power & New Markets
Ex-VP North-West Shelf Development



Reinhardt Matisons
Business Development

35 years commercial experience Energy sector. Ex-EVP Marketing, Trading & Shipping at **Woodside Energy** Ltd. Ex-Senior Consultant Poten & Partners



Neil Theobald
Business Development

Senior Adviser Asia Natural Gas & Energy Asscn
Senior Advisor to **McKinsey & Co.**
Ex-**Chevron** VP Global LNG, Gas & Trading
Ex-Non-Exec Chair North-West Shelf Gas



Liz Sully
Regulatory Approvals

25 years regulatory approvals experience in onshore and offshore energy sector
Ex-**Santos & Woodside** Regulatory Approvals Specialist

Industry Partners



Engineering and
construction specialists



Ammonia Process
specialists

A Board with a wealth of experience in developing projects and businesses from inception to multi-billion-dollar enterprises. Background in energy, finance and project development.

The project team has combined experience in the energy sector of over 80 years with focus on technical and commercial development of projects in joint venture with Japanese corporates.

Hexagon has engaged with world class technical advisors to provide detailed technical information, costing and analysis required by Hexagon and our partners.

Project Delivery 3: Three Steps to 1st Production

Preserving shareholder value by staged approach



PRE-FEED

- Target completion Q2 2024
- Current funding
- Self-fund; any capital raise would occur post first strategic MoU announcement
- Prior to FEED, farm down 65-75% of project ownership



FEED

- Target completion Q2 2025
- Total expenditure ~\$12-15 M
- Self fund remaining \$3-5 M (25%-35% Hexagon share)
- Raise finance to fund the project through to FID



PH1 BUILD & COMMISSION

- Target completion 2028
- Total expenditure ~\$1,620 M
- HXG share funded 60:40 debt/project finance to equity (\$162-228 M equity)
- Ph2 considered post Ph1 with free cashflow generation

By breaking the path to production into discreet steps and bringing in partners at key steps, HXG can leverage its team and capital

Progress to Date: A lot in a short time

The HXG Team and our Partners have delivered substantial progress in a short space of time

1: IDENTIFIED THE OPPORTUNITY - EARLY MOVER

Exponential growth expected in Asian Ammonia/Hydrogen demand – Focus Japan's Co-Firing Strategy

2: ENCOURAGING PFS COMPLETED

Phase 1 600k TPA of NH₃ production capacity - Annual Net Cash Flow Before Tax of A\$244¹ million (100%) – Potential FID 2025

3: ADVANTAGEOUS SITE SECURED

Allocation of site in Maitland SIA close to required services and infrastructure – gas, water, electricity, shipping export, CCS

4: POSITIVE PARTNER ENGAGEMENT

Experienced management receiving unequivocal support for concept and delivery plan from potential off-takers and project partners

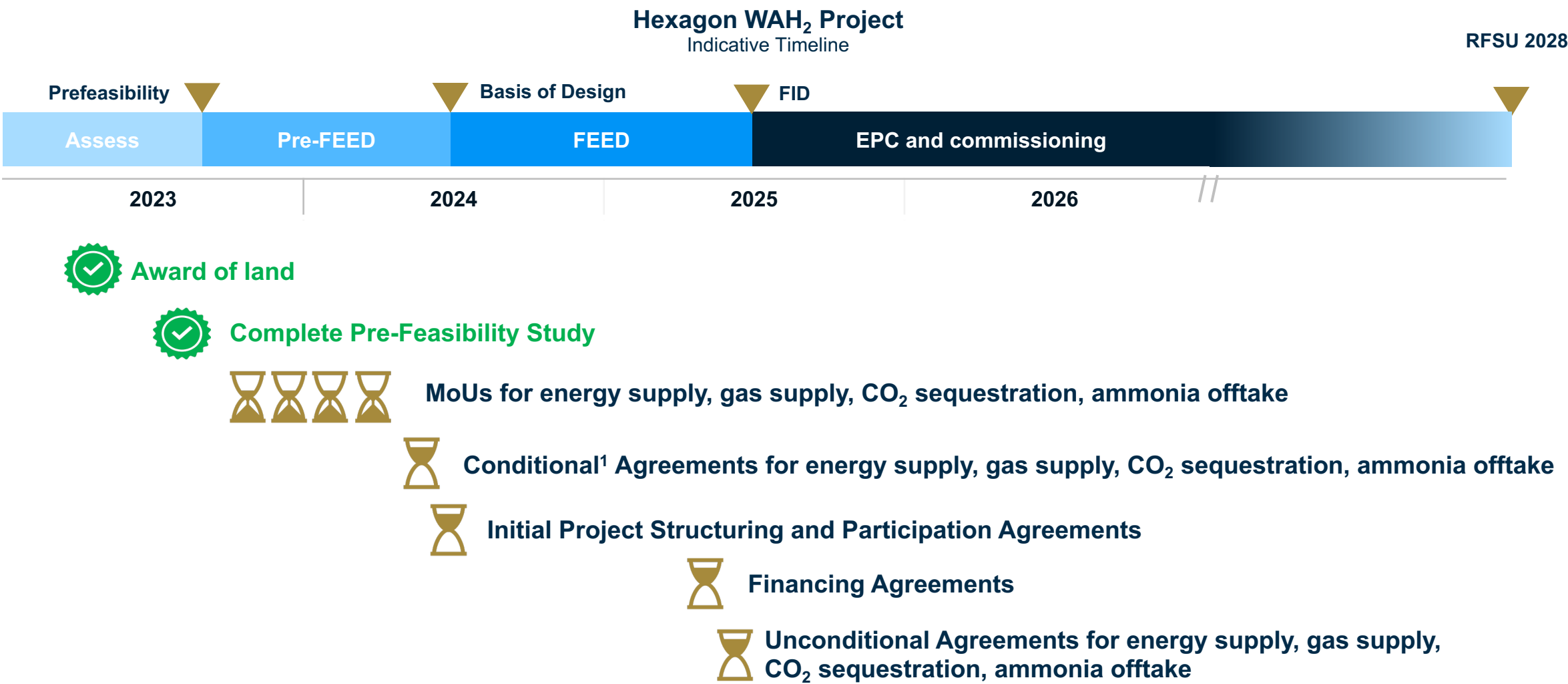
5: TARGETING FEED

A key milestone to progress Partner discussions and materially de-risk project will be entering FEED – clear plan to achieve

Note: (1) Annual net cash flow before tax is revenue less fixed and variable operating costs, at full production capacity (100% project).; (2) WAH2 Project Pre-Feasibility Study Updated Announcement (ASX: 2 August 2023)

Timeline for Revaluation: Major Catalysts

Several milestones scheduled for the next 6 months that could significantly re-rate HXG. MoUs with counterparties will move the WAH₂ Project from a ‘great idea’ towards reality



Note: (1) Conditions precedent include WAH₂ Project FID

Compelling Investment Case

**FEED on WAH₂ the next key milestone,
gateway to Project Partnerships**

- **Early Mover in Huge Market:** Hexagon is a front runner in accessing a high growth, government backed market
- **Advantaged Project with great progress:** Already secured project site in premier location with key existing infrastructure and inputs
- **Near-term Catalysts:** Multiple near-term milestones will be catalysts for revaluation
- **Attractive Returns:** Accessing government and subsidized funding would leverage shareholder payoffs
- **Growth Upside:** Ongoing growth profile through WAH₂ Phase 2 and additional project opportunities¹

Note: (1) WAH2 Project Pre-Feasibility Study Updated Announcement (ASX: 2 August 2023)





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FOR FURTHER INFORMATION, please contact:

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